

Data-Driven Strategies That Deliver Results

Lumada DataOps Customer Stories

E-BOOK

Innovate With Hitachi Vantara

Build new data products powered to deliver excellent customer experiences, create faster insights and reduce costs.

Our Customers

Innovative Hitachi Vantara customers use data strategies in ways that showcase creativity, faster digital transformation, and deliver business value. Can we help transform your enterprise?



Optimizing Resources and Costs.

Bell Business Markets (BBM) is Canada's leading broadband network and communications services company. Its 4,000 employees provide mid-sized and large businesses and government customers with unrivalled networks and strong expertise. Following a series of acquisitions, BBM Professional Service's day-to-day operations were managed across approximately 20 systems, including SAP, Oracle Project Resource Management, Salesforce and Jaspersoft. With data often trapped within each of these solutions, it was hard to gain comprehensive visibility of the business.

To unlock better visibility of the business, the team needed to break down silos, optimize processes and simplify reporting. BBM Professional Services began evaluating analytics solutions to find a scalable solution to manage its diverse and growing volume of data. "We needed a solution that could automate time-consuming tasks and make data readily available to the rest of the shared services team," adds Vanniasinghe.

GOAL

- Simplify access to business-critical data and optimize processes.
- Improve business decisions.

SOLUTION

- Pentaho Data Integration & Business Analytics (part of the Lumada DataOps Suite) aggregates 300GB of data into a single platform.
- Data is available for reporting and analytics in real-time.

OUTCOME

- Reporting simplified.
- Data management optimized with reduction in costs while automating data access 24/7.
- Smarter analytics support better business decisions w/360-degree view of services operation.

01

INDUSTRY:
Telecoms

HITACHI SOLUTIONS:
Intelligent Data Operations

SOFTWARE:
Lumada Dataops: Data Integration and Analytics powered by Pentaho



Challenge:

Consolidating Data To Unlock Greater Visibility

Tens of millions of Canadians rely on Bell Canada for access to mobile and internet services and a feature-rich TV experience. As the country's largest telecoms provider, its customers expect flawless connectivity and seamless service.

Bell Business Markets (BBM) is Canada's leading broadband network and communications services company. Following a series of acquisitions, BBM Professional Service's day-to-day operations were managed across approximately 20 systems, including SAP, Oracle Project Resource Management, Salesforce and Jaspersoft. With data often trapped within each of these solutions, it was hard to gain comprehensive visibility of the business.

"Bell Canada was founded in 1880 and has undergone constant change and growth. As a result, lots of our data was locked away in legacy systems, which made it hard to consolidate and time-consuming to manage," explains Jude Vanniasinghe, Senior Manager of Business Intelligence at Bell Business Markets Shared Services. "Our challenge was to make BBM data accessible to more than 300 users so they can create meaningful reports to help maximize resources and achieve our business goals."

To unlock better visibility of the business, the team needed to break down silos, optimize processes and simplify reporting. BBM Professional Services began evaluating analytics solutions to find a scalable solution to manage its diverse and growing volume of data. "We needed a solution that could automate time-consuming tasks and make data readily available to the rest of the shared services team," adds Vanniasinghe.

Solution:

Aggregating Data From Multiple Sources

BBM Professional Services began a longstanding partnership with Hitachi Vantara and implemented Data Integration & Analytics powered by Pentaho, part of Hitachi's Lumada portfolio. "The Pentaho solutions gave us quick and easy access to data from multiple sources. The automation features mean we can make data available night or day without needing extra staff working around the clock, and the team can self-serve to access the reports they need," comments Vanniasinghe.

Pentaho aggregates 300GB of data into a single platform and makes it available for reporting and analytics in real time. The team can now track revenue and expenses in Pentaho instead of time-consuming spreadsheets, which optimizes capacity management and streamlines operations.

For example, Professional Services tracks billable and non-billable employee activities to support employee utilization and manage costs efficiently for each department within the organization.

"Pentaho helps us make user-friendly reports available for all users – from entry-level roles all the way up to management. This means we have a 360-degree view of data across the whole of our professional services operation," comments Vanniasinghe.

Despite regular reviews of the market, Pentaho continues to be a great fit for BBM. "It's not just the Pentaho solutions that add value to our business – the partnership with Hitachi Vantara has been key as well," says Vanniasinghe. "The team provides great customer service and are always there when we need them. They help to onboard and train our new starters, so everyone is confident pulling their own reports. Hitachi Vantara also listens to our feedback between iterations of the solution – whenever we have a new data challenge, the next version of the tool has addressed it."

Outcome:

Optimizing Resources and Costs

With Pentaho automating data integration and facilitating better reporting, the team has seen significant productivity and efficiency gains. For example, with SAP connectors the team has saved an estimated 30 man-hours per month and staff no longer need to work at weekends to ensure data is highly available. "The solutions free the IT team from manual tasks and allow them to focus on more strategic projects," revealed Vanniasinghe.

With better access to reports and richer analysis, Professional Services has also improved operational efficiency and can make smarter business decisions based on facts and forecasting. These efficiency gains also help the organization to keep costs low and maximize resources.

"The simplicity of Pentaho means we don't have to outsource management; we can make changes quickly ourselves and stay agile in responding to changing business needs," confirms Vanniasinghe.

BENEFITS



Simplifies reporting.



Optimizes data management and reduces costs.



Smarter analytics support better business decisions.



Improves competitive advantage.



Ultimately, with greater visibility of data fueling more meaningful insights across the organization in terms of employee utilization, resource-capacity management, project-health, and billing, the professional services team can make better, more proactive decisions and safeguard the company's competitive advantage. Hitachi Vantara has shown us that it's a true partner to customers."

Jude Vanniasinghe

Sr. Manager of Business Intelligence, Bell Business Markets Shared Service, Bell Canada

Achieving Complex Data Integration.

BizCubed is an Australian company that provides analytics at scale, to enable business leaders and their teams to make better decisions. It applies engineering principles to make sense of data and provide a robust foundation from which processes can be automated, streamlined and continuously improved. By engineering the foundational building blocks that solve the hard problems for its clients, BizCubed frees up space and time for innovation and growth.

GOAL

- Give retailer access to structured, reliable and timely data for critical reporting and business insights.

SOLUTION

- Pentaho Data Integration blends complex set of retail chain's data sources for analytics and modernization.

OUTCOME

- Reduced data processing time for ETLs from 3-4 hours to 1 hour.
- Improved stability of environment, giving nearly 100 users access to reliable data for hundreds of reports.
- Successful blend of data from old and new systems during extensive digital transformation project.
- Complex digital transformation supported with minimal disruption.
- Effective staged approach moves dozens of data processing changes through testing to production, weekly.



02

INDUSTRY:
Retail

HITACHI SOLUTIONS:
Data Management

SOFTWARE:
Pentaho Data Integration, part of the Lumada DataOps Suite
BizCubed Data Engineering and Enablement Platform (DEEP)

SERVICES:
Managed Services provided by BizCubed

PARTNER:
BizCubed

Challenge:

Integrate business data during complex digital transformation project

Bing Lee is a consumer electronics retail chain with more than 35 stores across New South Wales, Australia. Family-owned and founded in 1957, Bing Lee is known for affordability and a radio jingle that has become part of the local pop culture. Its annual turnover is almost 500 million AUD.

Though a traditional family business, Bing Lee recognized a need to change with the times and began a technology transformation.

Its legacy ERP had become a highly customized system, dependent on a single point of failure. Its data was unstructured, and problematic processes were making the data generated by the system unreliable.

The retailer invested in a new cloud-based ERP and developed their own Point of Sale (POS) system. A new reporting tool was also selected to improve user experience for employees.

The plan was to get the new ERP in place and switch off the old. However, when the Covid-19 pandemic hit, lockdowns and remote work slowed the transition to the new ERP. Bing Lee's sales and number of transactions substantially grew, increasing the volume of data through its systems.

"Our management team including buyers, shop managers, senior managers needed reliable reporting on a daily basis during the transformation project," explained former GM of 16 years, now Head of Modernization, Phil Moujaes. "Data management became more complicated because we now needed a merged view of the purchase and sales data coming from both ERP systems, for reporting and analysis."

Solution:

Pentaho Data Integration and Data Management-as-a-Service

Bing Lee had been working with Hitachi Vantara partner, BizCubed, for years. It decided to use BizCubed's Data Engineering and Enablement Platform (DEEP) for data management, with Hitachi Vantara's Pentaho Data Integration (part of the Lumada DataOps Suite) as the engine for ETL design and orchestration. This solution is provided as-a-service, which allows Bing Lee to continually update its data processing at the pace of business.

"Our data warehouse team needed a way to engineer the necessary Extract, Transform and Load (ETL) procedures to support the evolving reporting needs of the entire organization," said Rebecca Main, project manager for Bing Lee's modernization efforts.

