

# CASE STUDY: EMPOWERING EMERSON ELECTRIC WITH THE DIGITAL TWIN

## About the Customer

The Emerson Electric Co. is an American multinational corporation headquartered in Ferguson, Missouri. With 205 manufacturing locations worldwide, this Fortune 500 company manufactures products and provides engineering services for a wide range of industrial, commercial and consumer markets.

## Project Summary

As part of a continuously expanding partnership, Engineering's leading Manufacturing Plant Simulation team helped Emerson create living Digital Twins for both the HVAC (Heating, Ventilation and Air Conditioning) and Automation & Control divisions of their business in North America.

## Project Activities

- Leveraged Siemens Tecnomatix software to build a complete virtual model for Emerson's new HVAC division line in order to identify optimal layout of facility, equipment and containers to be purchased
- Leveraged Siemens Tecnomatix software to design and build a complete simulation model of Emerson's Automation & Control plant, which will be used as the global template for Emerson's sensor manufacturing division
- Enhanced and expanded the two Digital Twins delivered by adding functionalities and implementing model improvements based on the evolving needs of Emerson and the industry

## Business Drivers

- Increase overall productivity and profitability
- Improve order promising and better predict module completion dates
- Gain insight into inefficiencies in product storage and idle times
- Improve allocation of workforce and resources to minimize risk of delay on completion dates
- Justify investment in new acquisitions and manpower
- Improve accuracy of input data and minimize time spent on data acquisition

## More About The Project

As an innovator and market leader, Emerson Electric has been on a journey of digital adoption ahead of the industry curve. Having already seen the benefits of Siemens Teamcenter Manufacturing to close the gap between their engineering and manufacturing data management processes, Emerson next looked towards the Digital Twin. Douglas Hill, Manager for Teamcenter Manufacturing at Emerson Electric, explained the natural progression of Emerson's digital transformation journey and the value his team saw in the implementation of the Digital Twin together with Engineering:

*"The idea of a Digital Twin, at first, seemed to be a notional idea. As we have moved forward and through our digital journey at Emerson, we have recognized the importance of the Model-Based Enterprise and have had several initiatives that address this. We are continuing to invest in tools that support re-use of data, planning processes and simulation, ultimately allowing us to leverage our data across the business, bringing value by reducing costs and maximizing returns on investments."*

For our first Digital Twin initiative, our team leveraged Siemens Tecnomatix Plant Simulation software to design and build a complete plant simulation model for Emerson's new HVAC division line. The virtual model was then used to test scenarios and analyze different inputs to answer questions about the optimal layout of the facility, equipment and containers to be purchased.

Next, our team designed and built a second plant simulation model for one of Emerson's flagship U.S. Automation & Control plants. Moving forward, this simulation template will be used as a global template for Emerson's entire sensor manufacturing division.

## Engineering's Advantage

After the completion of both models, our team continued to expand the Digital Twins delivered to Emerson in order to add functionalities and improve the models based on the evolving needs of the customer, their operations and their business. We look forward to collaboration with Emerson Electric in the future in order to further support them along each step of their exciting digital transformation journey.

*"Engineering performed a Plant Simulation model for one of our lines. Their simulation experts did an outstanding job on the model and the results provided us valuable information to make key decisions on our line design. Engineering is a preferred supplier of ours when it comes to Teamcenter Manufacturing activities. When businesses ask me internally on how to get started with PLM in manufacturing, I point them towards Plant Simulation, since it does not require heavy integration at the beginning of the journey. Plant Simulation has given us the ability to make more qualified decisions early in the project, prior to ordering equipment. We have saved thousands of dollars by investing in this technology."*

– Douglas Hill, Manager, Emerson Electric

## About Engineering Industries eXcellence

Industries eXcellence is a division of the Engineering Group, a global software maker, system integrator and provider of innovative technology solutions and services. Our division specializes in the digital transformation of the manufacturing and transportation sectors. We design, build and implement solutions that drive process automation, operational efficiency, supply chain optimization and intelligent data analytics for leading industrial enterprises worldwide.

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