Customer Case Study
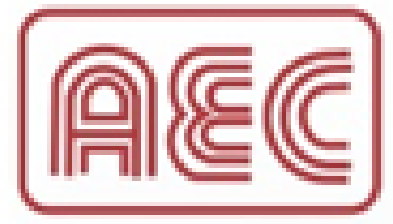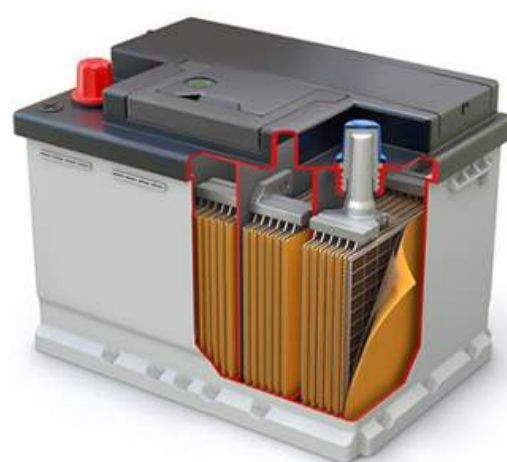
Agarwal Engineering Company

Interview:
Philippe Rehm, consultant at AECPL

- AECPL is operating at the battery field with two factories located in India. The company manufacture 1 component of the lead/acid batteries which is the separator porous membrane.

- QualityLine AI analytics solution is helping AECPL to improve product quality and manufacturing efficiency to enable future capacity of 30 millions square meters manufactured a year.

- To ensure a high quality product, about 300 parameters must be controlled.

Prior to QualityLine, AECPL was saving their process parameters on paper log sheets and storing them in a customised database in the cloud. Using spreadsheets and manual extractions from the database, these captured process data were analyzed.

The processes were kept under correct controlled levels. But the dispersion on these processes (CPk) was high on several of these process & quality parameters.

First Pass Yield was low, around 10% to 20%, since AECPL was manually controlling and calculating single parameters. (Manually using an Excel spreadsheet, AECPL could only focus on one parameter at a time.)
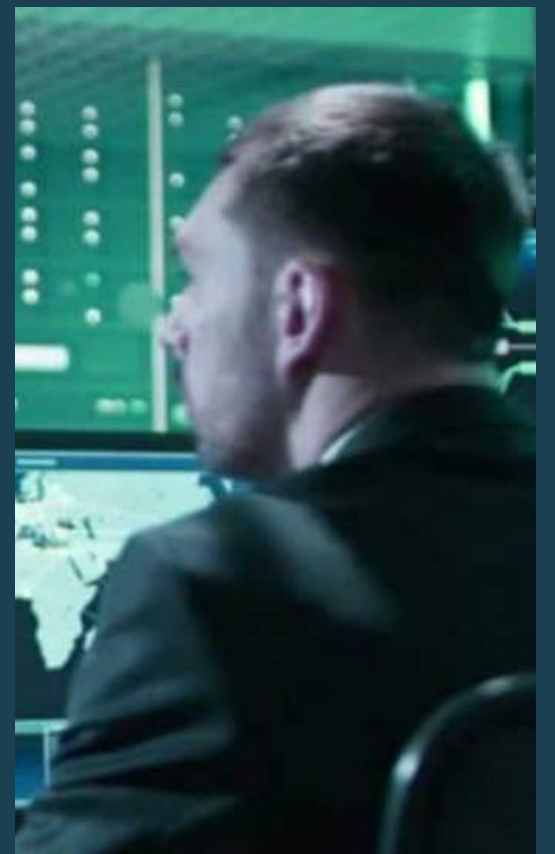
QualityLine