"We've been using the intuitive drag and drop Pentaho tools, to update or create business logic during this project," said Main. "It will allow us to easily add or change ETLs on an ongoing basis."

Integrating data from two ERPs can be tricky. For example, a new ERP may introduce new data fields that don't align with historical data sets. Even if the data fields match, their contents might be different data types or formatted differently. Pentaho gives Bing Lee the tools to overcome these barriers.

The project team uses Pentaho to generate ETL processes that successfully merge and blend daily reporting data from two ERP solutions and more than 45 different API sources, including online purchases, inventory purchases and movements, customer information, plus data from all the stores such as unit sales and shop traffic.

BizCubed's methodology provides a framework for rapid data acquisition, monitoring, recovery, and governance. This means that Bing Lee can have confidence in the reliability and accessibility of its data, every single day.

Bing Lee now has a low-risk data management platform that is reliable and accessible for its analysts and managers.

Outcome:

Stable ETLs and reliable, aggregated data

Rather than waiting for all of the required ETL logic to be engineered so it could all "go live" at once, individual ETL processes were built, put through user acceptance testing and moved to production as soon as they were ready. Up to two dozen complete, new processes went live each week, with new reporting capabilities accessible to users every day.

"The business is changing the way it does things, and we're only partway through the overall transformation," said Moujaes. "But the fact that we decided to go with a staged approach has meant that the disruption to our staff who rely on these reports has been minimized"

"The reports are critical to track sales, inventory, purchasing and margins right down to the performance KPIs of each salesperson and store, so the value of this is far-reaching, across the whole business."

According to Main, most data warehousing and ETL processes rely on a daisy chain methodology. If one fails, the rest of the processes have to be re-run.

"With our old systems, recovering data took at least 4 hours, if not longer. Users would not get updated data until at least the afternoon," said Main. "We're creating more stable ETLs and making sure our data is more reliable. This means fewer issues for the nearly 100 users of the hundreds of reports required by the business," said Main. "Recovery is quicker, and the process takes less time overall."

BENEFITS



Reduced data processing time for ETLs from 3-4 hours to 1 hour.



Improved stability of environment, giving nearly 100 users access to reliable data for hundreds of reports.



Successful blend of data from old and new systems during extensive digital transformation project.



Complex digital transformation supported with minimal disruption.



Effective staged approach moves dozens of data processing changes through testing to production, weekly.

“ We will have a stable environment with more reliable data. This will result in fewer issues for our report users. When we do have an issue, recovery time is only a quarter of what it used to be.”

Rebecca Main
Project Manager, Bing Lee

Finding a Business Intelligence Solution.

Brussels Airport is one of the biggest in Europe and is served by 74 different airlines. It is located in the municipality of Zaventem, about 20 km northeast of Brussels city center and 45 km south of Antwerp. The airport runs a massive operation housing 260 companies and employs 6,000 workers. All of this generates a large volume, variety and velocity of data that gets generated. They were unable to get timely insights from their current reporting solution and needed a new one.

GOAL

- Find a new business intelligence (BI) solution that could provide a single, more cost-efficient information delivery platform for decision makers.

SOLUTION

- Pentaho Data Integration and Pentaho Business Analytics replaced Oracle reporting and an IBM extraction, transformation and load (ETL) tool.

OUTCOME

- Agile BI capabilities benefit finance, commercial, operations and ICT.
- Allows greater iterative development between business users and developers.
- Enables scheduled management reporting, dashboards and ad hoc analysis.
- Delivers cost savings estimated at more than 350,000 euros.
- Provides daily snapshots from Sybase IQ data warehouse, consistent reporting.



INDUSTRY:
Transportation

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
**Lumada DataOps: Data Integration
& Analytics powered by Pentaho**

Challenge:

Find a Cost-Efficient BI Solution to Replace Aging Tools

The airport wanted to replace both its Oracle reporting and an IBM Extraction Transformation and Load (ETL) tool.

The airport also sought to replace its current BI solution with a more cost-efficient, single information-delivery platform for decision makers.

Solution:

Lumada DataOps: Data Integration and Analytics powered by Pentaho

Pentaho Data Integration analysis, reporting and dashboard tools are included in the solution.

Outcome:

Improved Reporting, Efficiency and Cost Savings

The airport's finance, commercial, operations and Information Communication Technologies (ICT) departments will benefit from the agile BI capabilities, allowing greater iterative development between business user and developer.

These departments will now provide daily, weekly and monthly management reporting, ad hoc analysis and dashboards replacing Excel spreadsheets, and about 200 scheduled Hyperion reports. The pilot solution was delivered on target and within budget.

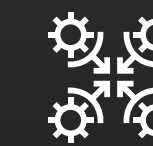
The airport estimates a cost savings of more than 350,000 euros.

Pentaho easily and cost-effectively provides daily snapshots from its Sybase IQ data warehouse as well as consistent reporting across the company.

BENEFITS



Agile BI capabilities benefit finance, commercial, operations and ICT.



Allows greater iterative development between business users and developers.



Enables scheduled management reporting, dashboards and ad hoc analysis.



Delivers cost savings estimated at more than 350,000 euros.



Provides daily snapshots from Sybase IQ data warehouse, consistent reporting.

“**The functionality that Pentaho gives over proprietary vendors provides huge cost savings.**”

Eric Vanasch
ICT Service Manager, Brussels Airport

Advancing Germany's Public Safety.

Bundespolizei is part of Germany's Federal Ministry of the Interior and employs 41,000 citizens. Bundespolizei oversees air control, air safety, rail patrol, border patrol, crime reduction throughout Germany and patrol of their waters. They also work worldwide with other police agencies within the European Union and neighboring countries.

GOAL

- Faced with increasing data volumes, the German Federal Police needed better analytics to maintain public safety within Germany and at its borders.

SOLUTION

- Pentaho was chosen as it was open source, met Bundespolizei's data needs, and enhanced their operations.

OUTCOME

- Meta data injection and data warehousing requirements.
- Consolidated data from a variety of sources into one location.
- Improved authorization and onboarding processes.
- Enabled adaptability and flexibility to handle socioeconomic changes.



INDUSTRY:
Public Safety
Government

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
Lumada DataOps: Data Integration
& Analytics powered by Pentaho

PARTNER:
it-novum

Challenge:

Maintain and Improve Germany's Public Safety

In addition to their responsibilities within Germany, Bundespolizei works worldwide with other police agencies within the European Union and neighboring countries.

Bundespolizei develops custom software, that isn't available for purchase, for police agencies. Their IT department is tasked with maintaining the software. Their programs were built on traditional open-source systems including databases and hypertext preprocessors (PHP). They had their own framework, and their software is exclusively for the German Federal Police. The organization has one headquarters, 11 district offices, 80 regional offices, and 160 local offices.

Demand for the specialized software was spreading; other German police groups approached Bundespolizei to learn more about their solution. It became clear to the German Federal Police that they needed to build their own software and that its continuous deployment was crucial. Given the nature of their work, they needed around-the-clock services 365 days a year.

The German Federal Police has a very complex data environment that interacts with many systems. They needed an adaptable solution that could grow with them as their needs change. Their data volumes were getting up to 100,000 data sets per day. Their decision-making process was labor intensive and manual. They couldn't make fast decisions around crime prevention, airport security or immigration.

Data was compiled in Excel-based systems that were difficult to manage because of their size. The organization was struggling because of low quality of data and large amounts of time and personnel required to provide data analysis.

For regulation compliance, Bundespolizei is required to submit reports about safety to their federal government, parliament (bundestag) and agencies within the EU. They also must provide data aggregation and data quality checks, and deliver them with short notice as the requests are highly critical.

Solution:

Open Source Platform That Simplifies Analytics

Hitachi Vantara's Pentaho was chosen because it is open source, has an open interface, and is able to fulfill the organization's data integration and data warehousing requirements. Thanks to Pentaho, they are now able to provide all data and analysis on time.

Previously the German Federal Police faced issues resulting from having data scattered across countless systems. Pentaho has enabled them to consolidate all important data into one analysis tool.

The German Federal Police creates incoming statistics with Pentaho and calculates the changing needs of mission forces for huge airports, including employee work schedules. The incoming statistics encompass 20 areas of activities such as entry numbers at the borders, asylum caseload, criminal offences or trace successes. Pentaho enables them to blend data from different sources and process it uniformly to serve as basis for analysis. Based on these datasets, they have gained a complete picture of the situation and are able to give different user groups access to the analysis via the web.

The German Federal Police have developed numerous software applications that have been built with various parts of Hitachi Vantara's big data integration and analytics suite. The primary component is their PES-Web, the German Federal Police's data cleansing functionality for all statistics provided by their police force. The data is taken from their transaction processing system and is enriched and validated with Pentaho Data Integration (PDI). Next, PDI extracts the data and moves it to their data warehouse where it is available for analysis.

