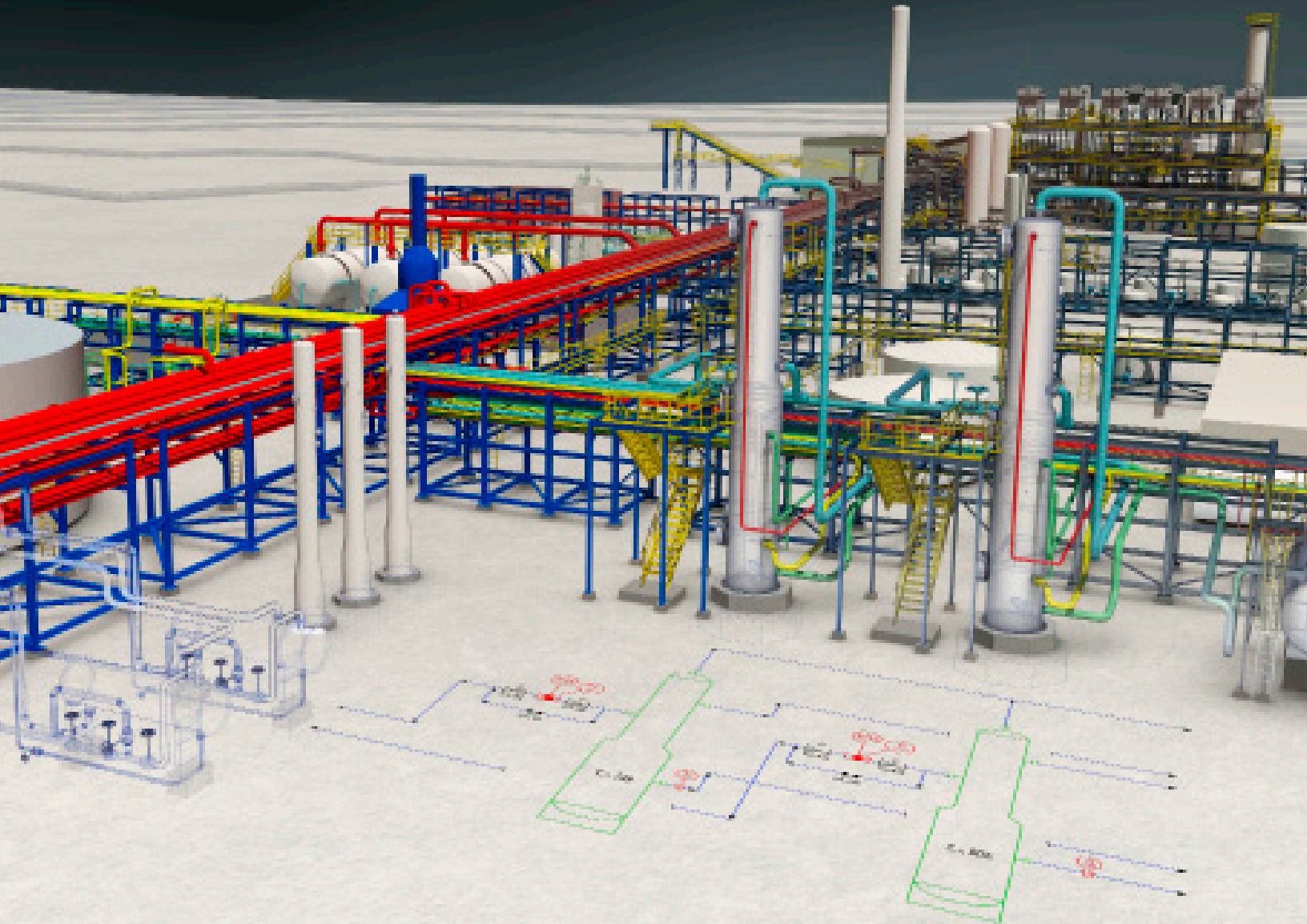