Tait Towers

Customer Success Story

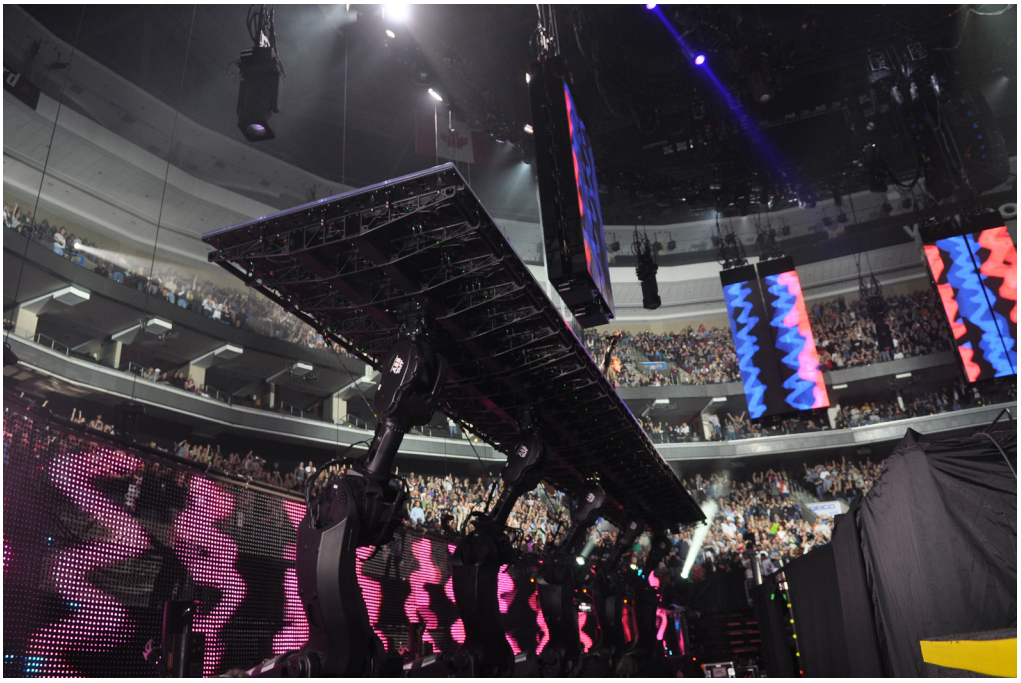
AutoCAD®
Autodesk® 3ds Max® Design

With the 3D capabilities of AutoCAD software, it's fast and intuitive for us to turn ideas into conceptual designs we're confident we can build.

—Tyler Kicera
Lead Designer
Tait Towers

Staging magic.

Tait Towers uses AutoCAD® and Autodesk® 3ds Max® Design software to design concert stage sets that rock.



Project Summary

Founded by lighting designer Michael Tait in 1978, Tait Towers designs and constructs entire concert stage sets, making the visions of the music industry's top artists and concert production designers a reality. Tait Tower's innovative approach to stage design, engineering, and construction enables increasingly dazzling shows. From telescoping towers to huge video displays to intricately choreographed lighting, Tait Towers's design professionals model each element in AutoCAD® software. They use Autodesk® 3ds Max® Design software to review near photo-realistic visualizations of stages with their clients before manufacturing. As a final step, Tait Towers's manufacturing team employs AutoCAD designs to help guide the construction of the sets. Recently, for rock band Bon Jovi's *The Circle Tour*, Tait Towers used a combination of AutoCAD and Autodesk 3ds Max Design software to help:

- Create an elaborate set that ships in six trucks and requires five hours and only one tool to assemble
- Enhance the design review process with near accurate renderings
- Manufacture more quickly using 3D designs on the shop floor
- Accelerate the project by allowing designers to coordinate efforts more easily

The Challenge

As fans cheer and sing along to their favorite songs, few consider the planning and hard work that go into each amazing concert effect. Bon Jovi's *The Circle Tour* set incorporates complex, circular stage shapes, five robots, more than 500 magnetic video tiles, and 500 miles of cable. Holding all this together are more than 7,000 bolts and 6,000 high-strength magnets. Constructing a show on this massive scale can seem as complex as constructing a building—except that even the most intricate set design must require less than a day for assembly.

Jaime Filson, chief information officer for Tait Towers, explains some of the challenges Tait Towers faces, "We design each stage to be a spectacular embodiment of the tour's themes—and easy to assemble and move. This requires precise planning and engineering down to the smallest bolt. At the same time, we need to ensure our work matches the musical artist's and production designer's original ideas."

Autodesk®

Using near realistic rendering halves design review cycle times.