The organization has solved their authorization and onboarding challenges through Pentaho. Bundespolizei is now able to authenticate via their active directory; they are able to provide correct access based on the cohort's responsibilities. They have implemented user authorization with their Dynamic Schema Processor (DSP); this ensures that users only see data they should have access to.

Through Pentaho, they have gained operational flexibility as the system can adapt quickly if political, social or economic circumstances change. This enables the authority to extend their reporting duties to national and European institutions – for example, the European Border and Coast Guard Agency (Frontex) – much faster.

Outcome:

The German Federal Police Trust Their Data

Hitachi Vantara's big data integration and analytics platform was a "game changer" for the law-enforcement agency. They couldn't build their own solution with only two people and realized they needed a more robust tool. Bundespolizei started with Pentaho's community edition, Kettle. Pentaho has been able to harmoniously scale with the German Federal Police, so much so that Bundespolizei recently purchased Pentaho's enterprise solution. Now they comfortably trust their data, as they know that it is current and updated regularly.

The German Federal Police enlists Pentaho to aid with mission planning. Booking details of all recording terminals of the authority are ingested into the system, enriched and further loaded into an internal work-scheduling solution. This makes daily work scheduling and planning significantly easier and enables Bundespolizei to react more flexibly on acute needs for action, such as personnel reinforcement of certain border checkpoints associated with streams of refugees.

Within legal provisions it is also possible to make information such as entry numbers at the borders available to other institutions and countries. Usually the exchange of information between authorities fails because of technical obstacles, such as incompatible data formats and interfaces. Because of its open APIs, Pentaho is not only able to communicate with most of the common interfaces, but also can enrich and consolidate data and make it available to different user groups for a variety of purposes.

BENEFITS



Meta data injection and data warehousing requirements.



Consolidated data from a variety of sources into one location.



Improved authorization and onboarding processes.



Enabled adaptability and flexibility to handle socioeconomic changes.

Hitachi Vantara's big data integration and analytics platform is a "game changer" for the law enforcement agency.

Improving Decision-Making With Pentaho.

Centro enhances the success of advertising agencies by helping them develop and execute comprehensive local digital campaign solutions. Using its proprietary technology, Centro streamlines the complex process of buying and selling online advertising among hundreds of national and regional agencies and thousands of local online publishers.

GOAL

- Replace spreadsheets with a complete business intelligence (BI) solution to improve insights into operations and help steer strategic decision-making.

SOLUTION

- Pentaho platform delivers end-to-end BI capabilities, value-added software and services.

OUTCOME

- Automates extraction, transformation and loading to create a data warehouse.
- Delivers 50+ on-demand, user-prompted reports and interactive analysis views.
- Provides greater visibility into customer, cost, and revenue trends.
- Improves operational performance and reduces internal costs.



INDUSTRY:
Media and Entertainment

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
**Lumada DataOps: Data Integration
& Analytics powered by Pentaho**



Challenge:

Replace Spreadsheets With an End-to-End BI Solution

Servicing more than 450 advertisers through their respective agencies, Centro quickly outgrew its Excel-based reporting system and sought a more complete business intelligence solution to drive better insight into operations and help steer strategic decision-making in today's challenging economic

Solution:

Data Integration & Analytics powered by Pentaho

After evaluating offerings from different commercial open source BI vendors, Centro selected Pentaho for its complete end-to-end BI capabilities, functional equivalency with proprietary BI software, and the value-added software and services in Pentaho. Centro began using Pentaho Data Integration to integrate information from its custom media planning system to build a comprehensive data warehouse. The powerful, easy-to-use design environment of Pentaho Data Integration automated the extraction, transformation and loading (ETL) processes to create the data warehouse and currently updates information on a daily basis. With a solid information infrastructure in place, Centro expanded to use the capabilities of the Pentaho platform to add query and reporting functionalities, interactive analysis, and dashboard features.

Outcome:

Improved Performance and Operational Efficiency, Reduced Costs

Centro is using Pentaho Data Integration and Pentaho Business Analytics to deliver over 50 on-demand, user-prompted reports and interactive analysis views across every level of the organization. Every department, from the executive team to sales managers and from finance to marketing and technology, has access to data. Pentaho gives Centro greater visibility into customer, cost, and revenue trends with the ability to conduct deeper analysis on historical data across all facets of their media service offerings. Additionally, Pentaho has improved operational performance. By creating more efficiency in the organization, the BI solution has added greater value to Centro's clients and has reduced internal costs. Pentaho is deployed on Dell servers running CentOS, Apache, the Tomcat application server and the PostgreSQL database.

BENEFITS



Automates extraction, transformation and loading to create a data warehouse.



Delivers 50+ on-demand, user-prompted reports and interactive analysis views.



Provides greater visibility into customer, cost, and revenue trends.



Improves operational performance and reduces internal costs.

“**Pentaho gave immediate benefit increasing efficiency, containing cost, and driving revenue.**”

Peter Schmidt
Director of Business Intelligence, Centro



Optimizing Operations.

The European Organization for Nuclear Research, known as CERN, is a European research organization that operates the largest particle physics laboratory in the world. Established in 1954, the organization is based in a northwest suburb of Geneva on the Franco–Swiss border and has 23 member states. CERN has 15000+ scientists and other users accessing data and need a robust data platform.

GOAL

- CERN needed a compliant, secure unified business analytics and reporting platform and data warehouse to provide a 360-degree view of its data.

SOLUTION

- Pentaho Data Integration and Pentaho Business Analytics provide end-to-end integration, analytics and access control, and a real-time data warehouse.

OUTCOME

- Enables researchers to access and use advanced analytics.
- Automates ETL to create a near real-time data warehouse.
- Improves query and execution performance.
- Provides granular access control with custom data access layer for analysis.

06

INDUSTRY:
Information Technology

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
Lumada DataOps: Data Management & Analytics powered by Pentaho



Challenge:

Replace Outgrown Systems with a Unified Data, Analytics Platform

CERN's Advanced Information Services (AIS) group is responsible for delivering integrated and reliable corporate information systems to the entire organization. The AIS group sought to replace its existing installation of commercial and home-grown systems serving more than 650,000 report executions per year with a unified Business Analytics, reporting platform and data warehouse to provide a single, 360-degree view of its operational data to the CERN community of more than 15,000 users.

As an international non-governmental organization, CERN has unique challenges facing its corporate information systems. Not only fulfilling the roles of an employer of around 2,500 staff, but also a university (hosting hundreds of students, and thousands of visiting scientists every year), as well a "state", providing its staff and their families with the social cover (pension, health insurance, etc.). As such, the data CERN holds on its employees is subject to rigorous data protection and compliance regulations. The individual's role in the CERN community – full-time scientist or engineer, short-term trainee or fellow, security guard or fireman, etc. – subjects their data to unique security and access privileges.

CERN's operational systems support a vast range of decision making – from providing employee access to the largest and most complex particle accelerators in the world to more routine matters like allocating budget to projects.

After a \$150 million upgrade CERN restarted its main accelerator, the Large Hadron Collider (LHC), in June, therefore it's vital that administrative processes do not interrupt the ground-breaking research ongoing at the laboratory. Systems need to be fast, simple and embedded into familiar processes and applications.

Solution:

Data Integration & Analytics powered by Pentaho

CERN selected Data Integration & Analytics powered by Pentaho platform to replace several heterogeneous systems and provide a single, 360-degree view of all its native operational data.

CERN's five developer team, following initial learning and the collaboration with the Pentaho partner Ancud IT from Germany, developed an innovative approach to guaranteeing consistent access rights across application boundaries including data exposed through Pentaho. Access rights are calculated using a rules engine taking into consideration business needs and legal requirements. In Pentaho, those rights are enforced by extending Pentaho's analysis engine (Mondrian).

Pentaho Data Integration enabled CERN to migrate from a manually-intensive ETL environment to an automated one, decoupled from proprietary data.

CERN is embedding reporting and analytics via Pentaho's web service API to enable 15,000+ users to access these services through their normal day-to-day applications.

Outcome:

Pentaho Solution Improves Speed, Security, and Usability

CERN currently runs Pentaho in a production environment, replacing the majority of its legacy systems.

CERN has rolled out a series of test reports to end users. Their enthusiastic feedback has already shown that they are easier to use and run faster than the previous BI solution.

CERN's security implementation with Pentaho is complete and currently being tested internally. CERN's goal is to deliver a new common data warehouse that will be the main source for all corporate data.

The development team is excited and proud to be working on a mission-critical project, using modern technologies.

The Pentaho solution gave the skilled AIS developer team control over the platform to customize it for CERN's complex security and data protection requirements, including the rule-based secure access levels.

