

# Bosch Boosts Factory Efficiency Through Smarter Data Use

## Key Challenges

Manufacturing for Bosch's advanced lambda sensors required up to three weeks lead time and many different data formats that had to be manually correlated using complex SQL queries and huge Excel spreadsheets.

## Key Results

With Splunk, Bosch manufactures products with efficiency, slashing core-analysis time from 15 minutes to 20-90 seconds while allowing every staff member — not just technologists — to complete their own queries.



**BOSCH**

Invented for life

**Industry:** Manufacturing

**Solutions:** Industrial Data and IoT, Business Analytics

From kitchen appliances and garden tools to automotive parts and heating systems, Bosch plays an important role in everyday life.

Though Bosch is a well-known brand for a wide range of products, its Manufacturing Solutions division of 2,000 employees across nine locations provides factory equipment, technology and services for industrial businesses.

While data was already available to the Bosch team, they were unable to derive meaningful insights and turn data into action for critical processes like manufacturing Bosch's lambda sensors. Invented by Bosch, these sensors are a vital element in a car's emissions system, ensuring that the fuel mixture has the right amount of oxygen for efficient, environmentally friendly combustion. To determine how to best optimize the manufacturing process for these lambda sensors, Bosch turned to the Splunk platform.

## Fast, Proactive Customer Service

Bosch knows the value of data, and manufacturing is no exception.

"We are always focusing on getting all available data out of the machines for analysis and process improvement," says Claus Giehl, Industry 4.0 innovation and product manager at Bosch Manufacturing Solutions GmbH. "Though several Bosch departments use Splunk for security and data analysis, the manufacturing business uses Splunk for loading manufacturing data for deep analysis."

### Data Driven Outcomes

**20 seconds**

to run a query, versus 15 minutes prior to Splunk

**All**

employees can now query data, not just technologists leading to transparency to what happens on the shop floor

**80+**

critical alerts implemented by Bosch Manufacturing Solutions GmbH customers, leading to very high customer satisfaction

## Quicker Queries and Self-Service Alerts

Under Bosch's guidance, one customer — a manufacturing plant in Bamberg, Germany — consolidated 28 data sources into Splunk. Previously, one employee had to perform time-consuming searches in Microsoft Excel to find information on how factory equipment was performing. Now every employee can run those reports, and the queries are much quicker: Splunk reduced the average time from 15 minutes to as little as 20 seconds.

This quick data access allowed the team to identify the machines or workpiece carriers on the shop floor that are creating the highest percentage of faulty parts, and service them immediately. It also freed up the employee who used to spend all day running Excel macros to perform more complex data analysis and come up with suggestions for how to improve business processes.

“The team appreciates the ‘user-friendliness’ of Splunk,” says Giehl. “They find it easy to set up their own Splunk reports and alerts, so they know when there are any issues with the machinery on the factory floor.”

“That manufacturing plant is using the Splunk platform every day now,” says Giehl. “It’s making the whole team more efficient.”



Splunk technology helps us to decide measures faster and with better results. Across the organization, it’s creating a higher quality of work.”

**Claus Giehl**, Industry 4.0 Innovation and Product Manager, Bosch Manufacturing Solutions



Thanks to Splunk, we get deep insight into our processes. This transparency assures the team uses data to make all their decisions for further improvement.”

**Claus Giehl**, Industry 4.0 Innovation and Product Manager, Bosch Manufacturing Solutions

## Journey With Splunk Professional Services

In the initial proof of concept (PoC), Bosch started with three key processes on the shop floor, already uploading 7.5 Mio measurements (events) and a payload of up to 150 fields. Struggling with this amount of data and preprocessing, the team contacted Splunk’s Professional Services team to avoid unnecessary loops and loss of time. Based on the recommendations of the Splunk experts, Bosch modified their internal architecture and preprocessing of data.

“Getting Splunk onboard to our project team was the key success factor for our project and convinced our customers to immediately start follow-up projects to connect further data sources,” says Giehl.

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