Industry 4.0 Pilot Program

PROJECT SUMMARY

As new developments in advanced manufacturing come to market, customers are finding a multitude of solutions available to help their manufacturing process. For one local customer, there was a push to incorporate some of that new technology in their machining area.

The customer was looking to implement predictive maintenance measures to extend tool life, prevent critical events from occurring and identify assets that were underperforming. Like many customers, they wanted to ensure that this worked first on a small scale before deploying it to an entire plant. They had already created their own pilot program to set up the initial solution and were looking for additional help and expertise.

CHALLENGE

The pilot program focused on expanding their ability to monitor discrete machine events through machine event cycle monitoring. The customer was already in the process of developing a web-based dashboard to view and filter the event data and had completed most of the programming on the industrial PC (IPC) connection points between the PLCs and the main plant network.

The challenge for the customer was in finalizing the pilot program. They needed help with the final process to prove that this solution worked. Once those acceptance tests were completed, there was an additional need for help rolling out the solution to the plant floor.

SOLUTION & BENEFITS

The Siemens IPC 427 was selected by the customer as the cognitive packet network (CPN) level component for the solution.

Patti Engineering provided debugging and fine-tuned the program running the solution. Updates were made to both the SCL code, the JSON messaging, and data mapping to ensure that all of the data was being captured at the correct time, and sent to the plant level database correctly. The IoT gateway was also programmed with user edit sections to allow for better management of PLC connections once the system was rolled out to the plant level.

After the pilot program was accepted, Patti Engineering helped to oversee the implementation of the solution to several areas of the machining department and get the solution up and running.
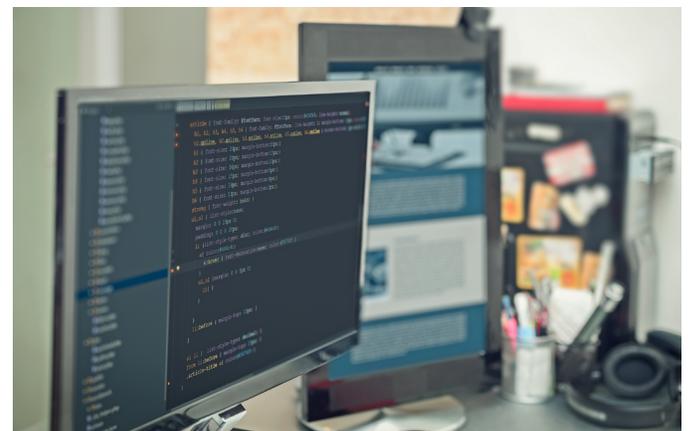
RESULTS

Once the pilot program ended and the solution was implemented on the plant floor, the benefits showed themselves quickly. For example, the customer could identify an underperforming gantry and pinpoint the issue within the data to bring it back up to the expected performance level.

Being a trusted advisor to the client, Patti Engineering helped bring the project across the last mile, proving a very innovative solution that will now be implemented in other locations as well. This stems from their deep understanding of customer expectations, their extensive background knowledge in Siemens products and Industry 4.0 technology.

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