SIGAINSIGHT

CASE STUDY

Chemical Production Plant

THE CLIENT

The Client is a leading global specialty chemicals manufacturing company with production plants worldwide. The Client's products help address sustainability challenges in the global food, agriculture, and industrial markets.

THE CHALLENGE

The chemical processing production lines run 24/7. Prior to SIGA's installation, the lines suffered abrupt failures which led to shutdowns.
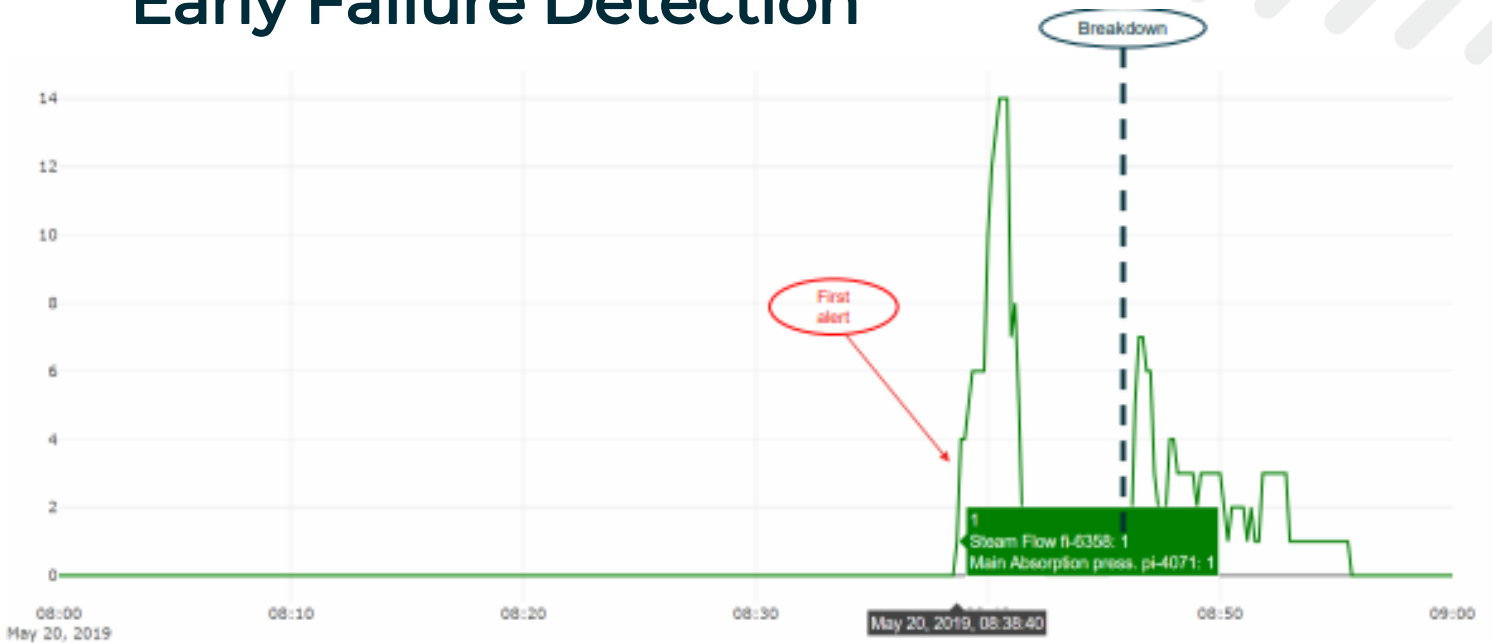
These failures led to cumulative downtime and financial losses of **~150K$ per day** — including engineering issues. For the most part, the built-in ICS and control measures, did not provide early warnings prior to the process shutdowns. The plant engineers were struggling to establish the root cause of these failures and how they could mitigate them to zero.

