

A low-angle, upward-looking photograph of a modern building's exterior. The structure features a complex network of silver-colored steel beams and trusses, some of which are thick and cylindrical. Large glass panels are integrated into the design, reflecting the sky and showing internal structural elements. On the left side, a portion of a yellow and white cylindrical structure, possibly a tower or part of a bridge, is visible. The sky is a clear, deep blue.

Autodesk®

Navisworks® 2010

Experience the project,
before it is real.

Autodesk

You Can All Get Along

Visualize and simulate to analyze your 3D design models from multiple formats.

By enabling detailed 3D design models to be shared, combined, reviewed, and perfected between all project stakeholders, Autodesk® Navisworks® solutions are at the heart of your plant design workflow.

Autodesk Navisworks software applications combine vital digital project information into a single information model that gives all stakeholders a whole-project view for improving design decision making, construction documentation, and performance prediction and planning, straight through to management and operation of the facility.

The Autodesk Navisworks software family consists of four products to help you and your extended teams experience enhanced control, confident collaboration, and information aggregation on even your most complex projects.

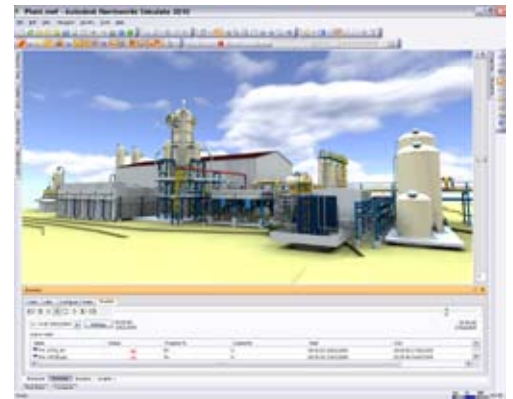
By combining the design information created with various plant design tools, Autodesk Navisworks design project review products enable a real-time, whole-project view for effective 3D coordination, 4D planning, photorealistic visualization, dynamic simulation, and accurate analysis.

Autodesk® Navisworks® Manage software provides the tools for smooth-running plant design projects. Navisworks Manage fuses seamless visualization of various types of models from multiple engineering disciplines, powerful clash detection, and management of design changes into one product, keeping all project stakeholders on the same digital page, whether they are creating, viewing or reviewing 3D models.

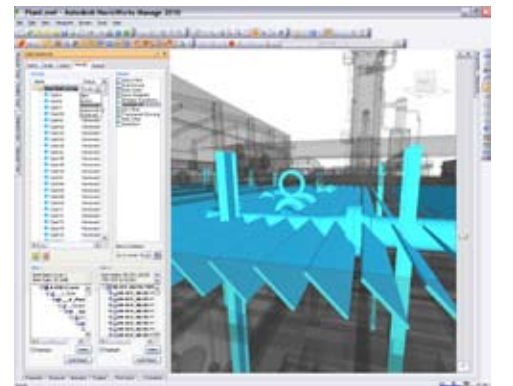


Autodesk® Navisworks® Simulate software provides a powerful project review solution for professionals who do not require the clash detection capabilities in Navisworks Manage. Navisworks Simulate offers precise replication of designs and modeling of 4D construction schedules, enabling previsualization of plant construction projects.

Virtually experiencing the construction and installation problems and requirements of the plant before designs are finalized and physical work begins can significantly reduce on-site rework and scheduling delays.



Autodesk® Navisworks® Review software enables real-time whole-project visualization of various types of models, in multiple file formats regardless of file size. By creating a single, synchronized environment for engineering disciplines, all stakeholders can review, identify and manage design problems and proposed changes. Each problem can be individually saved and clearly communicated to all other engineers potentially reducing expensive on-site work.



Autodesk® Navisworks® Freedom software is the free* viewer for files in Autodesk Navisworks NWD and 3D DWF™ formats.

Work Together, Surge Ahead

Autodesk Navisworks software solutions enable design and engineering professionals to unite their contributions into a single, synchronized information model.

Autodesk Navisworks Manage **Coordinated, Consistent, Complete**

Integrating the functionality of both Autodesk Navisworks Review and Autodesk Navisworks Simulate with powerful clash detection capabilities, Autodesk Navisworks Manage provides the most comprehensive Navisworks design review solution for your plant design project. Enabling all models to be coordinated, collected into one complete plant model and most important clashes to be corrected, Navisworks Manage streamlines workflow across your organization and extended design teams, helping to improve design efficiency and reduce change orders and on-site rework.

