China-Based Conglomerate Uses AI to Optimize Energy Efficiency of Cement Cooler Process

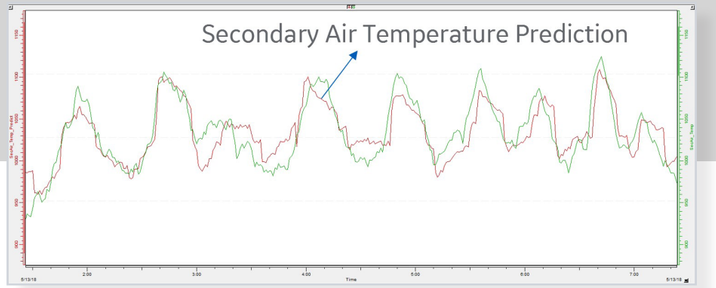
Challenge:

This company has been a long-time customer of GE Digital software solutions for the energy management systems of their steel business unit. The cement sector of their business was looking for a solution to optimize control of their cement cooling process. They were experiencing challenges with ideal control of the cooling process, which resulted in suboptimal heat recovery and inefficient energy usage. Cement cooling is a significant step in the cement production process. It is an energy-intensive process, and efficient cooling is paramount to efficient energy usage.

Company: China-Based Conglomerate Manufacturer

Industry: Cement Manufacturing

Product: Proficy CSense



Solution: Using AI Software to Create a Process Digital Twin

GE Digital partner, Shanghai Sealu, introduced the cement division to Proficy CSense, which is an analytics software that improves asset and process performance with a Process Digital Twin. For the cement division, the Process Digital Twin used data gathered from the cooler to create simulations that predicts how the cooler will perform.

With Proficy CSense, this company learned how to optimize control of their cement cooler process to maximize heat recovery, optimize energy efficiency and reduce net energy consumption. GE Digital and Shanghai Sealu showcased how Proficy Csense can:

Analyze: With seamless connectivity, rich visualization and predictive analytics, this company can use available data to understand variation in cement cooler operations

Predict: By providing a predictive model that can capture the relationships between controllable process inputs and process outputs, the company can predict future performance

Simulate: Using Proficy CSense, the team can use a Digital Twin model to simulate process behavior

Optimize: Deploy an optimizer to optimally adjust process inputs in real time to maximize heat recovery and energy-efficient cooling, which can help the company optimize productivity

GE Digital's team of experts provided six hours of complimentary analytics consulting to accelerate insights and value derived from Proficy CSense:

- By analyzing the data, new insight was gained about the variation in the cement cooler's performance
- Creating a predictive model allowed the customer to see how a Digital Twin model can predict how process input changes can affect the cement cooler's performance
- The Digital Twin model showcased how it can be used to simulate process behavior and performance based on process input changes
- The GE Digital team shared how to deploy an optimizer to adjust process inputs in real time to maximize heat recovery and energy efficient cooling, which simulates its improvement impact in the process

This company was able to jump start their continuous improvement journey with Proficy CSense along with the six free hours of industry-leading expertise to help with this analytics program. By using AI and machine learning to analyze, predict, simulate and optimize their cement cooling production process, this conglomerate manufacturer leverages Proficy CSense to help improve operations.

With the success of this project at the cement division, the company is looking into rolling out Proficy CSense and Process Digital Twin technology at other plants.

Results

- Minimized process variation
- Optimized control
- Increased energy efficiency

About Shanghai Sealu Intelligent Technology Co. Ltd.

Shanghai Sealu Intelligent Technology Co., Ltd. is a high-tech company focusing on industrial automation/information system integration and design consulting and system development. Since its establishment, the company has accumulated significant experience in the field of automation and smart factory design and development, whether it is from electrical design, system design or software development, it has strong strength and rich experience.

The main business of the company: Sealu mainly undertakes the design, programming, consulting and system development of industrial automation systems/intelligent production systems. At the same time, it is the premier agent and authorized system partner of General Electric (GE).

Advantages: The company has advanced technology and rich engineering experience, especially in the steel industry and discrete manufacturing industry. The company's technicians' program and debug various PLCs establish the Internet of Things systems, and have rich experience in the fields of big data summary analysis and intelligent manufacturing system.

About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

Contact Information

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