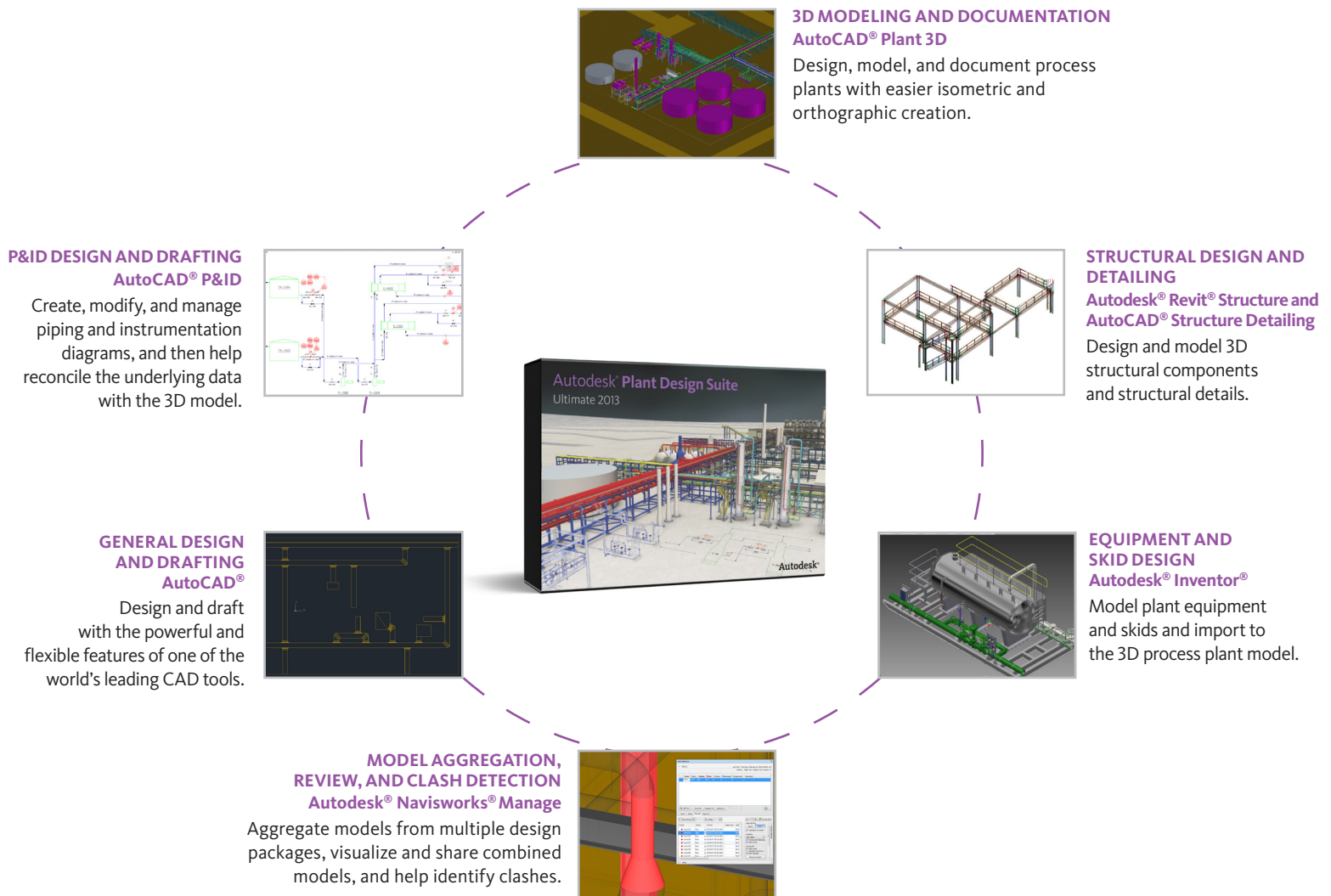# Autodesk®
Plant Design Suite

