



# Data Analytics Manufacturing a New Product

## SITUATION

Our customer needed detailed reporting that could provide real-time KPI reporting, as well as trending reports for a new, fully automated, production line. The line produced over 500 completed units per hour with over 200 touch-points throughout the production lifecycle. The primary objective was to identify production bottlenecks, key performance issues, and predictive analytics for MRO.

## STERLING SOLUTION

Sterling developed a flexible and fully automated reporting tool that generated various types of charts at predefined times throughout the production lifecycle. The reports needed to be detail oriented, and graphical in nature, in order to provide a clear picture of production challenges.

## RESULTS

Our team worked with the automation engineers and led the effort in identifying the critical data needed for determining key areas of focus. Our team leveraged Visual Studio and SQL Server for managing the ETL process. We designed the algorithms that transformed data from the SCADA system into an XML output that was configured for use within a customized reporting tool.

- Leveraged Visual Studio, SQL Server, XML, and SSRS
- Production data gathered using Indusoft SCADA
- Measurements included variations of OEE, rolled yield, scrap rate, fault durations, production rates, uptime, and rejects by station
- Chart types included ring gauges, stacked bar charts, horizontal bar charts, line graphs, as well as other performance indicators required by quality control

These analytical results were automatically generated on a daily basis to depict trends by shift, month and the 90-day rolling period. A desktop application was also developed to allow the automation engineers the ability to generate on-demand analytical results by selecting a desired date and time range.

The customized reporting tool enabled the automation team to identify key areas of concern to help them assess and quickly resolve issues in order to effectively increase the overall equipment effectiveness, improve production output, and manage quality control.

## PROJECT SNAPSHOT

- ❖ *Fortune 100 electronics manufacturer deployed a fully automated production line for a gaming device.*
- ❖ *The Automation Management Group required a reporting tool that was flexible enough to produce results for pre-defined periods, as well as ad-hoc results to enable them to oversee and improve their manufacturing and quality processes.*
- ❖ *Sterling IT developed a comprehensive reporting tool that generates the required graphical charts used to review the manufacturing process through various stages of the production lifecycle.*