THE SOLUTION

SIGA provided the SigaInsight solution in order to increase the granular process visibility and generate reliable insights that detect inefficiencies upon evolvement, while allowing operators to respond on time and avoid costly downtime. The SigaInsight solution was also successful in analyzing the root cause of these malfunctions so that engineers could avoid them altogether.
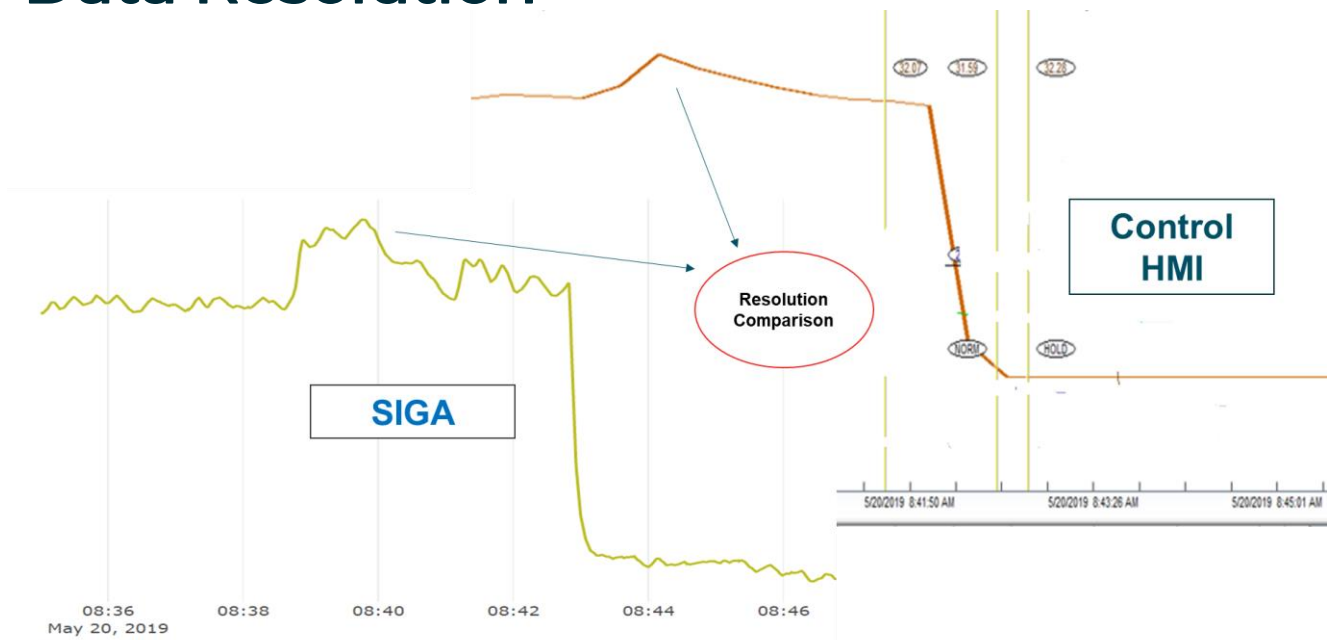
Early Failure Detection

