

Unlocking the Value of Manufacturing IoT Data

Our manufacturing industry customer is a highly successful, multi-billion dollar corporation with tens of thousands of employees around the globe. They supply advanced automotive technologies, systems and components.

THE CHALLENGE

Advancements in manufacturing technology have allowed companies to reduce process times and material wastage while increasing product quality and profitability. However, greater system complexity and the ability to produce items to exact tolerances requires close monitoring of each and every manufacturing step in order to avoid stoppages or quality issues that might occur at any point in the process.

Our customer wanted a better way to understand how well their complex manufacturing cells were performing by turning the masses of sensor-derived data into meaningful insights using data analytics and visualization tools right on the factory floor. If manufacturing operators could be alerted to process trends and out-of-band abnormalities before an event occurred, preventative maintenance or other appropriate interventions could avoid more costly repairs and lost production.

THE SOLUTION IS AT THE EDGE

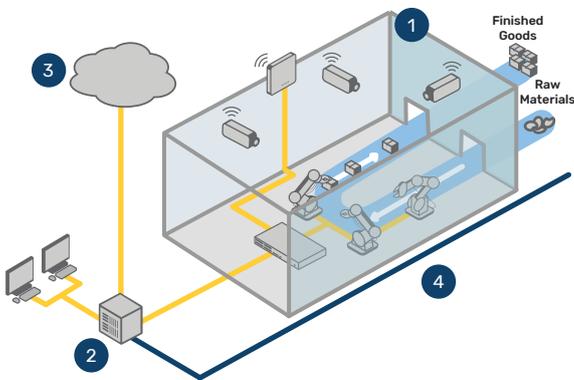
Traditional data mining solutions typically require all collected data be sent to a proprietary service or enterprise Cloud for storage, processing and analytics. Not only can this result in high WAN traffic costs, but the added latency of Cloud-based solutions are insufficiently responsive for highly complex processes that need almost real-time analytics.

Our manufacturing customer had previously explored proprietary Cloud solutions and was concerned about system latency, the real-time access to the process insights they needed, and ownership of the data. Having researched a number of alternative IoT solutions our customer elected to go with the Envigilant integrated edge computing solution because of its open technologies ensuring easy data exchange and the full project management capabilities of the engineering and services team.

THE ENVIGILANT SOLUTION

Utilizing expertise in networking, communications and software, along with state-of-the-art edge computing capabilities, Envigilant provides resilient, edge-based industrial IoT solutions built with open technologies.

For our manufacturing customer, the Envigilant team worked closely with their process engineering team to fully understand the manufacturing processes and current data architecture. The customer's data collection, storage, retrieval, processing and visualization requirements then helped define the specific requirements of their Envigilant solution. The Envigilant design group developed, engineered, tested and deployed the solution both in an engineering lab and onsite at the cell's final production location.



- 1 Manufacturing cell. All machines, sensors and cameras are connected over a secure, industrial grade wired and wireless data network.
- 2 Envigilant Edge Compute Platform (ECP) featuring scalable compute and storage resources for private cloud hosting of analytics and visualization tools.
- 3 Secure connection facility data center or cloud.
- 4 Facility operations network.

THE END-RESULT: A PRODUCTION IIOT SOLUTION

A complete Envigilant solution is currently operational in the manufacturer's facility helping to deliver maximum production output by minimizing process interruptions from unexpected process deviations or mechanical events.

Envigilant is reducing stoppages and material wastage, which increases profitability for the entire production line and the factory as a whole. In addition, the sensor data it collects is providing the customer's data scientists with new insights and opportunities for further process improvements.



Envigilant is an industrial IoT services platform by Allied Telesis. Built from open technologies, it increases profitability by improving process efficiencies for manufacturers, transit operators and smarter industries everywhere.