



OPTIMIZED SITE SYSTEMS FOR AVIATION LEADER

CASE STUDY

About the Customer

The customer is one of the world's largest producers of aviation power systems, known for designing, manufacturing and distributing them with exquisite craftsmanship. They commonly work with major businesses within the aerospace, marine propulsion and energy sectors.

Project Summary

Engineering Industries eXcellence has helped the aviation leader transform their operations across the end-to-end product lifecycle. Our Simulation & Decision Science team enabled the creation of a Digital Twin to optimize and validate the future production line in order to produce a new composite aero engine component. Our Manufacturing Operations Management (MOM) and Simulation & Decision Science teams led the deployment of a state-of-the-art MOM solution and [Siemens Tecnomatix Plant Simulation](#) software, enabling automated communication between the shop floor and design engineers via Product Lifecycle Management (PLM) integration. With help from our experts' data collection and analysis, simulation model design, plant simulation basic training, data validation and refinement, and simulation model development, the aviation innovator was able to meet their production goals with remarkable success.

Project Activities

- Ensured all modeling data was defined to support the future state production line/flow to build engine in the U.S.
- Provided multiple scenario analyses to validate future build process to support volume and timeline required by the U.S. Department of Defense
- Chosen as implementation partner for Siemens Tecnomatix Plant Simulation

Business Drivers

- Increase velocity and volume of communication between product engineers, process engineers and the production floor
- Reduce cycle time of product revisions and time-to-market
- Enable a Digital Twin of processes for future improvements
- Assist in landing large program bids through simulation models

More About The Project

As a provider of cutting-edge aerospace solutions, the customer realized the potential for improved design, optimized cycle time and reduced bottlenecks. After many experiments on their own, multiple pain points were identified, however, the customer did not know how to choose the best digital technologies to fit their needs. As a leading expert in delivering Digital Thread services and solutions, Engineering Industries eXcellence partnered with the customer to select the most ideal software and lend continuous support throughout the process.

While discussing various challenges and operational gaps across teams, our specialists helped the customer design and organize a new facility. With simulation models of the new production facility, stakeholders were able to achieve multiple goals. These goals included validating planned capacity and production rates, identifying bottlenecks, optimizing cycle time and defining resources for optimized utilization such as technician headcount, shift configurations, workstations available, material buffer and batch sizes and inventory.

Given the challenges of ramping up production and meeting customer demands while planning to build a new facility, our teams provided consulting services and support throughout this end-to-end process. After much review and consideration, Engineering Industries eXcellence implemented the right technologies for functionality, flexibility and scalability.

Engineering's Advantage

Given the solutions and support delivered by our team, this large producer of automobiles and aircraft engines has implemented the systems needed to move forward with a Digital Twin model. The company was able to optimize and validate production while automating communication between the shop floor and team members for more streamlined collaboration. Most importantly, they can make future decisions with full confidence that they are minimizing costs and optimizing performance. By partnering with [Engineering Industries eXcellence](#), industrial organizations of all shapes and sizes can access the information and tools they need to drive real improvements.



Engineering Industries eXcellence

Engineering Industries eXcellence is the global division of the Engineering Group specialized in the development, integration and implementation of holistic digital transformation solutions covering the end-to-end lifecycle and supply chain of all industrial products and processes.

A leader in digital transformation, the Engineering Group is a global software maker, a system integrator and a leading provider of technology solutions and services. With an annual revenue of over \$1.7 billion and around 15,000 professionals across 70 office locations worldwide, the Engineering Group manages projects in over 50 countries by designing, developing and implementing innovative solutions for the business areas in which digitalization is having the biggest impact today.



Delivering the Digital Thread for Industry X.0



Global System Integrator for All Industrial Sectors



End-to-End Technology Solution & Service Capabilities

Contact Us

info@indx.com | www.indx.com