Industry
Pharmaceuticals

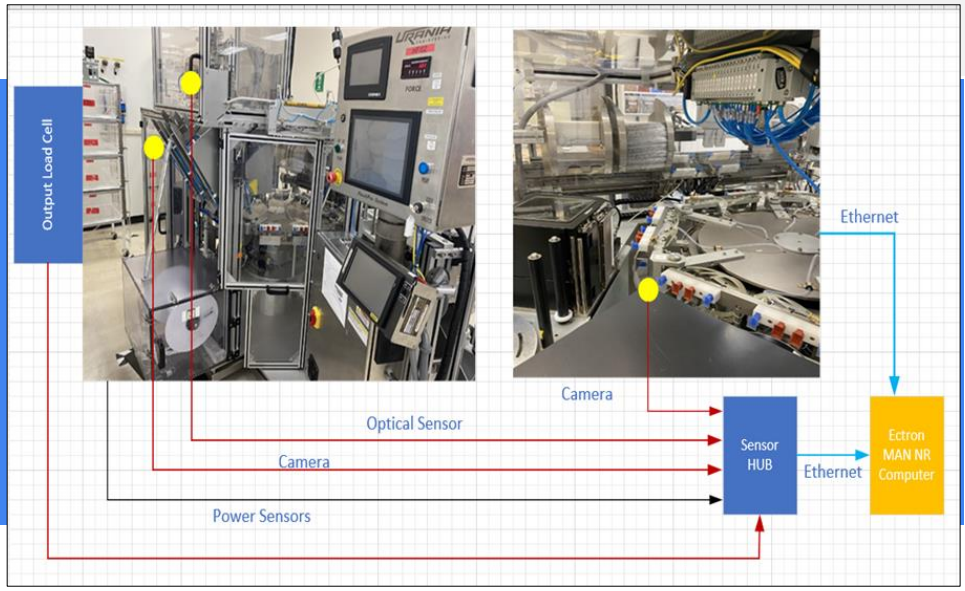
Applications
Information Modeling

Solutions
Manufacturing Productivity

CESMII
THE SMART MANUFACTURING INSTITUTE

PROJECT CASE STUDY

Efficient ELISA kit manufacturing with Precision Productivity



PROJECT LEAD

Ectron

PROJECT TEAM

N/A

PROJECT OBJECTIVE

Quantify the efficiency of the ELISA packaging machine by implementing smart sensors and creating a generic packaging machine profile for ELISA Plate Pouching. The profile will include attributes for energy efficiency, predictive maintenance, and asset monitoring.

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Information Models Improve Pharmaceutical Manufacturing Productivity

BENEFITS TO OUR NATION

Increased electronics manufacturing productivity leads to higher production volumes and reduced costs, making electronics products more affordable for consumers. Lower cost electronics stimulates consumer spending, boosts economic growth, and creates job opportunities across the supply chain. Improved productivity in electronics manufacturing drives technological innovation, enabling the development of new, advanced electronic devices. This strengthens the nation's competitiveness in the global market, supporting a vibrant American electronics manufacturing ecosystem that drives increased research, development, and innovation.

BENEFITS TO INDUSTRY

Electronics manufacturers that implement Ectron’s Smart Manufacturing tools will see improved energy utilization, increased operational efficiencies, and reduced operational costs, all without having to deploy costly engineering or IT/OT specialists to install the Smart Manufacturing tools.
These cost savings will allow electronics manufacturers to improve their competitive position and contribute to the viability of the American electronics manufacturing infrastructure.

PROJECT DESCRIPTION

TECHNICAL APPROACH

- Deploy SmartEYE™ edge IIoT platform
- Instrument the ELISA kit pouching machine and process (SmartEYE™ provides the OT-IT bridging)
- Build machine and process profiles for a generic packing/pouching machine
- Connect to the CESMII Smart Manufacturing Innovation Platform (SMIP) using OPC/UA

ACCOMPLISHMENTS

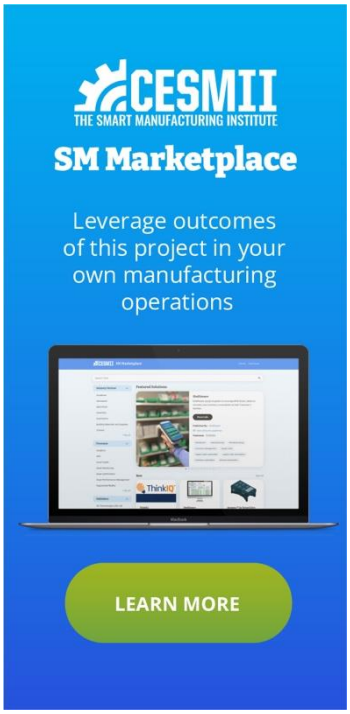
- Implement SmartEYE™ instrumentation of ELISA Manufacturing and packaging machines
- Developed Azure data collection and edge dashboards
- Developed packaging and pouching machine profiles

DELIVERABLES

- Delivered Packing/Pouching Machine Profile
- Report outlining the manufacturing use case focused on quantifying efficiency, productivity, and predictive diagnostics

REUSABLE OUTCOMES / SM MARKETPLACE

- Generic packaging/pouching machine profile
- Azure data collection dashboards



PROJECT DETAIL
Budget Period: BP4 – BP5
Submission Date: 6/1/2023
Sub-Award (contract) Number:
4550 G YA133
SOPO: 2325

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