Build on the power and familiarity of AutoCAD® with multidiscipline plant design solutions.

Autodesk

The Suite Advantage: Convenient, Comprehensive, Cost-Effective

Autodesk® Plant Design Suite provides comprehensive plant design, modeling, and review software in a convenient, cost-effective package that enables customers to design more efficiently, innovate ahead of the competition, and communicate with greater clarity. Use it to help keep projects on schedule and work within your budget. Building on the power and familiarity of AutoCAD® software, the suite adds plant-specific content and features to help drive greater productivity and better project coordination.

3D MODELING AND DOCUMENTATION
AutoCAD® Plant 3D
Design, model, and document process plants with easier isometric and orthographic creation.

P&ID DESIGN AND DRAFTING
AutoCAD® P&ID
Create, modify, and manage piping and instrumentation diagrams, and then help reconcile the underlying data with the 3D model.

STRUCTURAL DESIGN AND DETAILING
Autodesk® Revit® Structure and AutoCAD® Structure Detailing
Design and model 3D structural components and structural details.

GENERAL DESIGN AND DRAFTING
AutoCAD®
Design and draft with the powerful and flexible features of one of the world's leading CAD tools.

EQUIPMENT AND SKID DESIGN
Autodesk® Inventor®
Model plant equipment and skids and import to the 3D process plant model.

MODEL AGGREGATION, REVIEW, AND CLASH DETECTION
Autodesk® Navisworks® Manage
Aggregate models from multiple design packages, visualize and share combined models, and help identify clashes.

Common Project Setup, Data Management, and User Interface

Project Setup
Enter pertinent information such as project standards and specs that will be used to drive creation of piping and components. Identify and add a variety of stock or custom components and specifications, which will populate the tool palette when design begins.

Project Manager
Set up projects more easily and preview drawings with straightforward organization and management of DWG™ files.

Data Manager
Sort and organize underlying plant design data for easier referencing and to see specific information within the context of the drawing or project. More easily update information and generate reports as the project progresses.

Workspace and User Interface
The interface includes a large drawing window, desktop organization capabilities, and access to plant design tools and commands.

Report, Search, and Query
Search for, query, and manipulate data contained in drawings. Generate materials lists and create reports based on particular search criteria. Export the information as piping component format (PCF) files for integration into other applications such as stress analysis.

Point Cloud Support
Bring 3D scans to life. AutoCAD software supports up to two billion points so users can more quickly visualize scanned objects directly within the modeling workspace.

Specialized Suites Help Expand Your AutoCAD Expertise and Resources
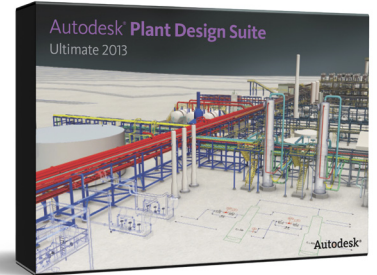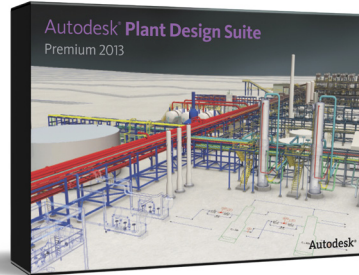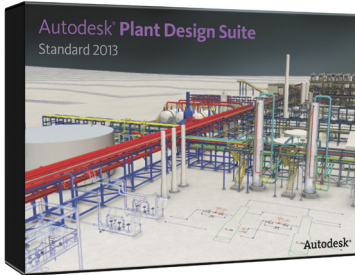
Autodesk Plant Design Suite Standard

The Standard edition supports 2D drafting, general design, and piping and instrumentation diagrams. Use it to create, modify, and manage P&IDs. More clearly communicate design intent to clients and colleagues with Autodesk® Showcase® and Autodesk® SketchBook® Designer software.

Autodesk Plant Design Suite Premium

The Premium edition builds on products found in the Standard edition to support modern 3D modeling, structural design, and visualization. Using Premium products, firms can design, model, and document process plants; draft, design, and analyze plant structures in 3D; aggregate multiple models; and create steel and concrete reinforcement detailing and fabrication shop drawings.

Autodesk Plant Design Suite Ultimate

For multidisciplinary plant design, choose the Ultimate edition. It includes everything from the Premium edition, plus specialized software to support 3D equipment and skid design. Use it to aggregate models from multiple design packages, visualize and share combined models, and help identify clashes early in the process.

AUTODESK PLANT DESIGN SUITE 2013

PRODUCT	STANDARD	PREMIUM	ULTIMATE
AutoCAD® 2013	X	X	X
AutoCAD® P&ID 2013	X	X	X
Autodesk® Showcase® 2013	X	X	X
Autodesk® SketchBook® Designer 2013	X	X	X
AutoCAD® Plant 3D 2013		X	X
AutoCAD® Structural Detailing 2013		X	X
Autodesk® Revit® Structure 2013		X	X
Autodesk® Navisworks® Simulate 2013		X	
Autodesk® Navisworks® Manage 2013			X
Autodesk® Inventor® 2013			X

Streamline P&ID Design and 2D Drafting

Use AutoCAD® P&ID software to start easier, run better, and finish sooner.

Start Easier
Using the standard AutoCAD-based functionality, AutoCAD-trained professionals can start using AutoCAD P&ID with minimal training.