BENEFITS



Enables researchers to access and use advanced analytics.



Automates ETL to create a near real-time data warehouse.



Improves query and execution performance.



Provides granular access control with custom data access layer for analysis.



CERN's systems need to manage high volumes of confidential data on its employees and their families, so security, data governance and data integrity are all paramount. After a review of five different proprietary and open source platforms, Pentaho emerged as best adapted to our needs."

Jan Janke
Deputy Group Leader, CERN

The Ride Analytics of the Future.

The Official Ride and Show Analytics Provider of the **Walt Disney World®** Resort and the **Disneyland®** Resort

Disney Parks, Experiences and Products brings the magic of Disney stories and franchises to life through theme parks, resorts, cruise ships, unique vacation experiences, consumer products and more around the world. With experiences created by Walt Disney Imagineering, beloved characters come to life for guests and consumers of all ages.

GOAL

- Help Walt Disney World® Resort and Disneyland® Resort increase the operational efficiency of rides and attractions in order to enhance the guest experience throughout the operating day.

SOLUTION

- Disney deploys new “Ride Control of the Future” (RCx) systems at select attractions.
- Disney leverages IoT data and video analytics to deliver increased uptime.

OUTCOME

- Increase operational efficiency and reduce operational cost through industrial IoT technologies and real-time insights
- Reduce unplanned attraction downtime with predictive & prescriptive insights, shrinking maintenance window and improving availability in order to enhance guest experiences

INDUSTRY:
Media & Entertainment

SOFTWARE:
Lumada Industrial DataOps
Lumada Video Insights
Lumada Manufacturing Insights

HITACHI SOLUTIONS:
IoT Insights and Outcomes
Performance Optimization

07





Challenge:

Create Data-Driven Insights for Enhanced Operational Efficiency

As technology grows in sophistication, so do the attractions at Disney Parks. The latest attractions generate huge volumes of data daily. Disney wanted to use this data to anticipate maintenance needs, thereby maximizing availability and supporting the guest experience.

A key challenge was that different attractions utilize different electromechanical, industry control and drive systems, whose data outputs need to be analyzed, all in the same place. This meant that any new solution had to offer an open ecosystem.

Solution:

Greater Insights Help Deliver Great Guest Experiences

The team at Disney chose to implement Lumada solutions for IoT, data management and analytics at several attractions, choosing to work with this technology for its potential to provide high-value operational insights in real time. The flexibility and openness of the platform was a key factor, helping Disney continue to innovate with data and build on their legacy of bringing immersive storytelling experiences to life through technology.

Disney also recognized Hitachi's vision of Social Innovation, which is to help customers extract more value from their data while powering good for our society.

The first step was the deployment of tens of thousands of IIoT sensors on rides at Walt Disney World Resort, including favorites like Slinky Dog Dash, Toy Story Mania! and Alien Swirling Saucers, as well as Star Wars: Rise of the Resistance at Disney's Hollywood Studios.

The resulting data is fed into Hitachi's Lumada platform, where Disney performs a range of analytics to reveal an array of insights pertaining to attraction operations. This approach then generates a real-time alert to the relevant service engineers. It enables them to address needs before operations are impacted, facilitate maintenance and ensure that attractions are running as efficiently as possible.

The Lumada solution also includes digital twins, which are a virtual software model that replicates how an attraction works. This feature allows engineering teams to optimize ride performance and enhance the guest experience via further predictive maintenance to maximize attraction availability.

Outcome:

More Magical Experiences for Disney Guests

The primary outcome for Disney? Increased attraction availability, high customer satisfaction and reduced operating costs. "Working with Hitachi Vantara and its portfolio of technologies, we're able to incorporate new solutions that will not only work for us today, but also grow with us tomorrow as we continue to deliver amazing experiences and adventures for our guests," said Director of Technology and Analysis, Design and Engineering, Disney Parks Experiences and Products, Michael Tschanz.

Future Vision:

New Vistas of Attraction Analytics as Disney Guest Experiences Reach New Heights

The strategic alliance between Hitachi Vantara and Disney Parks Experiences and Products will bring data-driven operational intelligence to additional shows and attractions. Their joint efforts will further enhance efficiency and availability and continue to bring magical experiences to guests.

BENEFITS



Flexible, open data and insight platform supports collaboration.



Real-time alerts and predictive maintenance maximize attraction availability.



Enhanced efficiency & availability reduce operating costs.



Hitachi's vision of 'Powering Good' by optimizing guest experiences through enhanced operational efficiency, is a perfect fit for Disney; we're building on our legacy of bringing unique experiences to our guests through the power of technology"

Michael Tschanz

Director of Technology and Analysis, Design and Engineering, Disney Parks Experiences and Products



Working with Hitachi Vantara and its portfolio of data-driven technologies, we can continue to take our guests on unbelievable adventures delivering consistently outstanding experiences for every guest, every time."

Trevor Larson

EVP, Facilities & Operations Services, Disney Parks, Experiences and Products

Powering UK's Energy Market.

ElectraLink specializes in design, installation, and maintenance of structured network cabling systems including voice and data., integrated security solutions, audio visual systems, building automation, and fiber optic communications.

At the heart of U.K.'s energy industry is ElectraLink and its proprietary DataTransfer Service, a messaging and communications network to which more than 250 gas and electricity companies are connected. Every time a customer changes energy suppliers, or a new smart meter is installed, data is transferred over this network. It handles more than 130GB of data a month.

GOAL

- Enormous data volumes and cumbersome, expensive and labor-intensive process to extract and manipulate data sets for customers.

SOLUTION

- Single data integration platform and lean data management process to streamline data extraction and standardize data sets provided to customers.

OUTCOME

- Hundreds of millions of data flows automatically extracted and transformed into meaningful information.
- Lean team now focused on developing new data services to enhance energy delivery processes.
- Less time wasted on cumbersome manual data manipulation.

08



INDUSTRY:
Energy and Utilities

HITACHI SOLUTIONS:
**Lumada DataOps: Data Integration
& Analytics powered by Pentaho**



Challenge:

Massive Data Volumes, Manually Extracted and Manipulated

It's about to handle much more. Nearly 300,000 smart meters are being installed each month as part of a government mandated program. By 2020, the U.K. will have more than 28 million smart meters. This massive program is leading to a 25% increase, year over year, in data traveling across ElectraLink's Data Transfer Service network.

ElectraLink has amassed a treasure trove of energy market information. But it must comply with data access and usage restrictions. For example, energy suppliers have full access to their own data, but they can only access another supplier's data as an aggregated and anonymized view.

ElectraLink provides these data services as a commercial offering. While energy data is structured and well defined, it's complex and the volumes are enormous.

The company was relying on a cumbersome, expensive and labor-intensive process to run ad-hoc queries that tended to be modified for each application. It needed a lean data management process to streamline data extraction and standardize the data sets provided to customers.

Solution:

Data From Multiple Sources Integrated on Single Platform

ElectraLink turned to Pentaho Data Integration and Pentaho Business Analytics from Hitachi Vantara to integrate data from multiple sources in a single platform and make data available for analytics in near real time.

The company's IT architecture includes Amazon Web Services (AWS) as its secure cloud services platform, a Vertica data warehouse, Egnyte for its FTP portal, and Pentaho Data Integration for process automation and orchestration to create the data sets. ElectraLink implemented Pentaho Data Integration in late 2016, but the company has plans to exploit more of the platform's capabilities and dashboards as part of its product delivery model.

ElectraLink uploads data sets to a secure FTP portal, where customers can access the data. The entire Data Transfer Service network is refreshed nightly. "We spin up our environments, run the queries, package up the data, and place it back out on the FTP servers for the customers to get access to it," explains Dan Hopkinson, ElectraLink's head of Network and EMI services. "We keep our environments up for the minimum amount of time to reduce costs. Cost control, automation, streamlining and lean processes are incredibly important to us."

ElectraLink also relies on Pentaho Data Integration to create a business glossary of processes and data flows for both electricity and gas data, the first dual-fuel catalog to support the energy industry. Pentaho's automation capabilities are instrumental in keeping the business glossary up to date. "What I'm keen on is to link the catalog to Pentaho so we don't have to change code every time there is a process change," says Hopkinson.

Outcome:

New, Innovative Data Services Brought to Market

Pentaho Data Integration is used to manage all the alerting and automation, which gives Hopkinson's small four-person team time to concentrate on developing new data services and enhancing existing data sets for sale to customers on a subscription or volumetric basis. "We have a range of products, from very straightforward data feeds where we're effectively just providing data on request, to much more complex analytics products," explains Hopkinson.

