

Nexplant Analytics

Nexplant Analytics solution enables anyone to investigate manufacturing quality issues with ease

As the manufacturing industry rapidly modernizes, massive amounts of data are exploding from an increasingly complicated mix of production, operations, and machines.

Still, many manufacturers lacking the experience and expertise in data analytics have a difficulty utilizing manufacturing data.

Samsung Nexplant Analytics empowers everyone in the enterprise to access and analyze manufacturing data generated from the shop floor.



Impact on Your Business

High-speed processing of big data

Samsung Nexplant Analytics provides statistical functions based on in-memory high-speed parallel computation technology. The high-speed big data analytics platform efficiently handles the data collection, storage, analysis, and visualization for the analytics report.

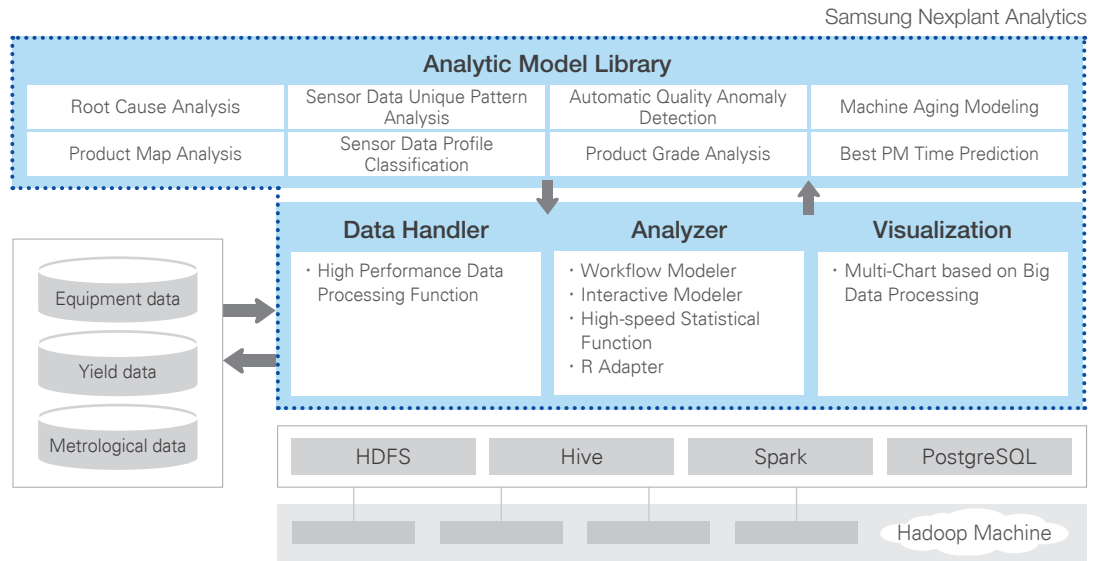
Specialized analysis in the manufacturing quality domain

Samsung Nexplant Analytics applies the core logics built through years of our experience and knowhow to ensure an optimized manufacturing analytics. This enables you to immediately tackle quality issues. Our business analytics model is driven by deep knowledge and market proven technology from best practices across a wide range of manufacturing domains.

Easy to learn

You can prepare a high-quality analytical report with our 4-step easy-to-use wizard UX. All of your field engineers can quickly analyze quality problems in the field.

Architecture Configuration



Reference

A Company >> Examining the root cause of chronic failures by harnessing large-size equipment sensor data

Challenge

- Conventional statistical analysis technique cannot detect the subtle cause of chronic failures.
- An innovative approach was required to analyze massive equipment sensor data. (Above 300 thousand sensors, 2.1 billion data)

Solution

- Initially select the failure causing sensors (300 thousand ⇒ 1 thousand) through various data pre-processing techniques.
- Secondarily select the failure causing sensors (1 thousand ⇒ 10) through cross validation technique on long-term data.
- Improve the 5 most common failure causing sensors identified through analysis of the correlation between process event and quality.

Benefit

- Significantly reduced data processing and analysis time enabled more focus on reform measures on site.
 - Before** Unable to execute ⇒ **After** 40 minutes of pre-processing / 10 minutes of analysis
- Uncontrollable size of equipment data of all steps were able to be analyzed concurrently.
 - Before** 1,000 sensors per step ⇒ **After** 300,000 sensors of all steps were able to be analyzed

B Company >> Ramping up the yield in early stages through an automatic failure analysis model

Challenge

- Too much time spent on data extracting and pre-processing for failure root cause analysis made impossible to undergo total inspection.
- Significant skill gap among field engineers meant different conclusions on the same symptom.

Solution

- Automate the entire analysis process from anomaly detection to mailing.
- Equalize upward the analytical capability to the same level of a skillful engineer.

Benefit

- Product quality and yield were enhanced through total inspection on the confirmed failure.
 - Before** Less than 4 cases per day ⇒ **After** More than 300 cases per day were able to be analyzed
- Engineering efforts concentrated on the reform measures on site instead of mediocre tasks.
- Similar key failures were able to be fixed early on by utilizing an automatic analysis DB.