CASE STUDY

Wine Cork Manufacturing

Simplifying Data Collection

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PROJECT STARTING POINT

This manufacturer is one of the leading producers of synthetic corks, producing over 7 million corks a day by leveraging technology as its foundation for growth and quality. They developed and refined an innovative extrusion process for continuous cork production and custom work order system to integrate factory floor operations with their ERP system.
These synthetic closures are the most widely used alternative to traditional corks. These closures were conceived as a solution to the inconsistencies and "cork taint" contamination prevalent in natural cork closures.

A co-extrusion process binds the interior and exterior sections of the cork by heat adhesion. This process consists of two stages - in the first stage, raw materials are mixed, melted, and extruded. The second stage applies a flexible outer skin, which is thermally bonded to the inner cylinder. The shape is stabilized in cooling water before cutting the closures to the proper length.
Key performance indicators include OEE and corks produced per labor hour; this metric is tracked as an aggregate and also separately for extrusion and finishing.

HIGHLIGHTS

- Utilizing the existing System Platform, Inflexion Point improved the accuracy of performance data.
- Mapped reasons for downtime and scrap to use for process improvements.
- Integration between shop floor systems and ERP.
- Increased overall OEE without a significant investment in capital equipment or increasing labor costs .

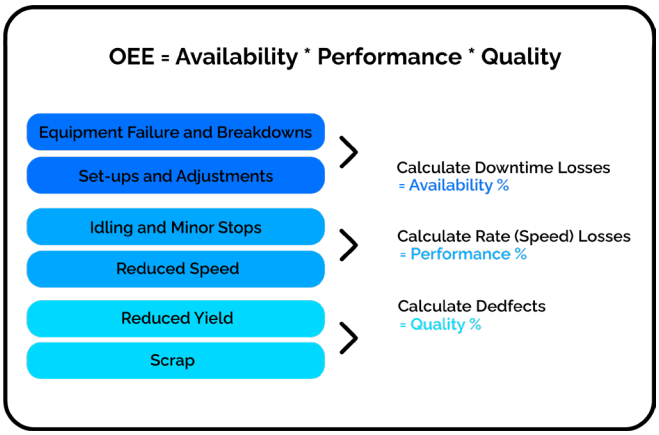
THE CHALLENGE

As this manufacturer continued to enjoy steady growth, the custom systems and manual data collection methods became less accurate and more resource intensive.
The manufacturer required a more automated Plant Performance System alone with accurate and reliable data exchanged between the factory floor and ERP system. The goal was to drive productivity and performance improvements. – specifically to reduce scrap and downtime.

IMPROVEMENTS OF EXISTING SYSTEM

Inflexion Point's Smart Solution leverages existing investments in MES, control systems, and SCADA. By delivering a system that automatically provides real-time accurate performance metrics, capital expenditures were reduced because the utilization of existing production assets increased. We had to improve the accuracy of automated information to exceed their current manual methods. The improved system provided realtime

traceability of consumables with integrated BOM while collecting scrap data quantities and reasons to use for further process improvement. Our Smart Solutions improved integration between shop floor systems and Business Systems and enhance their current alarming capability. This would provide accurate OEE calculations for all products.



OUR SMART SOLUTION

Utilizing the existing System Platform, Inflexion Point designed and deployed a set of common objects to enforce standards. A common data structure for raw performance-related information from existing PLCs - such as downtime, running time, idle time and scrap - resulted in the rapid deployment of accurate, normalized calculations of OEE across all plant assets. he metrics from the system are now used to pinpoint the root cause of inefficient utilization and identified improvement opportunities. Integrating web services to the manufacturer's existing ERP for BOM and work order exchange provided direct visibility to job related data at operator interfaces.

IMMEDIATE RESULTS

Inflexion Point improved the overall OEE, resulting in shorter downtimes and decreased scrap material. This allowed the manufacturer to increase production with no additional labor costs. Utilizing the manufacturer's existing MES, control and SCADA platforms allowed them to maximize their existing investment in these systems.