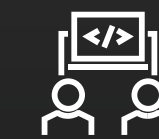
For instance, one of the products ElectraLink has developed is a data set that exposes all the energy generation on the U.K.'s distribution network. That's all the small wind farms, solar farms, small generators connected directly to the distribution grid, as opposed to the transmission grid. ElectraLink has been able to identify the embedded generators based on consumption data that flows across the network through pattern matching. "ElectraLink is the only entity that has this comprehensive view of energy generation across the whole of Great Britain. It's a complex and incredibly valuable data set," says Hopkinson.

The next stage of the ElectraLink's journey is to leverage Pentaho's automation capabilities to provide API access to the data. This approach will allow third parties to access data, such as price comparisons, in real time. It will streamline the change-of-supplier process and enable more customers to switch energy suppliers more easily.

BENEFITS



Hundreds of millions of data flows automatically extracted and transformed into meaningful information.



Lean team now focused on developing new data services to enhance energy delivery processes.



Less time wasted on cumbersome manual data manipulation.



To extract hundreds of millions of data flows and transform them into meaningful information our customers would buy and use to enhance their energy delivery processes, you have to do a lot of work. Pentaho makes it easier.”

Dan Hopkinson
Head of Network and EMI Services, ElectraLink

Accelerating Analytics and Insights with Automation.

Fannie Mae is a leader in providing housing finance for homebuyers and renters across the United States. The company helps make fixed-rate mortgage and affordable rental housing possible for millions of Americans.

GOAL

- Fannie Mae sought to efficiently prepopulate a data lake with needed dataset properties, provide API based automation, and ingest >10M files/day.

SOLUTION

- Lumada Data Catalog automated solution that catalogs >10M files/day.
- User interface with custom search properties delivers desired data.

OUTCOME

- Self-service data catalog for business users.
- Catalogued custom properties attached to each dataset.
- APIs to automatically process datasets.
- Millions of files cataloged per day.

09



INDUSTRY:
Financial Services

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
Lumada DataOps: Data Catalog

Challenge:

Ingest a high daily volume of datasets

As a \$110 billion company that is the leading source of financing for mortgage lenders, Fannie Mae's increasingly data-centric business wanted to transition to an agile, more responsive data lake. The company sought to create a modern data environment that ensured the right data got to the right person at the right time.

Fannie Mae set a governance standard whereby every dataset and field in the data lake was completely documented. In fact, each dataset goes through a design process where it gets curated and assigned a unique identifier, which stays with it no matter where it gets copied. Each dataset also has an elaborate set of properties that have to be filled out before the identifier can be issued.

While this process made the data more accessible, it was taking too much time. It could take days, weeks or even months from the time the design was approved to when data was actually generated and transferred from the IMR design time system into the data lake.

Meanwhile, several of Fannie Mae's high-velocity apps continued to generate more than 10 million new files every day, clogging up the slow design process even further. These new files also needed to be integrated into the data lake, which required an API-based automated solution.

Solution:

Dataset Preregistration and Metadata Versioning Accelerate Analytics and Insights

As part of its wholesale data transformation to a modern data infrastructure, Fannie Mae integrated Lumada Data Catalog. With its extensive APIs, Lumada Data Catalog supports high-volume applications that generate millions of files daily for preregistration of ingested datasets. The interface allows validation and management of metadata for different roles, including metadata analysts, data stewards, data governors and business data officers. Business data officers at Fannie Mae "ensure that data is fully owned and cared for by business leaders, and that new initiatives consider the creation, ongoing quality, and effective usage of data from the outset," according to a recent Forbes report.*

Metadata versioning allows capture and display of technical metadata provided by the ingesting application, including file location, file size, file format, time of ingestion, partition and so forth. The solution can catch unresolved schema evolution in order to produce discrepancy reports between reported and inferred schema. That data is then made available to business end users in a robust self-service "marketplace" UI. The UI features complex custom properties presented simply and cohesively to enable end users to quickly find and utilize the data.

Outcome:

Fannie Mae Ensures Better Business Outcomes

By implementing Hitachi's data management and analytics solution, based on Lumada Data Services and Lumada Data Catalog, Fannie Me was able to provide a self-service "marketplace" data catalog for business users. Cataloged custom properties were attached to each dataset and the application programming interfaces (APIs) enabled automatic processing of the datasets. As a result, millions of files could be cataloged each day.

Ultimately, these solution elements enable faster analytics and insights, which translate into better business outcomes. As Fannie Mae Chief Data Officer Scott Richardson says, "We are engaged in thinking about business strategy through the lens of furthering our mission and improving the customer experience with data."*

*"How Fannie Mae is Creating a Modern Data Environment," Forbes

BENEFITS



Self-service "marketplace" data catalog for business users.



Cataloged custom properties attached to each dataset.



APIs to automatically process datasets.



Millions of files cataloged per day.



We are engaged in thinking about business strategy through the lens of furthering our mission and improving the customer experience with data."

Scott Richardson
Chief Data Officer, Fannie Mae

Thriving with Pentaho Data Integration.

China Heilan Group was founded in 1988, has more than 60,000 employees; and is on the list of top 500 Chinese Enterprises. The clothing industry is the core interest of the Heilan Group providing some of China's leading brands. The company leads China's domestic manufacturing and distribution clothing industry over 827 stores and well as a thriving eCommerce platform.

GOAL

- Need to integrate physical retail experience with e-commerce by embracing digital transformation through data analysis.

SOLUTION

- Deploy a full end-to-end data analysis system to provide support for decision-making at departmental, company and group levels.

OUTCOME

- Enabled better analysis of price, product and competition.
- Accelerated data analysis and application.
- Core infrastructure meets autonomy and controllability requirements.



INDUSTRY:
Retail

PARTNER:
Qunli Times

HARDWARE:
**Hitachi Content Platform G10
Hitachi Content Platform S10**

SOFTWARE:
**Lumada DataOps: Data
Integration & Analytics
powered by Pentaho**

HITACHI SOLUTIONS:
Data Management and Analytics Storage



Challenge:

Need for Digital Transformation for Growth

The arrival of e-commerce had a huge impact on the garment industry worldwide. Companies with traditional retail stores struggled to improve sales and profits. Heilan Group, despite its position as a domestic leader in apparel manufacturing in China, faced declining sales growth year after year due to rising costs and fierce competition. Its efforts at operation and innovation-oriented transformation ran into issues when its data analysis system couldn't keep up.

To continue growing, Heilan Group needed to transform for the digital age. The cost of operating its physical stores was rising, and its traditional approach hampered sustainable development of new stores. It also needed data insights to develop business plans to tackle its fierce competition.

Heilan Group built its data analysis in SAP Business Warehouse (BW) on SAP HANA, which was expensive and could not adequately analyze data for products, competitors, price and user experience. Plus, traditional SAP BW and HANA technologies are closed and are neither automated nor controllable.

To meet these challenges, Heilan Group began a digital transformation. The group upgraded its commodity production, circulation and sales processes by combining them with data analysis. It intends to expand into the internet of things and artificial intelligence with institutional knowledge, and it's planning a new retail approach, with integrated online services, offline experience and modern logistics.

Solution:

Efficient End-to-End Data Analysis

Hitachi Vantara helped Heilan Group deploy a full end-to-end data analysis system. They implemented Pentaho Data Integration as the comprehensive solution, which included data integration, organization, enrichment, storage, distribution, analysis and presentation to provide support for decision-making at departmental, company and group levels.

The solution enabled efficient data collection and made full use of Hitachi Content Platform's storage scalability and data management capability. The Pentaho data pipeline provided data integration and encapsulation, enabled data as a service, and improved data development and mining efficiency.

With data application construction based on data and service standardization, business analysts, data engineers and data scientists can quickly build business-oriented data applications based on data centers. And the data analysis system, built with open-source and open commodity software, is automated and controllable, providing a competitive advantage.

Outcome:

Accelerated Data Analysis and Applications

The solution formed a complete data layer with Hitachi Content Platform, Hadoop and PostgreSQL, providing cold, warm and hot data storage and massive data computing. Hitachi Vantara's data integration and analytics system injects structured, unstructured and web crawler data into the data layer and enables machine learning, predictive analytics, reporting, visualization and executive dashboards.

The systems, targeted at new retail, satisfy the demands of the company's data scientists, analysts, engineers and data consumers. The solution can minimize development cost and improve the utilization rate of big data with graphic development, metadata injection and a self-service data mart.

Developing internet data analysis applications enables better marketing strategies and product design and improves competitiveness and operating income. The open-source and open structure helps Heilan Group fully tap the potential of independent innovation and lay the foundation for future data strategies.

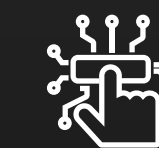
BENEFITS



Solution enables better analysis of price, product and competition.



Data lake accelerates data analysis and application.



Core infrastructure meets autonomy and controllability requirements.



