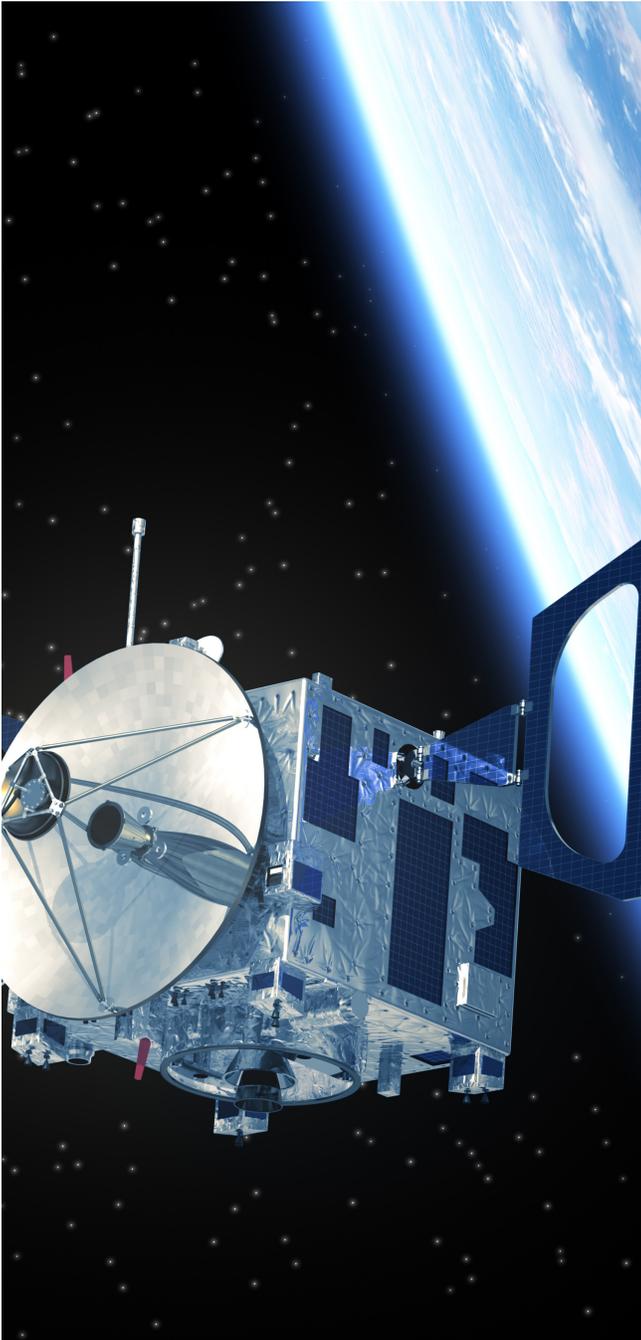


CASE STUDY: BUILDING THE MOST EFFICIENT ROCKET IN SPACE



About the Customer

The customer is an American space and technology company that designs, develops, builds and deploys ground-based and space-based instrumentation and systems for space weather monitoring and other specialized applications. The customer is involved in multiple NASA missions and produces the most efficient single-use rocket delivering payloads into Earth's orbit.

Project Summary

Engineering USA's Industries eXcellence team helped the customer automate and standardize their manufacturing data management processes to bridge the gap between engineering and manufacturing operations, enabling them to make better decisions about how to get their rockets efficiently and cost-effectively out the factory door.

Project Activities

- » Deployed Siemens Teamcenter Manufacturing platform to manage engineering and manufacturing data in a singular, unified system (eBOM to mBOM reconciliation)
- » Provided user and administration training on new system
- » Supported complex business requirement and design discussions surrounding integration points between the customer's Enterprise Resource Planning (ERP) system and their future Manufacturing Execution System (MES)

Business Drivers

- » Enable a solution for manufacturing to efficiently manage and control their data
- » Reduce data inconsistencies between engineering and manufacturing
- » Support the establishment of efficient change management processes
- » Facilitate and increase communication across different departments of their enterprise

More About The Project

Together with partner Saratech, Engineering USA's team has been working with the division of the customer's organization that is responsible for the production of the most efficient single-use rocket delivering payloads into the Earth's orbit. Before calling us in, this division was facing a number of challenges due to the disconnected data management processes between engineering and manufacturing operations. Their major pain points included manufacturing work not being performed, manufacturing engineers being notified of changes last minute with unrealistic deadlines, or sometimes not being notified at all.

Before our project, the exchange of Bill of Materials (BOM) information between the customer's design and manufacturing teams was still being done manually. There was no single source from which different divisions of the team could go to pull the information they needed. Moreover, there were no accountability checks in place to prevent human and process errors, nor was there a reliable way to ensure that the information for manufacturing was complete, accurate and up-to-date.

For the first phase of the initiative, our Product Lifecycle Management (PLM) team was brought in to help the customer utilize manufacturing BOM (mBOM), reconciling it with their existing engineering BOM (eBOM), ensuring that their manufacturing engineering team was not only accounting for all their parts, but doing so in a reliable and efficient way. Our team of specialists conducted a thorough analysis before designing and implementing a foundational core for Siemens Teamcenter. We implemented Manufacturing Process Planner (MPP) to provide manufacturing a form of communication

between engineering and manufacturing, involved in early design releases that require manufacturing input, and accounting for all parts and assemblies prior to manufacturing planning. This solid, grounded digital foundation based on customer use cases and requirements will facilitate moving forward in the following phases of implementing Industry 4.0 technology and methodology.

Engineering's Advantage

A complete, accurate and readily available manufacturing Bill of Materials is critical for a manufacturing business. The mBOM enables the final transition from product concept to a concrete, touchable object. Thanks to the solution delivered, the customer was able to bridge the digital gap between their eBOM and mBOM, and between their engineering and manufacturing operations in general. A complete and reliable mBOM will enable the customer to make better decisions about how to get their product efficiently and cost-effectively into their own customers' hands.

Even more importantly, an mBOM drives manufacturing, operations, purchasing and logistics for a product. The information from the mBOM feeds the business systems used to order parts and build their product. These include Enterprise Resource Planning (ERP), Materials Resource Planning (MRP) and Manufacturing Execution Systems (MES). As a result, integrations between Teamcenter Manufacturing as well as the customer's new and complete mBOM will also drive improvements across all levels of their organization and operations.

Would you like to learn more about this customer case study? Contact us at info@engusa.com.

ENGINEERING Industries eXcellence Global

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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