

Client Success Story

Enabling Seamless Integration Between PLM, ERP, & MES Systems



Preface

Relativity Space, a rapidly growing aerospace company, faced challenges in communicating critical product data between its Product Lifecycle Management (PLM), Enterprise Resource Planning (ERP), and Manufacturing Execution System (MES) platforms. The company required a seamless integration solution to optimize its operations, improve resource allocation, and enhance its data tracking capabilities.

Technical Services Involved

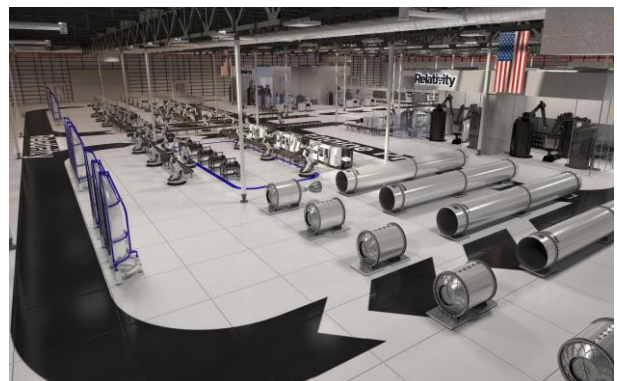
- Cloud Computing Modernization
- Application Integration
- Cloud Migration
- Data & Analytics Optimization
- Process Engineering
- Development Cycle Streamlining

Summary

Technossus provided various services, including the application network's design and architecture, security, development lifecycle automation, and bi-directional data integrations.

Key Learnings

- **Integration of critical systems** enables seamless communication and data sharing between platforms, optimizing operations, improving resource allocation, and enhancing data tracking capabilities.
- **Streamlining development cycles** for MuleSoft integration implementations can reduce effort & improve the overall quality of code.
- **Strategic partnerships** between technology consultants and businesses can drive innovation and business success by combining expertise and focusing on security and efficiency.



Success Story

Relativity Space partnered with Technossus to leverage the MuleSoft platform. Technossus provided a range of services, including security, application network design and architecture, and automation of the development lifecycle (CI/CD), enabling Relativity Space to achieve a fully integrated IT infrastructure.

One of the key solutions that Technossus provided was the communication link between the PLM system and the ERP system. Technossus built a bi-directional data integration that enabled the feed of product design Bill of Materials (BOM) configuration and up-to-date changes to the ERP system, while also allowing the ERP system to update the PLM system with the latest changes to the BOM.

Technossus also developed bi-directional data integrations between the ERP system and the MES system, enabling the maintenance of Product Part Item Masters and Manufacturing BOMs up-to-date, along with updated configuration changes per engineering changes. The integration provided collaboration channels between shop floor operations and material demand planning, supporting the building of Production Orders and inventory transaction integrations. The feed of shopfloor resource usage information based on MES activity to the ERP system allowed more accurate planning of resources and derivation of financial costing.

The Journey of Transformation

Through Technossus' integration solutions, Relativity Space overcame its IT infrastructure challenges and leveraged the full potential of its PLM, ERP, and MES systems. The integration of these critical systems enabled seamless communication and data sharing between platforms, allowing Relativity Space to achieve its objectives of optimizing its operations, improving resource allocation, and enhancing data tracking capabilities.



Data Sharing, Quality, & Efficiency

Additionally, Technossus streamlined the development cycle (design, build, deploy, and release) for MuleSoft integration implementations, reducing the effort required by Relativity Space to manage these integrations. Technossus developed MuleSoft Skeleton Templates that streamlined new API development and automation for CI/CD pipelines. These templates were designed to speed up the development cycle and improve the overall quality of code. In addition, the team created API Skeleton Templates to enable quicker and more efficient new API development.

To ensure the security and reliability of data transfers, Technossus designed and implemented secure integrations that could extract data using various protocols (such as SFTP, HTTPS) and different data formats (CSV, JSON, XML, and Banking Transactions) while applying business logic. The team also externalized and centralized business and application logs/metrics/KPIs into for analysis and troubleshooting.

Technossus also enabled Relativity Space to provide and consume data from and to its on-premises network, Azure, and AWS cloud environments by connecting the two using Anypoint Platform features. The team implemented API Policies and Firewall Rules to enhance platform security, thus ensuring that Relativity Space's data remained secure and protected.

To improve the governance, quality, and accuracy of its API architecture, specifications, and design documents, Technossus utilized MuleSoft API Catalog APIs to centralize and automate the publishing of content. This feature will enable Relativity Space to increase the governance, quality, and accuracy of its content in an automated way.

Furthermore, Technossus designed and implemented APIs that could notify Relativity Space engineers and technical teams of successful data arrival or failures through email and collaboration tools improving comms & productivity.

About Technossus

Technossus helps companies modernize the technology they use to operate, increase revenue, and improve customer engagement. We provide world-class business consulting and enterprise software development services based on data & analytics to help global innovators gain practical value from their tech investments. Technossus focuses on offering Cloud Computing, Data & Analytics, and Process Engineering consulting and solutions development for the Healthcare & Lifesciences, Aerospace, and Financial Services industries.

Reference this success story if you are:

- Planning a Complex Cloud Migration
- Looking to Orchestrate Advanced Cloud, Data, Process Automation Technologies Around Secure Data Exchanges.
- Leveraging Data Science & Analytics to Guide & Streamline Development Processes.
- Automating Critical Business Processes.
- Modernizing Your API Architecture
- Looking for Next-Generation Upgrades for Your Tech Stack APIs and Business Workflow Systems.
- Seeking New Ways to Leverage Advanced Tech to Future Proof Your Business.