

Autodesk® Government Solutions

Autodesk® Navisworks®

Streamline BIM design review.

GSA's Martin Luther King, Jr. Federal Building
Atlanta, GA

Autodesk®

Drive Project Costs Downward

Government agencies streamline the BIM design review process and achieve lower costs and faster, more accurate project completion.

Our engineers and scientists need to review digital models to see how thousands of parts and pieces fit together so there are no surprises in construction that could put our tight project schedules in jeopardy. Using a program like Autodesk Navisworks helps us accomplish this huge collaborative effort.

—Michael Loftus
Supervisor of Mechanical Design
Brookhaven National Laboratory

New technologies have helped improve interdisciplinary collaboration within the architecture, engineering, and construction (AEC) industry. For example, using a Building Information Modeling (BIM) design review process early in a project's lifecycle—when decisions about cost, schedule, and sustainability can have the greatest impact—helps to keep everyone on the review team more informed and in the loop.

Government agencies can help drive project costs downward, accelerate project completion, and better achieve sustainability mandates by adopting Autodesk® Navisworks® project review software products. With help from Navisworks, they can participate in all stages of the BIM review process and share information with project architects, engineers, builders, and other stakeholders. Project managers who oversee the design and construction of government buildings can combine design, construction, and other project data from almost 40 major 3D-design, BIM, and laser-scan file formats into a single, vendor-neutral, integrated project model. Everyone on the design team can easily access this model, review it, and provide more timely, constructive feedback—without extensive training or the need to purchase multiple software products.

Greater Insight—Better Decisions

Using Navisworks to participate in the BIM review process helps government agencies to avoid many of the pitfalls associated with time-consuming, error-prone 2D review processes. Government agencies can view projects in one integrated 3D digital model from a wide variety of design products. Early access to this data helps facilitate greater insight into projects and

can spur significantly better design decisions. Interdisciplinary collaboration in the BIM workflow provides numerous benefits, including:

- Greater project predictability
- Higher-quality designs resulting in fewer change orders
- Faster, more accurate project completion
- Improved stakeholder participation in the review process

A number of government agencies have already begun the transition to using a BIM workflow throughout a project's lifecycle. Many more are exploring how best to begin the process. Autodesk Navisworks products provide a powerful introduction to these new technologies and processes, while providing compelling, immediate benefits.

One Solution—Three Cost-Saving Products

Navisworks products include full-featured Autodesk® Navisworks® Manage software and its two sister applications, Autodesk® Navisworks® Simulate and Autodesk® Navisworks® Freedom software. All three are easy to use, requiring minimal training and no previous experience with computer aided design (CAD) or the interpretation of 2D drawings. All three are also designed—and priced—to serve the specific needs of various stakeholder groups, each of which requires different levels of functionality and power.

More Accurate Designs—Before Construction Begins

Both Navisworks Manage and Navisworks Simulate enable you to merge massive datasets created using a broad range of applications into a single, integrated model that facilitates design review.