Save Time
Developed specifically for P&ID designers, AutoCAD P&ID includes a collection of tools to help automate and simplify many of the detailed design and editing tasks performed every day.

Support Data Integrity
Whether you need to generate in-drawing reports or export information to other project team members, AutoCAD P&ID includes many features to help boost data integrity in the face of ongoing design changes and modifications analysis.

The results are compelling— the 'headline' productivity gain was found to be in the region of 40 percent—and this was based on a rigorous and wide-ranging test of AutoCAD P&ID capability.

—Tony Christian
  Cambashi Limited
  AutoCAD P&ID Productivity Study
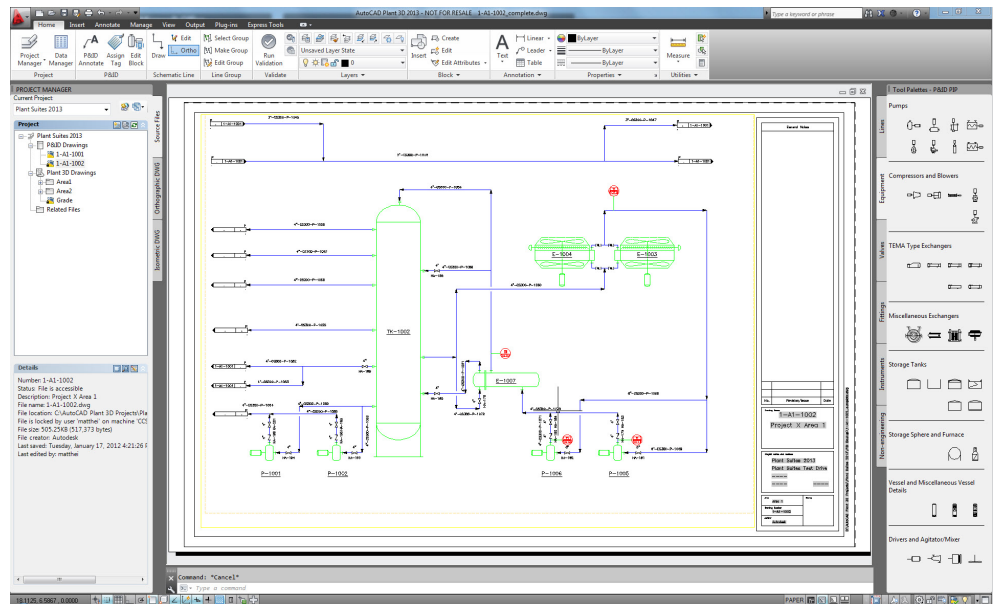
AutoCAD® P&ID software is included in all editions of the Autodesk Plant Design Suite and features simple reporting, editing, sharing, validation, and exchange of design information. Routine P&ID work tasks are streamlined and automated to help boost productivity, while component and line information is more easily accessed and shared as you work.

Symbol Libraries
Place snap-to industry-standard symbols (PIP, ISA, JIS, and ISO/DIN), and customized symbols directly into drawings.

Validation Tool
Perform error checking to help identify, highlight, and navigate drawing inconsistencies. Promote greater accuracy and minimize the time required to identify potential inconsistencies in P&IDs.

Dynamic Lines and Components
Help reduce manual breaking and mending of lines with intuitive grip editing and manipulation. Create, move, and snap lines into place. Lines automatically break, maintain flow direction, and attach to components inserted on the line. When a component is removed, lines mend automatically.

Tagging and Annotations
More easily create, edit, and customize tags and annotations based on industry-standard formats. Simply drag data properties from the Data Manager into the P&ID drawing as annotations that automatically update.

Data Management and Reporting
More easily report, edit, exchange, and share project information, and better know the impact of external data updates for change management. Export data into drawing data tables and various file formats such as Microsoft® Excel®. More quickly sort and organize information for easier referencing. Enhanced change management, viewing, and editing functionality help promote the integrity of design information.

Take Designs Further with AutoCAD 2013
One of the world's leading 2D and 3D CAD design tools, AutoCAD 2013 is included in every edition of Autodesk Plant Design Suite. Combining speed, power, flexibility, and familiarity, AutoCAD serves as the platform of choice for many plant industry design applications. Use AutoCAD 2013 to help maximize productivity with updated tools for conceptual design, model documentation, and reality capture.

