> The collaboration between Gage / Clemenceau Architects and Nicola Formichetti embodies the spirit of what BOFFO and BOFFO Building Fashion are all about. We have creative people coming together and making something that inspires people to see fashion and architecture in a new way.
>
> —Faris Al-Shathir
>   Co-Founder and President
>   BOFFO

Architecture couture.

Autodesk Design Suite helps take fashion design and architecture to the edge of multidisciplinary innovation.

Project Summary

Founded in 2002, Gage / Clemenceau Architects infuses its practice with the innovative use of technology. According to Mark Foster Gage, one of the firm's founders and principals, its goal is to deliver designs that are "not just something the client has never seen before—but that no one has ever seen before." To that end, the firm has embraced the Autodesk® Design Suite. The suite includes AutoCAD® software along with modeling and visualization software. For instance, Autodesk® Mudbox™ software delivers the ability to sculpt 3D forms digitally and intuitively. Autodesk® Showcase® and Autodesk® 3ds Max® Design provide visualization capabilities that help Gage / Clemenceau Architects communicate its innovative ideas.

BOFFO is a nonprofit organization based in New York City that supports innovation in the arts. Their BOFFO Building Fashion project commissions cutting-edge fashion designers and architects to collaborate on temporary, cross-disciplinary installations. BOFFO selected Gage / Clemenceau Architects to work with Nicola Formichetti, a designer best known as the force behind Lady Gaga's fantastic wardrobe. "At BOFFO, we want to present spaces that inspire new perspectives on both architecture and fashion," says Faris Al-Shathir, co-founder and president of BOFFO. "There was an undeniable chemistry between Gage / Clemenceau Architects' ideas and Nicola Formichetti's fashion vision; they're both successful at pushing the boundaries in their respective disciplines."
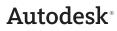
The Challenge

Gage / Clemenceau Architects had only a few months to collaborate with Formichetti and develop, fabricate, and install the design in a temporary space in New York City. Scheduled to coincide with the opening of New York Fashion Week, the project had to be 100 percent complete by September 8, 2011.

"Our initial concept involved complex geometric forms that had to be developed in multiple software applications," explains Gage. "There was zero room for a delay, so we had to work fast. The software in the Autodesk Design Suite helped us move ideas between formats easily. Without the right tools, I don't know how we could have done so much so quickly."

The Solution

Inspired by the distinctive shapes and materials Formichetti favored in his creations, the firm envisioned the installation as a robotic cave punctuated by large mirrored facets. To convey the firm's concepts, the team submitted renderings created in Autodesk 3ds Max Design software to Formichetti.

Gage explains: "The 3ds Max Design renderings were so good at conveying our ideas about the lighting, reflectivity, scale, and perspective that just glancing at the renderings, Nicola Formichetti was immediately visualizing where he could put clothes,

Autodesk®

Autodesk Design Suite helps inspire innovative thinking.

colors, and fabrics to take advantage of the space and the reflectivity. The renderings sold him on the idea that I had, even though I had never met him."

The collaboration proved to be an excellent match, with Formichetti and Gage / Clemenceau Architects finding inspiration in each other's mediums. The software in the Autodesk Design Suite helped the firm bring the threads of inspiration together. The team used the 3D tools in AutoCAD software to design the space, and turned to Autodesk Mudbox software to sculpt and texture the uniquely shaped facets. They used Autodesk Showcase real-time, 3D presentation software to visualize the highly reflective surfaces that were the foundation of the environment.

"I take inspiration from seeing the work of people who are the best in their industry," says Gage. "I watch the best cake decorators or motorcycle mechanics and then take their expertise and translate it into the world of architecture to gain a unique industry position."

According to Gage, the Autodesk Design Suite furthers this approach by helping the firm to work across disciplines by providing tools that speak the same language. He says, "The Autodesk Design Suite helps us with the translation of ideas. It's like a Rosetta Stone for multidisciplinary design."

Conceptualizing with Virtual Clay
With origins in the Media & Entertainment industry, Autodesk Mudbox software allowed the team members to push their creative intent and visualize ideas more quickly than they could have with any traditional architecture software. Gage explains what it's like to work with Autodesk Mudbox: "It's more like sculpting with clay. In a very short amount of time using sculpting and stamping tools, the designers were able to get their ideas visualized. With this really visceral way of designing, they were able to complete the task faster

than they could have using much more precise architectural software."

Mudbox was also used alongside 3ds Max Design on the project to develop intricate details and get more involved in the design. Gage says with Mudbox they were able to "design textures in a way that architects have never really had the ability to do before. It would allow us to do quicker, more intuitive design sketches that let us, in a sense, get closer to the things that we're designing."

Reflecting Reality
Gage / Clemenceau Architects designed the installation to include 500 uniquely shaped mirrored facets of various sizes. This presented a challenge: how to visualize the interplay of the mirrors. The team decided to use Autodesk Showcase software to get an immediate idea of how the facets were reflecting and what changes needed to be made. "Showcase allowed us to get into the space and look at the faceted reflections on the walls moving in real time. There was no delay," explains Gage.

The team then used Autodesk 3ds Max Design software to create near photorealistic renderings to review with Formichetti. Gage says, "We found that the rendering engines in 3ds Max Design were superior to any other programs we used. We were able to do mirrored renderings and generate reflection using real lights in 3ds Max Design, a functionality that we couldn't find in any other program."

Making It Real
Throughout the design process, the team used AutoCAD software to maintain the project's detailed design. The 3D features in AutoCAD helped capture the team's vision of the built environment. Just as important, when it came time to make the facets, the team used AutoCAD to produce 2D files that the fabricator was able to load into computer numerical control (CNC) equipment.

"The CNC equipment read the AutoCAD file and cut each facet automatically," says Gage. "It took only a few days to produce all 500 facets. Interoperability combined with 3D and 2D capabilities made AutoCAD software the ideal core design tool for this project."

The Result
Gage believes the project has been an unmitigated success. He says: "Even though there was an earthquake and a hurricane in the weeks before the installation's opening, we were able to overcome these obstacles by using the Autodesk Design Suite. It helped us stay on budget and on schedule—and at the top of our form creatively and collaboratively."

Al-Shathir adds: "The collaboration between Gage / Clemenceau Architects and Nicola Formichetti embodies the spirit of what BOFFO and BOFFO Building Fashion are all about. We have creative people coming together and making something that inspires people to see fashion and architecture in a new way."

Learn More
Let your ideas flow freely with the Autodesk Design Suite. Visit **www.autodesk.com/designsuite** to learn more.

The Autodesk Design Suite helps us with the translation of ideas. It's like a Rosetta Stone for multidisciplinary design.

—Mark Foster Gage
Principal
Gage / Clemenceau Architects

Autodesk®