The Pentaho system helps Heilan Group better understand the sales and user experience of its product as well as that of its rivals, which enhances Heilan Group's marketing strategies and R&D, greatly improving revenue."

Mr. Xue Jun
System Architect, Heilan Group

Increasing Analytics Capabilities for Customers.

Marketeto Inc., **an Adobe company**, offers the leading Engagement Platform that empowers marketers to create lasting relationships and grow revenue. It is a leader in SaaS marketing automation solutions focused on account-based marketing. It needed a robust analytics platform for their end customer reporting requirements.

GOAL

- Marketeto needed a cost-effective, embedded business analytics suite to deliver dashboards and reports.

SOLUTION

- Embed Pentaho Data Integration & Business Analytics (part of the Lumada DataOps Suite) into a new solution.
- Flexible and extendable architecture, security and user-authentication integration.

OUTCOME

- Provides customers with ad-hoc reporting, analytics and dashboards.
- Extend breadth of Marketeto's product suite.
- Saved time and money.



INDUSTRY:
Information Technology

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
**Lumada DataOps: Data Integration
& Analytics powered by Pentaho**

Challenge:

Find a Cost-Effective Solution With Embedded Business Analytics

Marketo is a leader in SaaS marketing automation solutions focused on account-based marketing.

As a leader in marketing automation, Marketo needed an embedded business analytics suite that could deliver dashboards and reports. In addition, the company wanted a solution that could be implemented both at a lower cost and with less latency than architecting an in-house analytics solution.

Solution:

Data Integration & Analytics powered by Pentaho

To meet the need for a cost-effective solution with embedded business analytics, Marketo chose Pentaho Data Integration and Pentaho Business Analytics, including Pentaho reporting, analysis and dashboards. Pentaho offered flexible and extendable architecture, product roadmap transparency, easy and straightforward security and user-authentication integration, and a positive user experience.

The company also participated in Pentaho's OEM program and engaged Pentaho professional services, including support, on-site training and consulting.

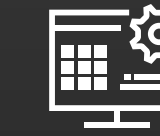
Outcome:

Increased Analytics Capabilities for Marketo Customers

After embedding Pentaho Data Integration and Pentaho Business Analytics into its new solution, Marketo gave customers the ability to create ad hoc reports, dashboards and slice-and-dice data. The embedded solution was delivered in just eight weeks, saving time and money compared to internal development, which would have taken four full-time engineers more than three months to complete. The new product also helps to extend the breadth of the Marketo's product suite.



BENEFITS



Provides Marketo customers with ad hoc reporting, dashboards and more.



Extends the breadth of the Marketo product suite.



Delivered on go-to-market time of eight weeks.



Saves time and money compared to internal development.

“**Pentaho delivered a feature-rich product to the market in just eight weeks.**”

Simon Lee
Business Intelligence Engineer, Marketo

Increasing Business Transparency.

Nasdaq Inc. is a financial services corporation that owns the Nasdaq Stock Market based in New York City and eight European stock exchanges. It is ranked second on the list of stock exchanges by market capitalization of shares traded, behind the New York Stock. Nasdaq needed a Cloud Modernization effort for their data platform to revamp their legacy data system.

GOAL

- Create a scalable, cloud-based platform with big data integration and analytics.

SOLUTION

- Revamp legacy system by employing Pentaho Data Integration and Pentaho Business Analytics.

OUTCOME

- Efficiently transforms and analyzes billions of rows of data daily.
- Enables Nasdaq to keep pace with 21st-century trading requirements.
- Creates a data environment that can be commoditized while lowering costs.
- Reduces total cost of ownership by 50%.

12



INDUSTRY:
Financial Services

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
**Lumada DataOps: Data Integration
& Analytics powered by Pentaho**



Challenge:

The Challenge: Create a Cloud-Based Platform With Big Data Integration and Analytics

The company needed a way to quickly process and transform large data sets coming from multiple sources into a format that could be used efficiently to analyze several business lines in a timely manner. This was difficult due to the size of data.

Solution:

Data Integration & Analytics powered by Pentaho

The company chose a solution based on Amazon Redshift and Pentaho.

Amazon's RedShift offered the performance and price point needed with the ability to scale quickly.

Pentaho's product suite offered a perfect blend of ETL, visuals, and extensibility that addressed Nasdaq's needs.

Outcome:

A Data Environment That Can Be Commoditized While Lowering Costs

The solution lowered data processing time and increased business transparency.

Analytics are now available to management on a T+1 basis.

Managers can now quickly identify and understand factors impacting revenue, such as changes in participant behavior.

BENEFITS



Efficiently transforms & analyzes billions of rows of data daily.



Enables Nasdaq to keep pace with 21st-century trading requirements.



Creates a data environment that can be commoditized while lowering costs.



Reduces total cost of ownership by 50%.

“Regardless of data size, Pentaho helps us make prudent decisions enabling us to compete.”

Michael Weiss
Senior Software Engineer, Nasdaq OMX

Improving Revenue and Customer Experience.

Opower brings AI and behavioral science to the customer experience and turns data into action. More than 175 utilities help customers reduce energy usage with our home energy reports, behavioral load shaping, proactive alerts, and digital self-service solutions through their customer engagement platform. They got acquired by Oracle and were looking for a cloud data platform for their data needs.

GOAL

- Create a scalable, cloud-based platform with big data integration and analytics.

SOLUTION

- Maintain a single view of customer marketing programs that allows for in-flight adjustments, providing analytics and real-time updates.

OUTCOME

- Enables Opower to generate additional revenue by automating analytics service.
- Provides a unique service, a competitive differentiator in the marketplace.
- Delivers analytics on utility customer demographics, energy savings and more.
- Provides data in easy-to-use format for better decision-making.

13

INDUSTRY:
Energy

HITACHI SOLUTIONS:
Data Management and Analytics

SOFTWARE:
Lumada DataOps: Data Integration & Analytics powered by Pentaho

Challenge:

Maintain a Single View of Customer Marketing, Automate Analytics

Utility companies were challenged with maintaining a single view of their customer marketing programs and needed the ability to drill down on certain key program attributes to make in-flight adjustments.

However, providing marketing analytics to their clients required Opower to manually run approximately 100 custom queries each month. In addition, marketing segmentation was based on static customer profiles because information was not updated in real time.

Solution:

Self-Service, Embeddable Business Analytics Platform From Pentaho

Pentaho provides Opower with seamless self-service analytics and dashboard capabilities that allow utility companies to interactively explore the effectiveness of their marketing campaigns. Utilities use the solution to better understand issues that range from promoting energy efficiency to improving customer sentiment. Opower saw the value in using the solution to monetize the analytics they manually provided to their customers.

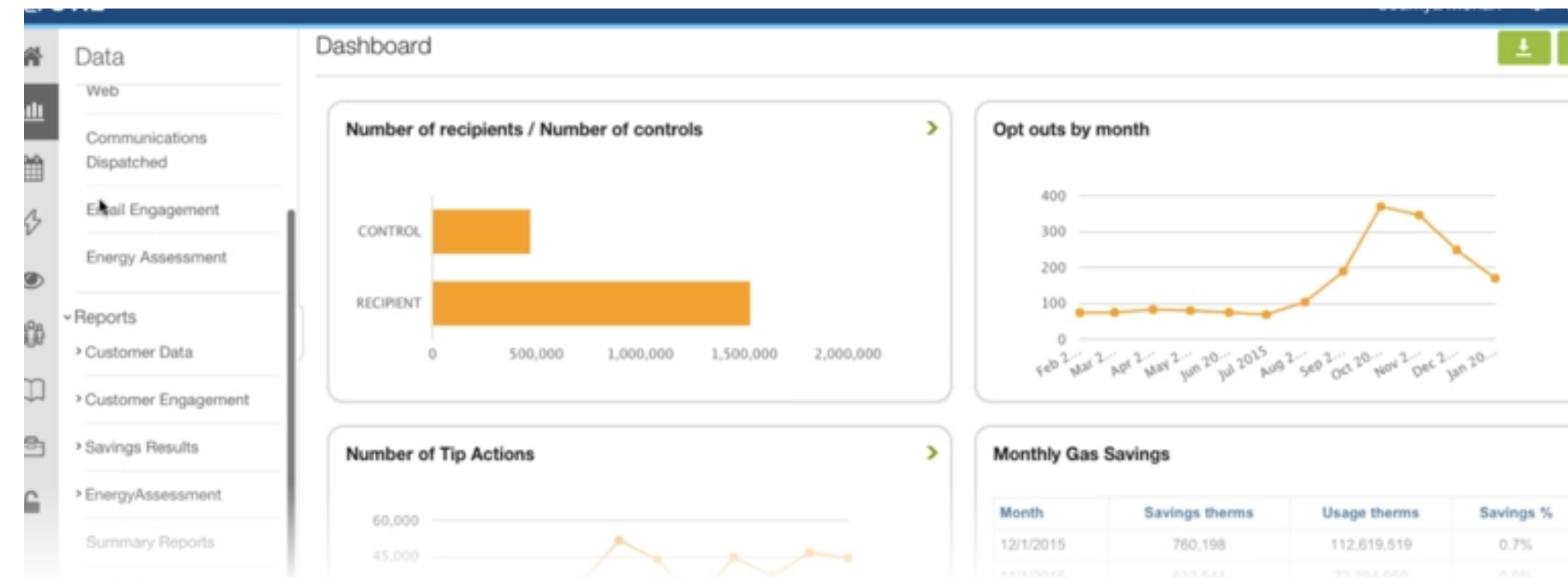
Pentaho's easily embeddable business analytics platform integrates with Opower's existing technology stack to deliver a fast time to market.