Complete 3D Piping Design Work More Efficiently and Accurately

Bring modern 3D modeling to your everyday plant design projects with AutoCAD® Plant 3D software.
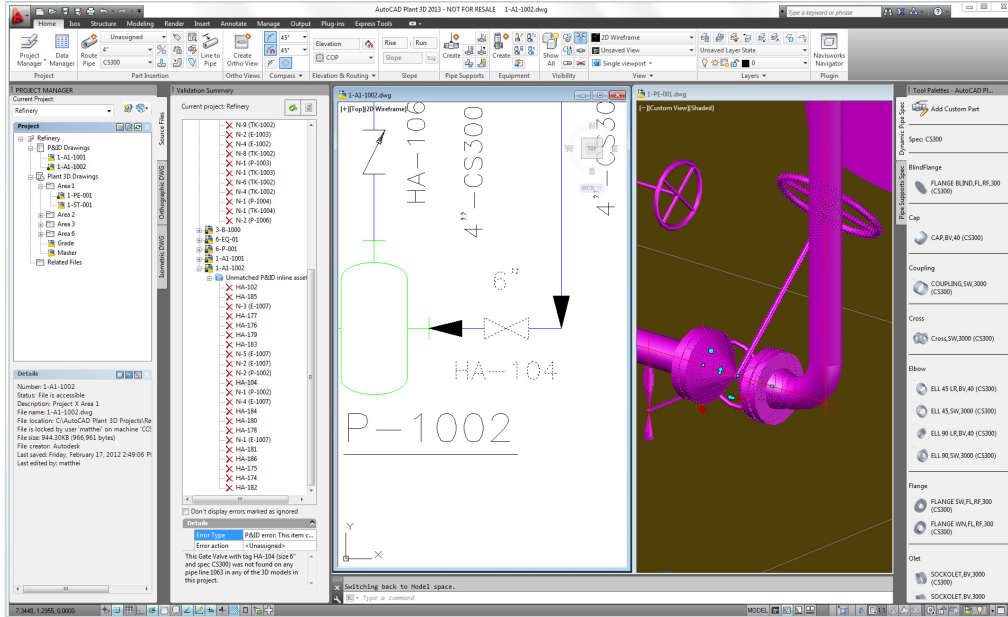
Structural Elements
You can also externally reference structural drawings created in Autodesk® Revit® Structure software, AutoCAD® Structural Detailing software, and other applications.

Specifications and Catalogs
AutoCAD Plant 3D helps streamline the placement of piping, equipment, support structures, and other plant components through spec-driven technology and standard parts catalogs such as ANSI/ASME (B16) and DIN/ISO. When you need to create a spec, you can work directly with included content-rich catalogs, or you can modify the catalogs to better meet your project requirements.

Spec Converter
Import specs from third-party plant design applications such as Bentley® AutoPLANT® and Intergraph® CADWorx® software.

Construction Document Generation
From the 3D model, you can more easily generate and share isometrics, orthographics, and other construction documents. Information is directly exchanged with the 3D model, helping your construction documents to be more accurate, consistent, and up to date.

AutoCAD® Plant 3D software is included in the Premium and Ultimate editions of the Autodesk Plant Design Suite. Developed to address the challenges of 3D plant design and engineering work, AutoCAD Plant 3D software helps simplify design and editing of 3D plant models.

Enhance Design Productivity
Training and startup time can be minimal because AutoCAD Plant 3D is built on the widely used AutoCAD platform. Costly server-based systems and database administration are not required. AutoCAD Plant 3D software's specification-driven technology and modern interface help simplify modeling and editing.

Promote Accuracy and Consistency
Within AutoCAD Plant 3D, underlying data is directly exchanged between the 3D model, P&IDs, isometrics, and orthographics to help information be consistent and up to date. Search and query for information, and then more easily review and edit the data in the drawings.

Improve Project Team Coordination
Materials lists and reports are easy to generate and share with project teams. Portable AutoCAD Plant 3D files can be opened by other engineering disciplines with AutoCAD-based software. The data can be exported for integration into other applications such as stress analysis.

Piping
From the initial spec through the final design, AutoCAD Plant 3D software optimizes the creation and editing of spec-driven pipelines. This feature enables you to route pipe, edit a line of pipe and its component elements, and manage a system of connections. You can route pipe semi-automatically or manually. As you insert fittings, required connection components such as gaskets or flanges are added automatically.

Equipment Elements
Create, modify, manage, and use equipment in your plant model. A comprehensive library of standard equipment is available from the tool palette. Add custom content to your library and import Autodesk® Inventor® equipment models.