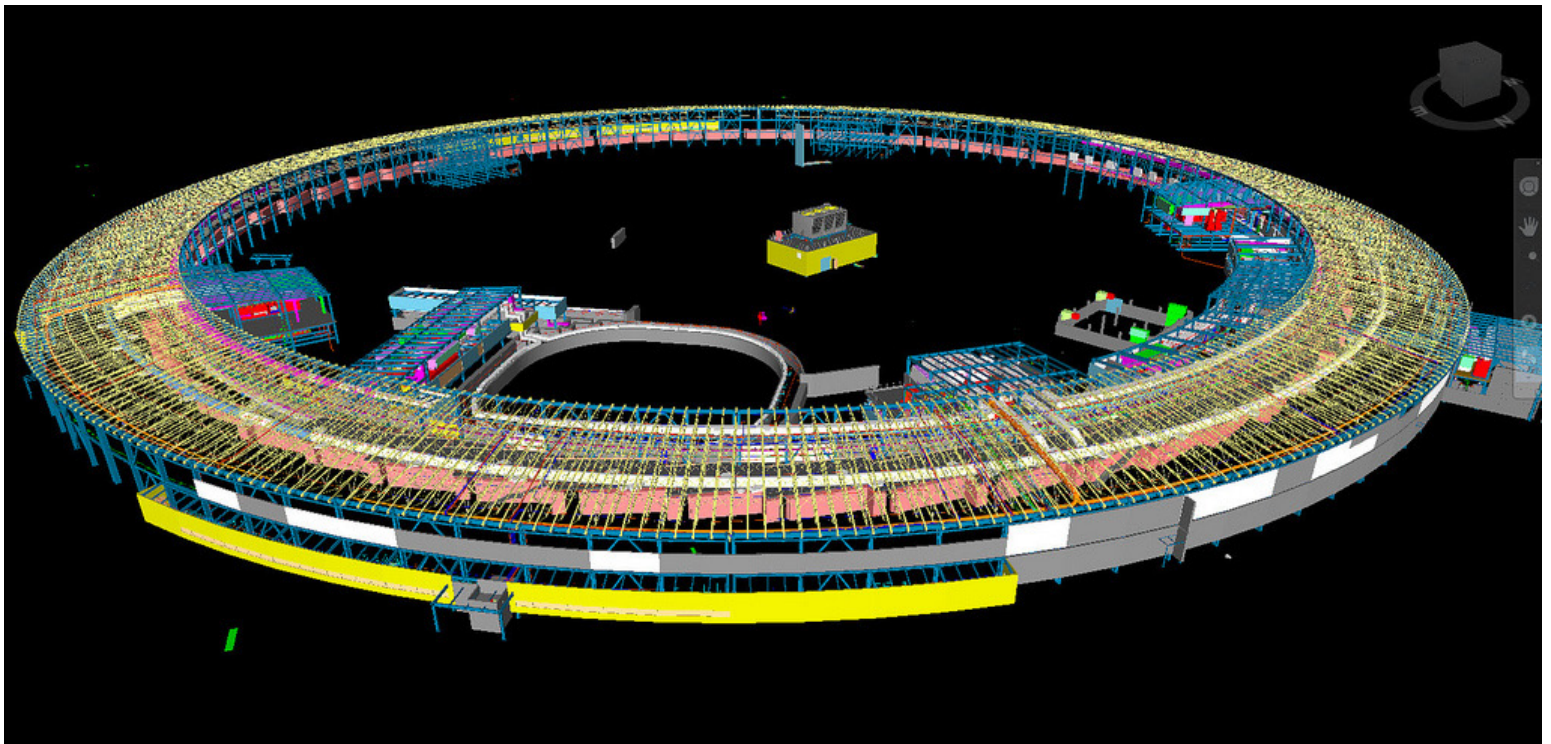


Image courtesy of Brookhaven Laboratory.

Using the integrated review toolkit found in both products, government agencies can:

- Manipulate and examine the integrated model from every angle
- Measure distances, areas, angles, and lines of sight
- Store, organize, and share camera views of a design and export them into images or reports
- Add cross sections and section plans

Powerful collaborative tools further enhance the review process, enabling government agencies to:

- Add markups with advanced redlining tools
- Comment with searchable notes and include a date-stamped audit trail
- Record animated walk-throughs for real-time playback or export as AVI files
- Develop compelling, near-photorealistic 3D animations and imagery for presentations to stakeholders

Once the initial review has been completed, the entire project can be published in a single, highly compressed file for whole-project review. Then everyone on the review team—including nontechnical stakeholders and the general public—can use Navisworks Freedom to view the model, helping establish greater project understanding and predictability.

Optimize Construction Coordination and Sequencing

Navisworks Simulate contains the power to dynamically link 3D models to construction timelines and help project managers to create step-by-step, near-photorealistic visualizations of the entire construction process. Government agencies can use these visualizations to demonstrate sequencing options to stakeholders, simulate construction schedules and logistics in 4D, and better predict the consequences of design decisions.