SIGA's early warnings emerge minutes to hours before production shutdowns
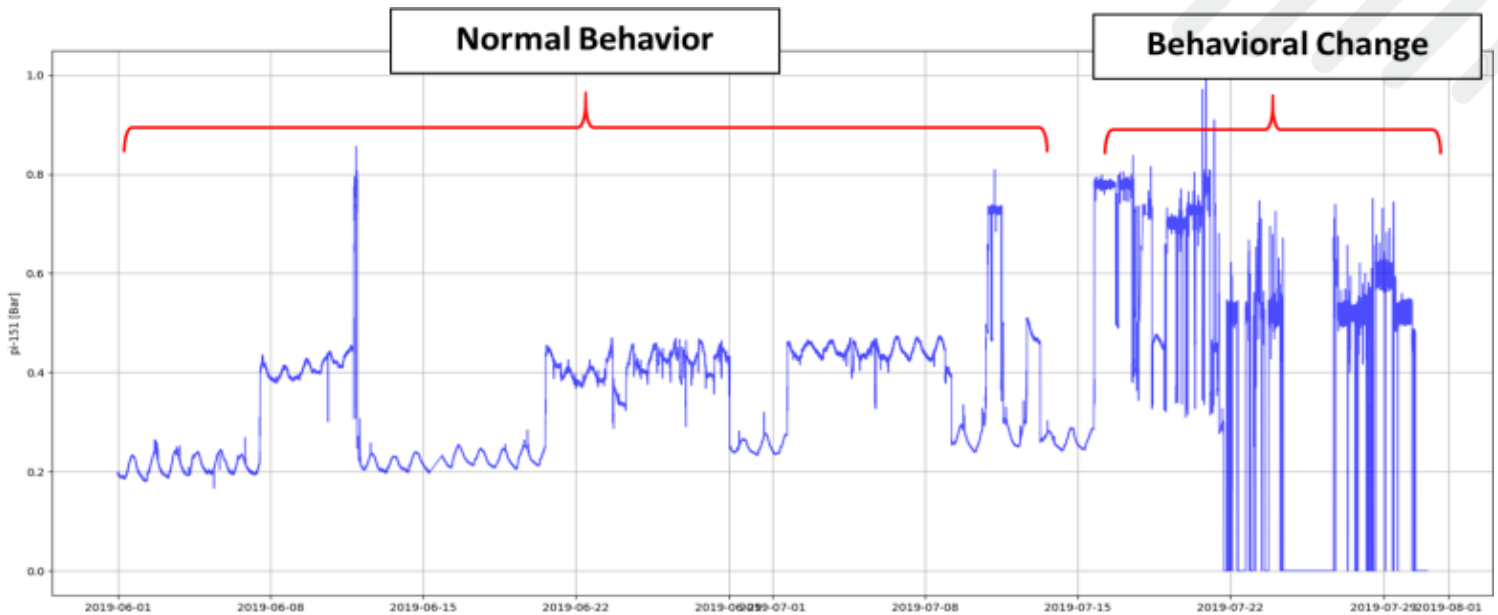

Data Resolution

Comparing the SIGA graph to the control HMI graph showed unprecedented granularity into the process data
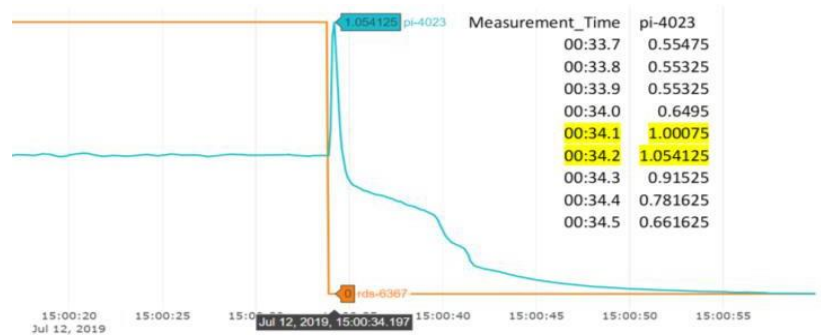
AUTONOMOUS · RELIABLE · SMART

Sensor Misbehavior

SIGA alerted on an important
sensor miscalibration which had caused process shutdowns

Root Cause
Analysis

SIGA presented data on abrupt pressure bursts, which could
not be seen in the HMI

Conclusion:

 SIGA's incipient failure detection enables industrial control system operators to improve the safety and reliability of their assets, bringing unmitigated visibility to what is otherwise overlooked. SIGA's Platform is a comprehensive process anomaly detection system that monitors critical assets using advanced analytics, artificial intelligence and machine learning. SigaPlatform acts as the first line of misbehavior or anomaly detection, ensuring continued operational optimization at all times.

Since successfully installing the first SIGA project, the customer has purchased five more systems for other applications and sites, while achieving fast ROI and increased uptime.

AUTONOMOUS · RELIABLE · SMART