1

QualityLine integrated with all AECPL data and unified with all AECP's testing and repair data to automatically correlate different parameters.
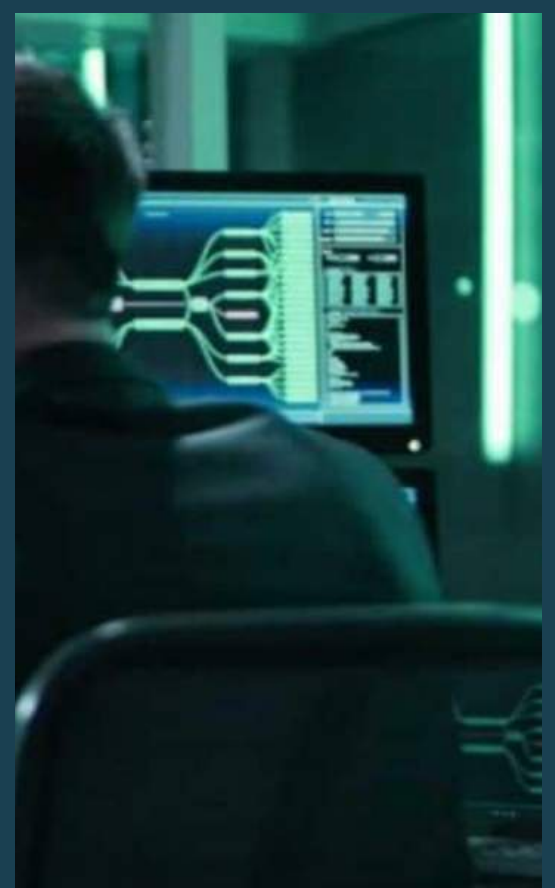

2

AECPL has now improved having all their parameters in one database to automatically run cross correlations. Anomaly detection alerts and real-time data visualization dashboards were created and delivered by the solution.

3

With QualityLine solution Philippe's team can focus on where the major problems are. The anomaly detection provided by QualityLine, identifies where they have deviations, the technology supports the process and the quality of the products.
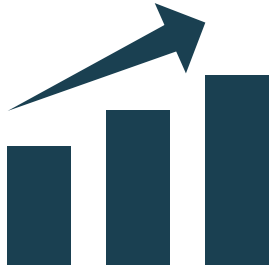
Identifying issues

"With the QualityLine AI analytics I have identified 2,3 parameters at the process that are creating 90% of the Outspecs."

QualityLine uses automated anomaly detection by automatically scanning the collected data and identifying quality and yield problems of each product and each process according to the level of severity. The findings of this anomaly detection are shown in a methodological way in the dashboards to enable a quick and accurate root cause analysis.

"By using QualityLine's anomaly detection capability, we could drill down from the percentage of tests that fail to the parameters that contributed to the test failing."

First-pass yield

"'We moved our First-pass yield from 10, 20 to 57% (global parameters)."

"The tool is very easy to use, just drill down and bring you closer to the error you need to fix."

QualityLine automatically identifies strong correlations between each tested parameter of each product to find cross influence of each parameter with other tested parameters.

The key point is that cross correlations are not only found in the same process, but also found among totally different processes. For example, we may find a strong correlation between a power test and RF test (which can be tested in a different process). This is a significant capability that enables the engineering, testing and R&D teams to improve the level for manufacturability and testability of their products.

QualityLine

2021

AECPL has started to use QualityLine AI Analytics.

2022

AECPL has two factories located in India where all their manufacturing takes place. It's a process based production.