Less Rework—Lower Costs

Full-featured Navisworks Manage contains all the functionality of Navisworks Simulate, plus advanced clash detection and interference management capabilities that enhance the construction process, especially on spatially complex, multidisciplinary projects involving numerous different file formats. With help from Navisworks Manage, project managers can identify and resolve critical design issues before construction begins, thereby minimizing errors that could lead to project delays and costly change orders.

Finish Projects Faster with Fewer Budget Overruns

Adopting a Navisworks-based BIM review process helps agencies that oversee government design and construction projects provide stakeholders with models that can be more easily understood, while supporting the flexibility necessary to work with data from multiple platforms and helping to avoid the need for extensive training.

Greater visibility into projects helps the review team to focus on design and constructability—and not on interpreting 2D drawings. As a result, everyone can make better decisions earlier in the design process, leading to higher-quality construction documentation and more accurate predictions of project cost and performance.

For more information, visit www.autodesk.com/governmentbuildings-products.

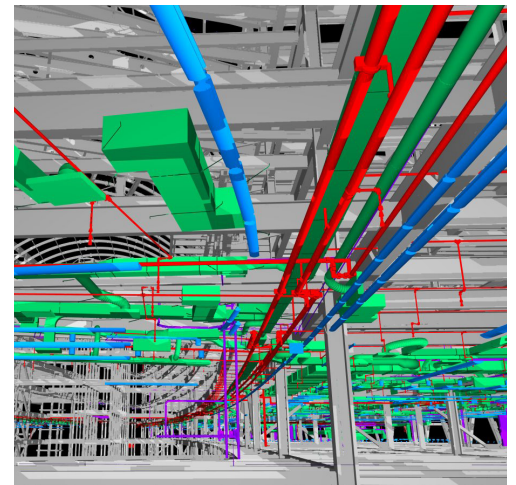


Image courtesy of Balfour Beatty.

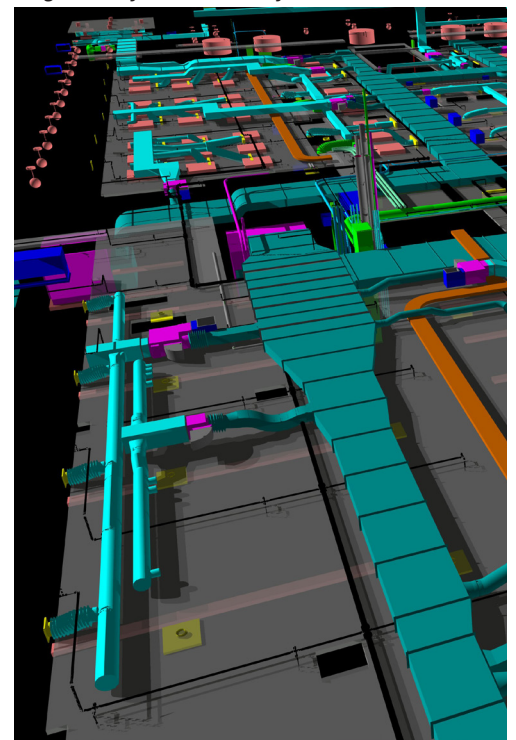


Image courtesy of The Beck Group.

Using Autodesk Navisworks to view a 3D building model is infinitely more revealing than viewing a static, 2D drawing. When owners, stakeholders, engineers, and subcontractors experience the 3D model, they can start to ask insightful questions that help identify virtual opportunities and problems that we can address digitally—before beginning construction. This allows us to improve quality, maintain or save costs, and stay on schedule. Navisworks definitely help drives better collaboration and more commitment earlier in the process, resulting in better buildings, better built, delivered with less schedule and budget changes.

—Thomas Hruby, Jr. PE MBA
Director
The Beck Group



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