Navisworks Manage delivers seamless, interactive visualizations, enabling real-time walk-through, review and clash detection of complex 3D models and all of the engineering design information they contain. Use Navisworks Manage to navigate and explore your designs faster, without the need for preprogrammed clash calculations, advanced hardware, or special skills.

Through effective identification, inspection, and reporting of potential interferences in a 3D project model, Navisworks Manage reduces error-prone manual checking. Navisworks Manage enables users to check time and space coordination, improving site and workflow planning. Control and peace of mind are enhanced through advanced analysis and coordination of 3D designs. Early clash and interference detection help to prevent eventual, more costly, on-site rework. Combine 3D data in multiple formats, no matter what file size, into a comprehensive, realistic information model for viewing and analyzing digital information.

Autodesk Navisworks Manage combines precise fault-finding with hard, soft, clearance, and time-based clash management. Quickly review and cross-check geometry created by any 3D authoring software. Maintain a complete and valuable record of all interferences found throughout your project. Check for time and space coordination and greatly reduce workflow issues at the planning stage. Point- and line-based clashing enable coordination of a laser-scanned as-built environment with the virtual model.

Autodesk Navisworks Simulate **Where Design Meets Deadline**

Autodesk Navisworks Simulate software significantly enhances the real-time visualization capabilities of Autodesk Navisworks Review to create photorealistic images and animations, as well as dynamic linking of 3D models to project schedules. Navisworks Simulate helps design, project management and construction professionals share and combine output for creation of clear, descriptive content that demonstrates design intent, validates decisions, and authenticates schedules. Accessible plant design models emulate real-life experiences and project construction at any time in the process.

Replicate entire projects through photorealistic visualizations and 4D construction schedules that both demonstrate and explain design, installation and construction options. Navisworks Simulate enables you to quickly model different construction simulation scenarios for the complete plant as well as integrated simulation scenarios between the on-site machinery and the plant assets.

Navisworks Simulate enables project stakeholders to see the future results of their work through interactive, realistic renderings and walk-throughs. 4D simulations and object animations simulate design intent, stimulate design ideas, and enable exploration of every design possibility. In addition, the software enables smooth, shared review at every stage of the engineering design process, helping to reduce errors, enhance quality, and save time and money.

Simulation in 4D enables better planning and helps identify risk at the earliest possible stage, reducing potential engineering change orders and on-site rework. By providing a clear, common understanding of design intent, construction plans, and current project status, Navisworks Simulate demonstrates construction schedules by linking 3D model data to project schedules for fast 4D visualization.

Navisworks Simulate enables more complete emulation of the appearance and construction of your project. Experiencing your project before it is real, at any time in the process, makes for more accurate planning and less guesswork.

Autodesk Navisworks Review **Visualize, Explore, Experience**

Autodesk Navisworks Review software enables real-time visualization, exploration, and experience of 3D design data and information from all engineering disciplines, in multiple file formats regardless of file size. Accessible plant design models enable project stakeholders to focus and collaborate more effectively, and provide valuable information during engineering design, operations and maintenance. Dynamic navigation and an intuitive project review toolkit improve user and client understanding of even the most complex 3D models.

Compatible with most major 3D design and laser scan formats, Navisworks Review can quickly combine 3D files into one shared model, enabling stakeholders to review geometry, object information, and linked ODBC databases. Cross-sectioning, markup, measurement, and text overlay capabilities are also available making it very easy to identify and communicate design changes. Linking the Navisworks model to external sources of plant data, such as plant maintenance and document management systems, provide maintenance engineers with a photorealistic view of the plant for training and maintenance scheduling for plant assets.

Autodesk Navisworks Freedom **Freedom to View**

All simulations and output saved in NWD format using Navisworks Review, Navisworks Simulate, or Navisworks Manage can be viewed with Autodesk Navisworks Freedom, the free* viewer that works just like it sounds. Navisworks Freedom offers design professionals an invaluable means of communication with compressed, secure, and streamable project review files in NWD format. A practical solution to streaming large CAD models, NWD files require no model preparation, third-party server hosting, setup time, or ongoing costs. Files may also be viewed in 3D DWF format. Effective collaboration is achieved through easier communication of design intent, collaborative reviews of stakeholder contributions, and sharing of all results.

Navisworks has simplified our job immensely. The planning and design processes needed for the steel-erection and plant-engineering work can now be combined into a single model. As a result the plant project can be reviewed and those involved now have a much better feeling for the installation they are creating.

—Gerd Bergner
Lenzing Technik

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