

Keysight Technologies transforms customer relationships with analytics

60

SECONDS FOR
LOADING DATA,
VS. HOURS

Keysight Technologies is a leading electronic test & measurement equipment provider to industries including worldwide communications and industrial ecosystems, aerospace & defense, automotive, energy, semiconductor, and general electronics.

Challenge

After 80 years of serving the world's top technology companies, Keysight was experiencing challenges managing and filtering customer and product data. Its systems were no longer able to cope with large volumes of diverse data. It took hours to load and included unnecessary details requiring filtering and processing of heterogeneous and inflexible data sources. The situation had led to reporting and analysis difficulties that impacted business productivity.

To remedy the situation, the company sought a self-service reporting and analysis solution with efficient data loading and preparation, so users throughout the company could gain insights faster. This solution would need to complement and enhance Keysight's Snowflake data warehouse. Users also needed an analytics platform that could support important business scenarios: monitoring product quality, investigating customer care escalations, measuring sales trends & customer satisfaction, supporting repair & calibration services, monitoring software processes,

VIEWS

SHIPMENTS, REPAIRS, CALIBRATIONS OVER TIME

BETTER

PRODUCTS & CUSTOMER KNOWLEDGE

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— Paul Jones,
Senior Data Scientist

and more. In addition, if the company could better predict and measure product quality, it could take steps to improve, which is a critical capability for test & measurement instruments that require extreme precision.

Transformation

With Spotfire, Keysight Technologies implemented a new analytics platform to analyze customer issues and product use. Spotfire® analytics allows Keysight to analyze customer-reported issues and identify important root causes and contributing factors. The Spotfire platform can replicate data into Keysight’s Snowflake data warehouse and run various SQL queries, creating actionable reports all users can benefit from. Because Spotfire data columns link back to the source in Snowflake, users can conveniently correct data in real time.

In addition, Spotfire software analyzes product data and provides granular views of historical timelines that help explain failure mechanisms. Users can visualize product family reliability trends, compare usage by specific customers, and generate comprehensive views of shipments, repairs, and calibrations over time. Insights gained from these analyses help the company detect when a product family needs to be updated or when certain products are aging quickly because of extended run times. All of this knowledge will allow the company to improve future products, predict customer needs, and achieve greater customer satisfaction.

Benefits

Keysight Technologies now has easy and timely access to data that’s fit for purpose. What used to take hours to load now takes seconds or minutes. Its new platform provides many other benefits, too, like easily filterable data, faster download times, and the ability to merge data from various sources. Spotfire software automates repetitive tasks such as alerts and scheduled jobs, freeing up more time for users to analyze reports.

Additionally, the Spotfire solution can work alongside the time travel functions of Snowflake, reporting on progress such as the rate of issue resolution versus new issues resolved. With this functionality, users can see which resources are needed to resolve issues, and management can easily view updated progress status and resolutions. Most importantly, Spotfire integration with Snowflake means that information on millions of assets and entitlements now correctly corresponds to all Keysight customers.

A recent success story illustrates timely, targeted, and accessible Spotfire analytics capabilities. The Keysight team analyzed product failures in the field and identified that a particular customer’s units seemed to fail sooner than expected, after only three years compared to the normal seven.



Keysight Technologies

To connect and secure the world, Keysight Technologies (NYSE: KEYS) delivers advanced design and validation solutions that help accelerate innovation. To bring tomorrow's products to market faster, its dedication to speed and precision extends to software-driven insights and analytics for development, design simulation, prototype validation, automated software testing, manufacturing analysis, and network performance optimization.

By drilling into the customer data using Spotfire box plots, the team discovered that half of the units were used more than 17 hours per day. Other customers typically had less continuous usage, which explained the early failures.

The team concluded that three contributing factors led to these issues: earlier models were less reliable, high utilization led to early failures, and rigorous compliance criteria meant that units were not performing as required. The final solution was a trade-in program where customers could swap older or high-duty cycle equipment for new units with improved reliability.

According to Paul Jones, Keysight senior data scientist, "Spotfire software allowed us to set the customer up with the right solution and to understand what was causing their original problems."

By leveraging Spotfire analytic capabilities, Keysight can drill down to root causes and understand factors contributing to reported issues. Based on its new analytics capabilities, the company can improve equipment reliability and performance—leading to better customer service and customer satisfaction.

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