Outcome:

Additional Revenue for Opower, Valuable Insights for Utilities

By automating their analytics service for utility companies, Opower generates additional revenue and provides a unique service that is viewed as a competitive differentiator in the marketplace.

Using Pentaho Business Analytics, Opower is able to expose detailed, personalized analytics on utility customer web activity, marketing engagement, household demographics, energy savings and more. The solution allows data to be consumed in an easy-to-use format for nontechnical users to make better decisions.



BENEFITS



Enables Opower to generate additional revenue by automating analytics service.



Provides a unique service, a competitive differentiator in the marketplace.



Delivers analytics on utility customer demographics, energy savings and more.



Provides data in easy-to-use format for better decision-making.

“With Pentaho, Opower launched a new revenue-generating service that provides better insight into customers’ actions and behaviors. This service is a key differentiator for us.”

Soumya Mohan
Product Manager, Opower



Strengthening Customer Service with a 360-Degree View.

Swisscom is Switzerland's largest telecommunications provider, holding a 59% market share for mobile and 53% for broadband services.

GOAL

- Improve customer services by gaining a more holistic overview of operations across the enterprise.

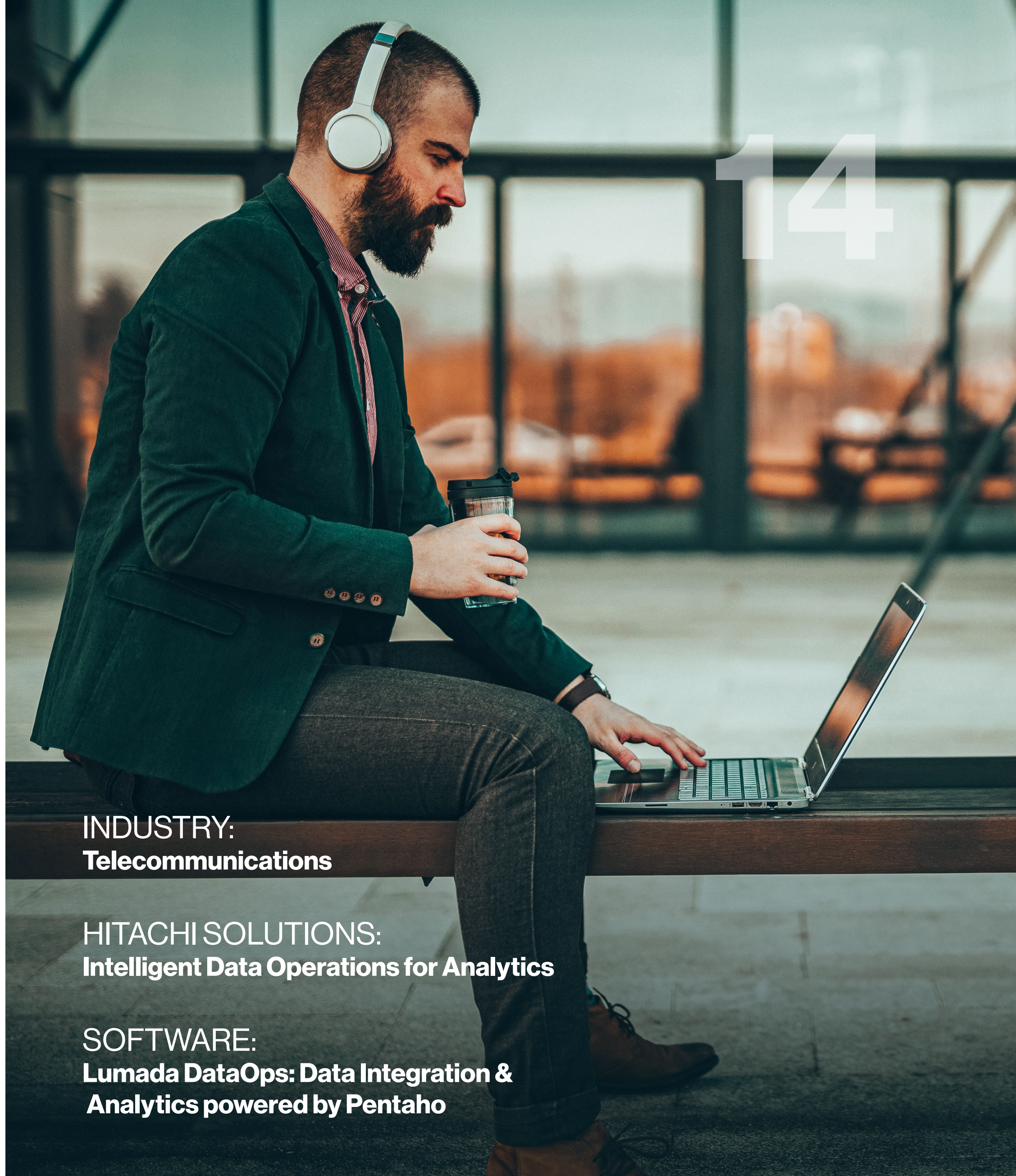
SOLUTION

- Combine data from disparate systems with Pentaho to create a single view of the customer.
- Intelligent Data Operations for Analytics.

OUTCOME

- Delivers a 360-degree view of service operations.
- Provides real-time insight across 30 business units.
- Processes more than 100 million data records daily.
- Harnesses open-source technology, avoiding vendor lock-in.

14



INDUSTRY:
Telecommunications

HITACHI SOLUTIONS:
Intelligent Data Operations for Analytics

SOFTWARE:
Lumada DataOps: Data Integration & Analytics powered by Pentaho



Challenge:

Know Your Customer In A Fast-Changing Hybrid IT World

Swisscom's customers include both private households and corporate businesses, two groups that have very different requirements for telecom services. Residential consumers typically care most about monthly costs and broadband download speeds, while corporate businesses pay a premium for prioritized dedicated customer service and technical support, with service-level agreements (SLAs) guaranteeing a certain standard of speed and service.

To serve these different needs, the company operates separate business units dedicated to specific products and services. Each business unit uses a wide variety of systems to underpin its operations, including everything from enterprise resource planning (ERP) and customer relationship management (CRM) applications to support ticket management solutions.

This complex organizational model led to Swisscom building up data silos in each of its business areas. These silos made it almost impossible to gain a unified overview of customers, contracts, service status, billing positions and products across the enterprise.

With a focus on continuously improving customer service, Swisscom identified the need for a centralized hub for real-time operational and customer data. In particular, the company wanted to streamline the management of service support requests, so that it could coordinate a timely, comprehensive response.

Solution:

Create a Central Data Hub With Pentaho Data Integration

To gain a 360-degree overview of business operations, Swisscom Business Customers division knew it needed to build a single unified platform for data integration and validation. After evaluating solutions from several vendors, Swisscom selected Pentaho Data Integration, a Lumada portfolio product.

"Pentaho Data Integration met all our requirements at a very attractive price-point," recalls Zehnder. "We were pleased by the comprehensive feature set and the simplicity of the workflows — particularly the streamlined integration process with Apache Kafka. Other solutions we considered required you to run agent software on source systems, which makes deployment much more complex. Pentaho has a centralized integration process, which makes connecting business systems quicker and easier, using Dynamic SQL capabilities.

"We already knew about Pentaho Data Integration because it is integrated into some of the other software that we use. This not only speaks to the quality of the Pentaho solution, but it also means that there is a thriving community of users, and plenty of advice and support available."

Over 30 business units use the data managed and processed by Pentaho, including marketing, sales, quality assurance, and service operations management. The team quickly learned the skills required to deploy a Pentaho solution that can extract, transform, load (ETL) data from disparate systems into a central configuration management system.

"We worked closely with different business units to build a real-time data harmonization layer based on Pentaho Data Integration," comments Zehnder. "This allows us to integrate new systems into the platform very quickly and easily and provides a single point of control where we can check the data consistency and standardize the data formats. This ensures that everyone who works with our data is speaking the same language."

