



SUCCESS STORY

TC/American Manufacturing Completes Massive Project for Kennedy Space Center's New Space Shuttle Atlantis Display

Minnesota Metal Fabricator Helps Kinetic Architectural Firm Build Giant Moving Theater Door Panels for NASA's Atlantis Display, Opening July 2013

Custom metal fabricator TC/American Manufacturing recently completed a high-profile project for NASA's new space shuttle Atlantis display at the Kennedy Space Center Visitor Complex in Florida.

The Waite Park, Minn., metal fabrication and machine shop built two massive kinetic theater door panels for the Atlantis display, which is scheduled to open in July 2013. Designed by the Minneapolis kinetic architectural firm Uni-Systems, the fast-acting theater doors will provide space center visitors with a dramatic audio/visual theater experience. As part of their tour, visitors will enter the theater and watch a short audio/visual presentation about the space shuttle. Then the theater's opaque sound isolation panel will dramatically lift behind the translucent projection screen and reveal the actual 100-ton Atlantis shuttle, which will appear to be soaring through space. The projection screen panel will then suddenly lift and the audience will be escorted through a portal and into the shuttle display area.

TC/American built the structural steel panel frames and support towers for the theater panel doors and assisted Uni-Systems with shop assembly and testing to ensure that the doors could flawlessly operate through 500 cycles. The company also sandblasted and painted the frames and towers. Uni-Systems installed the doors' drive mechanisms, controls, sensors and screens. The doors were installed at the Space Center in mid-September.

According to Uni-Systems President Bart Riberich, the project had several unique features which required special construction considerations. Primarily, sound was not permitted to escape into the visitor center area and the door assembly had to be extremely durable to withstand frequent openings and closings.

"The sound panel has a STC [Sound Transmission Class] rating of 54 which is very stringent," Riberich noted. "The assembly also cycles up and down every eight-10 minutes 16 hours a day so it has high life-cycle use. There was quite a bit of special construction for the sound panel as far as the drive design component."

Riberich said he selected TC/American to build the panel frames and support towers because it was the only metal fabrication shop he could find with a high bay large enough to accommodate the 46' tall x 36' wide assembly, which included a 16'x 28' portal, 28'x32' screen and 17'x32' sound panel.

"The scale of the assembly required a high facility, and their fabrication experience was well suited for this project," Riberich said, noting that he would use TC/American Manufacturing again. "They were easy to work with and responsive to the customer's needs, and they were cost-effective."

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The central Minnesota metal fabricator is accustomed to taking on super-massive and high-profile projects, said TC/American Project Manager Loren Loso.

"TC/American has unique capabilities," Loso noted. "Our building is suited for large fabricating and the capability to manufacture oversized and heavy projects. We also work with our customers to ensure that the equipment and parts we manufacture have been manufactured and tested to meet our customer's requirements and delivery schedule."

Loso said his employees used nearly all of the shop's machining and fabricating capabilities to complete the project within a tight deadline.

"We have a very dedicated work force, and working side by side with Uni-Systems, we were able to get the project completed on time. Our employees at TC/American are our biggest asset and we are very proud of the projects that have been produced at our Waite Park facility."

About TC/American Manufacturing

A division of TC/American Monorail, Inc., TC/American Manufacturing is a full-service metal fabrication and machine shop. Its capabilities include fabricating, machining, vertical turning, welding, sawing, flame cutting, punching, sandblasting, painting and assembly.

About Uni-Systems

Uni-Systems is the leading designer and advocate of kinetic architecture. The company creates transformative, mechanized structures that change with climate, need or purpose. Its cross-disciplinary team of engineers offers elegant solutions for complex problems.

Find Out More

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