

Robins & Morton Earns Autodesk BIM Experience Award

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Firm Used Building Information Modeling Process to Address Constructability Issues on More Than 35 Projects

SAN RAFAEL, Calif., Nov 30, 2010 (BUSINESS WIRE) -- <u>Autodesk, Inc.</u> (NASDAQ: ADSK), a leader in <u>3D design</u>, engineering and entertainment software, announced that <u>Robins & Morton</u> has been awarded an <u>Autodesk BIM Experience Award</u>. The firm, a top United States construction contractor, is being honored for its use of a <u>Building Information Modeling</u> (BIM) process to more efficiently manage preconstruction and construction, and help drive leaner construction practices for complex projects.

The award also recognizes Robins & Morton for:

- The application of Autodesk BIM software on more than 35 projects to help identify and address constructability issues before they happen
- Employing green building principles to help reduce construction waste, including the application of a BIM digital designto-fabrication workflow to reduce material waste during fabrication and construction phases
- Leadership in the promotion of BIM to local organizations and industry groups

Autodesk software used by Robins & Morton includes <u>Autodesk Revit Architecture</u>, <u>Autodesk Revit Structure</u> and <u>Autodesk Revit MEP</u> software, complemented by <u>Autodesk Navisworks Manage</u> software. During the preconstruction phase, Autodesk Navisworks Manage is used to aggregate project models provided by architects and engineers, helping contribute to the firm's support of improved cross-disciplinary design and preconstruction coordination. Visualizations for team and client reviews are also generated by Navisworks.

"We use a BIM process to collaborate with building owners, designers and subcontractors from the earliest stages of planning," said Aaron Wright, BIM coordinator for Robins & Morton. "During construction, as a general rule, we require BIM submittals from our subcontractors. We combine their fabrication models with the design models in Navisworks Manage to help with clash detection and resolution to foster team collaboration and coordination. Once construction is complete, the firm typically delivers as-builts in the form of Revit and Navisworks models to its clients for their facility maintenance and operations."

Exemplary Use of BIM Process on Auburn University Basketball Arena

For the recently completed \$92.5-million <u>basketball arena at Auburn University</u> in Auburn, Ala., Robins & Morton applied a BIM process and Autodesk software to support field coordination, visualization and virtual walk-throughs; 4D construction planning and scheduling; and as-built tracking. The firm used Revit Structure to plan and document construction activities for more than 200 concrete foundation caissons, as well as the rest of the concrete structure. The ability to track the date the concrete was poured, volume of concrete and depth at refusal helped the Robins & Morton team compare and visually monitor design depth quantities versus actual depth, resulting in a credit of more than \$300,000 for its client. Upon tracking the actual dates of elements put in place, the firm was able to implement a planned schedule verses actual schedule simulation.

Other innovative applications of a BIM process with Autodesk Navisworks Manage for this project included:

- Use of advanced laser scanning to generate 3D as-built models for the arena seating. The entire bowl was scanned in less than two hours, and the point cloud data was entered into the Autodesk Navisworks Manage model to help check that all elements of the seating would be accurately constructed.
- Virtual walk-through animations showed potential Auburn basketball recruits and university officials the arena's planned entrance, main event floor, strength and conditioning facilities, locker room and other areas.
- Planning and coordination for the entry, exit and travel paths of large construction cranes. Site constraints meant the roof had to be erected from inside the arena, requiring careful coordination of the cranes.
- Generation of a 4D construction simulation of the precast stadia, the long span roof trusses and the cranes helped the team to synchronize the movements of the cranes with the erection of the trusses, particularly during the final construction sequences.

About BIM

BIM is an integrated process for exploring a project's key physical and functional characteristics digitally before it's built, helping to deliver projects faster and more economically, while minimizing environmental impact. Coordinated, consistent information is used throughout the process to design innovative projects; better visualize and simulate real-world appearance, performance and cost; and create more accurate documentation.

About Robins & Morton

Founded in 1946, Robins & Morton has grown from a modest construction operation into one of the top contractors in the United States. Its services include general construction, construction management, program management, preconstruction, and design-build. Robins & Morton uses <u>Applied</u> <u>Software</u>, in Atlanta, Ga., as its reseller.

About Autodesk

Autodesk, Inc., is a leader in <u>3D design</u>, engineering and entertainment software. Customers across the manufacturing, architecture, building, construction, and media and entertainment industries -- including the last 15 Academy Award winners for Best Visual Effects -- use Autodesk software to design, visualize and simulate their ideas. Since its introduction of AutoCAD software in 1982, Autodesk continues to develop the broadest portfolio

of state-of-the-art software for global markets. For additional information about Autodesk, visit www.autodesk.com/pr-autodesk.

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