The Solution

The concert production designer for *The Circle Tour* contacted Tait Towers with his initial ideas just a few months before the concert tour began. He sketched a large circular stage with a horseshoe-shaped extension and a video wall behind the stage. But five robots—each with arms topped with a 54-square-foot video screen—proved to be among the most distinctive elements of the design.

"To compete, we must be able to look at what artists and production designers want, and say, 'yes, we can do that,'" says Filson. "As sets have gotten more elaborate, production schedules are ever tighter. That's the reason we rely on AutoCAD software. It helps accelerate conceptual design, reviews, and manufacturing."

A Faster Workflow

With pressing deadlines, the Tait Towers team dove into the project. They began by conceptualizing their initial vision for the stage, video wall supports, and lighting towers using the 3D modeling tools within AutoCAD software.

"With the 3D capabilities of AutoCAD software, it's fast and intuitive for us to turn ideas into conceptual designs we're confident we can build," says Tyler Kicera, a lead designer with Tait Towers. "From the earliest stages, we see how elements come together as we design, and that makes it easier to avoid clashes between elements as we go."

As the initial concepts took shape, Tait Towers moved the 3D AutoCAD designs into Autodesk 3ds Max Design software. Within 3ds Max Design, the team used the initial designs as the basis for renderings that closely modeled how the stage would look when built. Tait Towers reviewed these renderings with the production designer and the artist, Jon Bon Jovi.

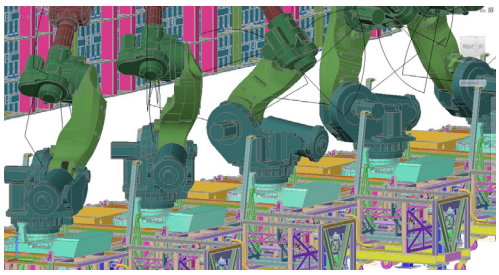
"The artists we work with like to see renderings that give them a sense of how the lights, stage elements, and colors will appear when complete," says Filson. "They can use their valuable time to give feedback instead of asking questions about how everything will look. The integration between AutoCAD and 3ds Max Design allows us to create higher-quality renderings almost seamlessly. Being able to share near realistic renderings has cut our review cycles in half."

End-to-end 3D

With the initial design approved, Tait Towers began drafting the more detailed 3D designs required for manufacturing. A team of 12 collaborated to finalize designs for every element, including 12 venetian screen-style video displays that allow for choreographed screen movement. For the robots, the team proposed adapting robots from ABB Robotics typically used in industrial manufacturing.

The xref feature in AutoCAD allowed the large project team to more easily coordinate individual contributions to the overall design. When the designs were complete, Tait Towers's manufacturing team began building the set by working directly from the 3D AutoCAD files.

"Our production schedules are much more aggressive than you might find in a typical manufacturing environment," explains Kicera. "We do not produce 2D shop drawings, which saves significant time. Our production team manufactures using 3D AutoCAD designs annotated with a few dimensions. Referring to the detailed 3D design, they can visualize nearly exactly what they need to build."

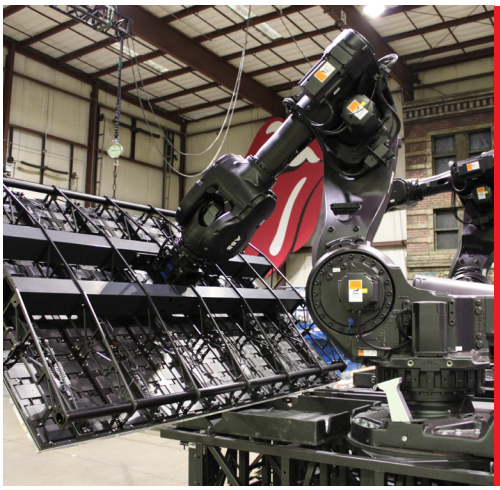


The Result

With *The Circle Tour* on the road and wowing audiences, Filson reports that the Tait Towers team is proud of the set's artistic and practical success. He says, "We designed and shipped the stage for *The Circle Tour* in under two months, but a set like that would have taken more than twice as long—or been impossible—just a few years ago. Working in 3D with AutoCAD and 3ds Max Design software allows us to get more done faster. It helps us turn visionary ideas into concert sets that amaze audiences and can be assembled, disassembled, and moved in hours."

Learn More

Find out how you can increase the tempo of your workflow with AutoCAD. Visit **www.autodesk.com/autocad** to learn more.



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—Jaime Filson
Chief Information Officer
Tait Towers

Images courtesy of Tait Towers

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