Outcome:

Empower Employees With Customer Data

Based on open source software, the Pentaho solution offers a smooth, cost-efficient and flexible transition from evaluation to enterprise-class services without a hard vendor lock-in. This flexibility was a key factor in Swisscom's decision to select Pentaho Data Integration.

With the solution in place, Swisscom can securely extract valuable information on customers, service operations, products, contracts, assets and more from disparate systems. Since all data is stored in a single, easily accessible platform, users now benefit from a unified overview of operations.

"Previously, if a member of staff wanted to check details about customer contracts across products and services, the data would be compiled and harmonized from up to six different inventory systems," says Zehnder. "This was a time-consuming process that could slow us down in providing status updates and resolving issues."

Today, the situation is very different: The Pentaho solution currently processes more than 100 million data records daily, giving users access to a central hub where they can consume data quickly and easily.

Swisscom Business Customers expects the platform to grow significantly as new cloud environments and services create additional data integration requirements. The company already plans to integrate 20 more systems, and soon expects Pentaho Data Integration to be handling even more data records per day.

With a clearer view of operations in place, Swisscom can give stakeholders direct access to consolidated information. "Thanks to the Pentaho solution component, we have been able to create a holistic view of all contracts, service status details, and SLAs in a single, harmonized data model," says Zehnder. "We also let stakeholders access these details online, so they can check on their accounts and service status at their own convenience, 24 hours a day."

BENEFITS



Delivers a 360-degree view of service operations.



Provides real-time insight across 30 business units.



Processes more than 100 million data records daily.



Harnesses open source technology, avoiding vendor lock-in.



Thanks to the Pentaho solution component, we have been able to create a holistic view of all contracts, service status details, and SLAs in a single, harmonized data model."

Emanuel Zehnder

Head of Information Architecture, Swisscom Business Customers

Making Smarter Data-Driven Decisions.

WERTGARANTIE Group is a leading insurance company specializing in consumer electronics equipment, including smartphones, TVs and washing machines, as well as pet insurance products. Headquartered in Hannover, Germany, WERTGARANTIE Group employs 850 people and serves more than 6.75 million customers.

The insurer works closely with international high street retailers to sell its products across seven European countries.

GOAL

- Improve operational decision-making by accelerating speed-to-insight, making analytics more scalable, and improving auditability.

SOLUTION

- Standardize 600 data pipelines with a modern data warehousing platform and improve quality management with continuous monitoring.

OUTCOME

- Cuts daily data processing time by 70%.
- Delivers monthly figures reliably on the first day of each month, without delay.
- Facilitates data-driven decision-making with improved insight and data quality.
- Streamlines communication between IT and over 200 business stakeholders.



INDUSTRY:
Insurance

HITACHI SOLUTIONS:
Intelligent Data Operations for Analytics

SOFTWARE:
**Lumada DataOps: Data Integration
& Analytics powered by Pentaho**

Challenge:

Delivering Daily Business Insights to Hundreds of Stakeholders

Many departments at WERTGARANTIE Group use analytics and reporting to drive sustainable growth. Regarding data analytics as a key part of operational planning, the company needs tools that deliver high levels of extensibility and performance.

Steffen Riedel, Team Lead Data Warehouse at WERTGARANTIE Group, explains: "Previously, we were using a homegrown, custom-developed data integration solution. It was challenging to keep up with all the requests from our business departments to provide the figures they need, when they need them, every day. We wanted to modernize our data warehouse with a new, standardized and scalable approach that would allow us to deliver new insights faster."

The company's small data warehouse team must coordinate reporting requirements with 200 business stakeholders. To provide a better service to all departments, the team wanted to streamline internal communications. "It was very difficult for the team to discuss metrics and reports in a productive way with stakeholders who don't understand database queries and code," says Riedel. "To define and develop our performance indicators more efficiently, we needed a more visual language to create a shared understanding with our business users."

WERTGARANTIE Group also wanted to focus more on the verification and validation of data. The objective was to establish a continuous feedback loop that would help to increase data quality across all departments. At the same time, to answer questions about key performance indicators and complex data flows more easily, the data warehouse team needed more sophisticated auditing capabilities.

Solution:

Getting Started Quickly with an Intuitive Data Integration Tool

After completing comprehensive, hands-on testing of solutions from four different vendors, the WERTGARANTIE Group team selected Pentaho Data Integration, a Lumada portfolio product.

"We're self-starters, so we explored some options on our own to understand how easily we could set something up from scratch," says Riedel. "Based on our experience, Pentaho Data Integration is by far the easiest solution to work with. We were able to become productive quickly and gain the benefits of a very flexible platform that is simple to extend."

WERTGARANTIE Group decided to deploy Pentaho Data Integration and take advantage of its full range of features, from extract, transform and load processes (ETL) to job scheduling and monitoring. To help the data warehouse team level-up their Pentaho skills prior to the deployment, Hitachi Vantara provided in-depth introductory training sessions through a partner.

"After the initial training, we knew everything we needed to start building our new data warehouse," says Riedel. "As a result, we have already been able to implement 600 data pipelines across 750 database tables."

Starting from a clean slate, the team used the intuitive graphical drag-and-drop interface to standardise its ETL processes. Today, the team manages a data warehouse with 1.5 billion records and generates a set of 30 key performance indicators with 44 dimensions for in-depth analytics. The underlying business data is stored in Oracle databases, and IBM Cognos Analytics provides the user interface for data analysis and visualisation.

Throughout the entire journey, WERTGARANTIE Group worked closely with Hitachi Vantara. "We have received outstanding support from Hitachi Vantara," confirms Riedel. "The specialists in the support team provided fast solutions to our specific challenges, helping us to keep improving our data warehouse."

Outcome:

Helping Business Leaders Make Better, Data-driven Decisions

With Pentaho, WERTGARANTIE Group can process its daily data pipelines much faster. "In the past, it took 7 hours or more to load the latest data," says Riedel. "With Pentaho Data Integration, we cut the loading time down to approximately 2.5 hours, which makes it 70% faster. Crucially, this means everyone can access current information to support data-driven decision making. Including teams that start early in the morning."

In addition to the daily data loading jobs, WERTGARANTIE Group has also seen an acceleration in monthly updates. Previously, it could take up to three days to calculate month-end figures. Now, with Pentaho Data Integration, key performance indicators are always available on the first day of the new month, without exception.

For the IT team, the ease of use of Pentaho has been a major benefit right from the start of the implementation. "At the core, Pentaho Data Integration is a simple solution," says Riedel. "The solution offers the features and flexibility we need combined with great documentation, a big community that we can turn to for guidance, and the outstanding Hitachi Vantara support."

Furthermore, the integrated debugging tools and preview features have accelerated the development cycle and help to save valuable time for the team. Once new data pipelines have been pushed into production, it is easy for administrators to monitor the status, progress and performance and streamline operations. This also helps WERTGARANTIE Group to improve data quality.

In future, WERTGARANTIE Group plans to provide more self-service features to allow for more flexible on-demand data uploads and analytics. The flexibility of Pentaho Data Integration also makes next-generation business models possible, which could use IoT sensor data to offer customers completely new intelligent services and insurance policies.

The combined impact of all these improvements means that the team estimates a full return on its investment in the Pentaho solution over the medium term, within a couple of years. Riedel concludes: "It is now much easier for our team to communicate with our 200 business stakeholders thanks to the intuitive visualizations of complex data flows in Pentaho Data Integration. Better communication means faster implementation of new functionalities, whether for the executive board, the controlling department or the partner management team. As a result, the whole business has become more agile and we can make smarter, faster, more data-driven decisions than ever before."

BENEFITS



Cuts daily data processing time by 70%.



Delivers monthly figures reliably on the first day of each month, without delay.



Facilitates data-driven decision-making with improved insight and data quality.



Streamlines communication between IT and over 200 business stakeholders.



Our team can much more easily communicate with our 200 business stakeholders thanks to intuitive visualizations of complex data flows in Pentaho Data Integration. Better communication means faster implementation of new functionalities. The whole business has become more agile."

Steffen Riedel
Team Lead Data Warehouse, WERTGARANTIE Group

The future belongs to the data-driven.

Lumada DataOps delivers intelligent data management for data professionals to build data products managing all data from capture to prime. Unlike point tools and technologies, Lumada DataOps delivers trusted data for accelerated business agility, lower TCO and better customer experience.



About Hitachi Vantara

Hitachi Vantara, a wholly-owned subsidiary of Hitachi Ltd., delivers the intelligent data platforms, infrastructure systems, and digital expertise that supports more than 80% of the fortune 100. To learn how Hitachi Vantara turns businesses from data-rich to data-driven through agile digital processes, products, and experiences, visit hitachivantara.com