



MERRICK®

HELPS NASA SAVE ANALYSIS TIME WITH PTC CREO SIMULATE

CASE STUDY

BUSINESS OVERVIEW

Merrick was founded in 1955 by Sears Merrick, an army engineering officer, and passionate photographer. With Ed Liquor's help, he was able to merge his love of photography with his experience in Engineering and Surveying.

Now with their long-standing commitment to excellence and dedication, Merrick specializes in four major markets: Energy, Life Science, Infrastructure, and National Security.

BUSINESS CHALLENGES

Merrick's objective was to be a leader in the Aerospace Industry, so when NASA had a significant amount of equipment and infrastructure designs for the Mars landing, Merrick wanted to be in the middle of it. Merrick was tasked with designing the tests for NASA's Marshalls Space Flight Center that would help NASA's Space Launch System (SLS) get astronauts to Mars.

The immense challenge was to find a solution that could support large tanks of liquid hydrogen and liquid oxygen that could withstand significant forces – millions of pounds of load pushing and pulling against the test stands and the test stand articles.



SOLUTIONS

Without a defined roadmap for this crucial project, Merrick reached out to EAC for help. The need was to develop training quickly to conduct complex analysis and simulation testing. The right solution was EAC's Instructor-led Training Services focusing on PTC Creo Simulate.

EAC's instructor-led training empowered Merrick's engineers with the right tools they needed to get the project done successfully and allowed them to reach the best solutions faster than if they had tried on their own. Merrick had a long-standing relationship with EAC and they knew they could rely on EAC and our PTC product experts.

Paul Daniels, Merrick's Mechanical Equipment Designer, said "[EAC has] always provided the solutions for us, they are easy to work with, they really work to solve the problem that we have. They want to get involved and know what our need is and target that problem and provide a solution for it."

Merrick used PTC Creo Simulate and Advanced Framework Extension (AFX) to design the test stands for NASA's SLS Liquid Hydrogen Tank and Liquid Oxygen Tank. To withstand massive force, Merrick used the analysis software to ensure that the fuel tanks were ready for flight. Merrick's team was doing stress testers in Creo Simulate that compared almost equally to the same test results NASA conducted independently.

According to Merrick's Lead Structural Engineer, Jason Weaver, this instructor-led training cut the performance analysis time in half. Creo Simulate's technology was able to model vital connections, the relative stresses, and give accurate results in record time. With Creo's in-depth test results, NASA gained insight into necessary changes and solidified their confidence in the project design.

SOLUTIONS FOR LONG-TERM SUCCESS

Creo Simulate was the quick and reliable program Merrick needed to keep up with the rigorous NASA schedule. Merrick's eyes were opened to the power of PTC products and solutions and the endless applications for future projects.

EAC's training gave both Merrick and NASA confidence in their work and opened up a massive opportunity for Merrick to help with the whole SLS program. With their proven success, Merrick won another contract to design a test stand for The Kennedy Space Center.

The power of PTC Creo Simulate technology was able to compete alongside NASA's Nastran System Program, ultimately granting Merrick the contract and making NASA a trusted client.

Not only did Merrick achieve its strategic goals, but advanced the Aerospace Industry and empowered their designers to be a part of something they are very proud of.