2023

With QualityLine's help, AECPL is now building a new database that will capture data more effectively.
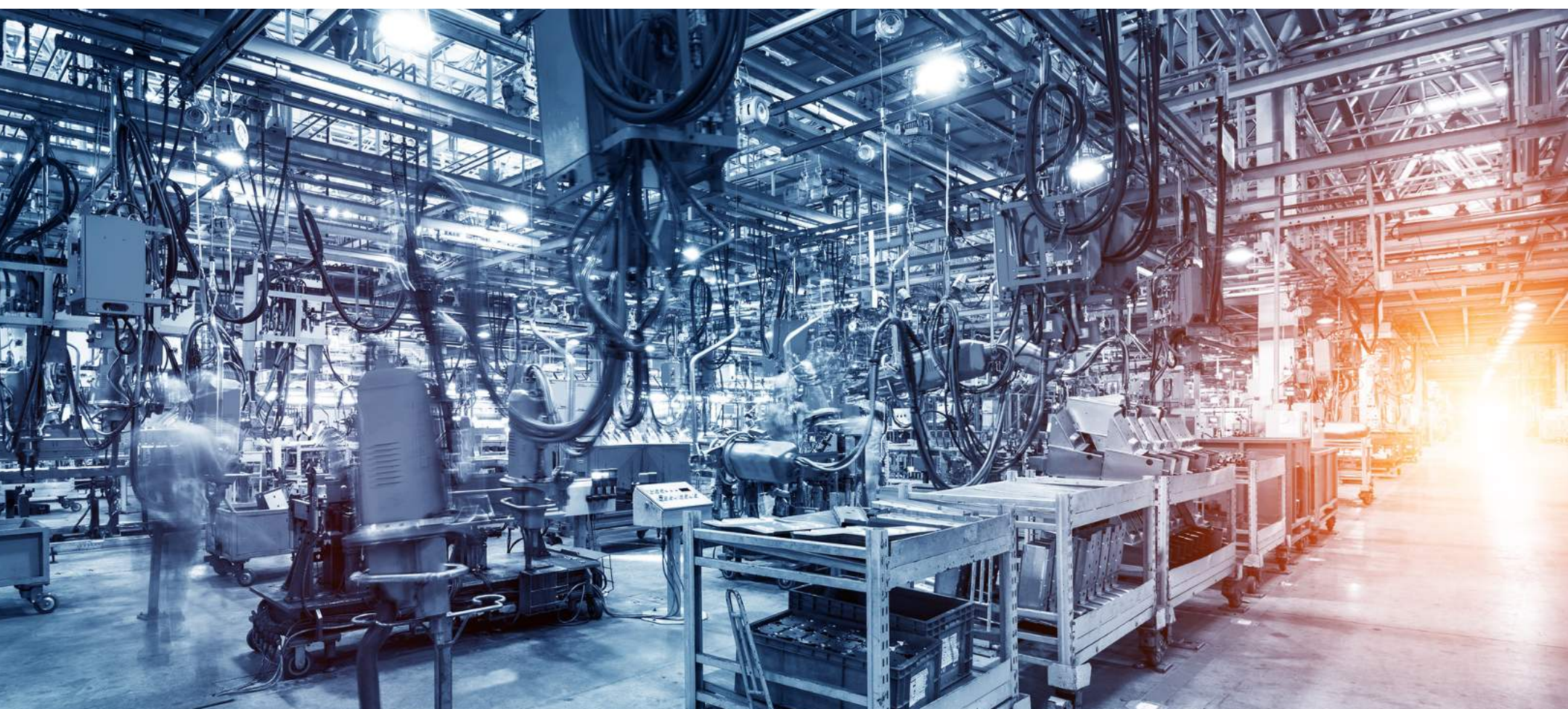
QualityLine

REDUCING OUTSPECS

AECPL is expected to improve their product quality and reduce the OUTSPECs/rejects before increasing their capacity. Every improvement delivered by QualityLine now will support the expansion.

EXPANSION

At the second factory in India, AECPL plans to have QualityLine installed

QualityLine

"Monitoring the factory remotely from France was difficult".

Although Phillipe spends his time between France and India, QualityLine's web-based platform allowed him to progress.

"When in France I can easily monitor the operation and advise."

The solution has replaced sending excel by real-time monitoring data.

"QualityLine's capability helps me to train the operators " says Phillipe "I can show where they have to focus their attention."
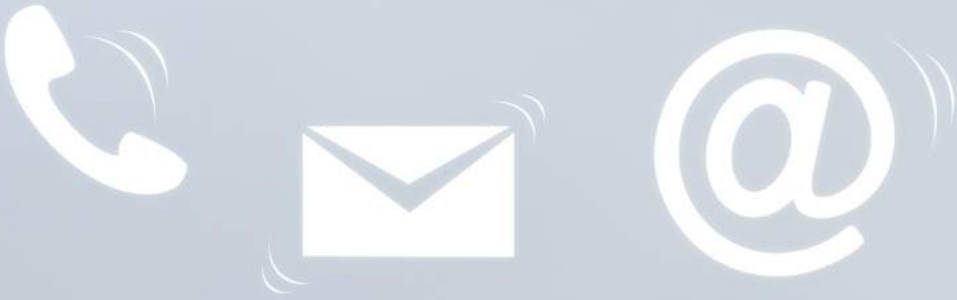
QualityLine

QualityLine is a manufacturing Analytics software solution with a patented pattern AI recognition technology that automatically integrates, interprets and analyses different formats of manufacturing data from multiple global locations to improve quality and efficiency.

QualityLine

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