Speed Design and Analysis of Plant Structures

Design and detail steel structures with Autodesk® Revit® Structure and AutoCAD® Structural Detailing software.

Coordinate Piping and Structures
With the structural design capabilities of the Autodesk Plant Design Suite, you can import preliminary structural models from AutoCAD Plant 3D into Autodesk Revit Structure for detailed structural design and analysis. You can then bring back the detailed structural design into AutoCAD Plant 3D for visualizing the complete structure together with the piping.

Autodesk Revit Structure software is an intelligent 3D modeling solution developed for structural engineers, and it is included in the Premium and Ultimate editions of Autodesk Plant Design Suite. Revit Structure provides tools specifically focused on structural design, analysis, and documentation, helping teams to drive more efficient designs, improve multidiscipline coordination, minimize errors, and enhance cross-team collaboration.

AutoCAD Structural Detailing software is included in the Premium and Ultimate editions of the Autodesk Plant Design Suite. Built on the familiar AutoCAD platform, it supports intelligent 3D design and modeling by extending structural design workflows to fabrication, enabling a more efficient and accurate process for creating fabrication details and drawings.
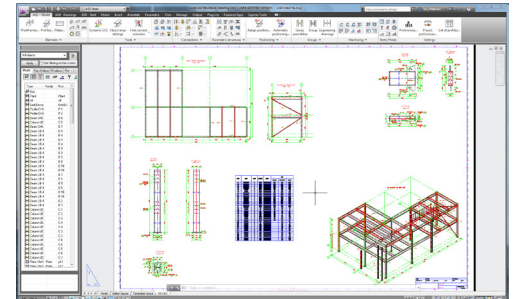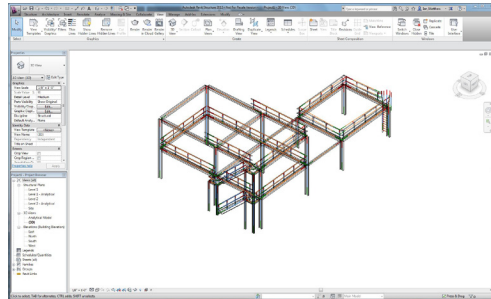
# Coordinate Design of Plant Equipment and Skids

Take advantage of Digital Prototyping to design equipment, skids, and complex components with Autodesk® Inventor® software.
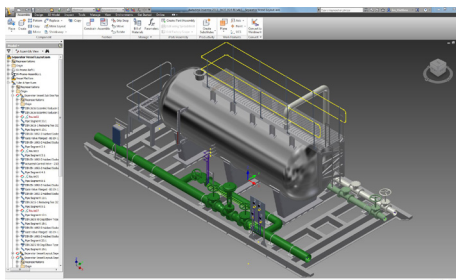
Align Equipment and Skids with Piping Design.
With the equipment and skid design features of Autodesk Plant Design Suite, you can import 3D models from Autodesk Inventor into AutoCAD Plant 3D and intelligently connect to the piping. There is no need to remodel the equipment and skids.

Included in the Ultimate edition of Autodesk Plant Design Suite, Autodesk Inventor software provides a comprehensive and flexible set of 3D modeling and mechanical design tools. With them, you can produce and document complete 3D digital prototypes that validate the form, fit, and function of every assembly you design. This helps minimize the need for physical prototype tests, decrease the number of change requests, and reduce cycle times.
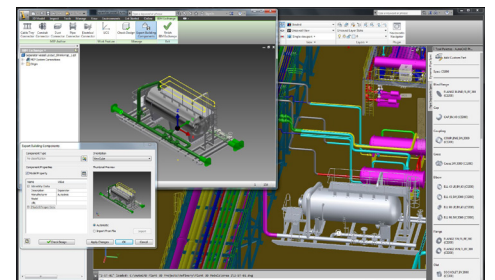
Combine Whole-Project Design Information for Comprehensive Reviews

## Communicate and Coordinate with Autodesk® Navisworks® software.

Autodesk® Navisworks® software helps enable seamlesss design review and model aggregation.

Autodesk Navisworks Simulate
Included in the Autodesk Plant Design Suite Premium edition, Autodesk® Navisworks® Simulate software enables whole-project visualization and design simulation.

Autodesk Navisworks Manage
Included in the Autodesk Plant Design Suite Ultimate edition, Autodesk® Navisworks® Manage software includes all the features of Autodesk Navisworks Simulate plus clash detection and problem tracking.
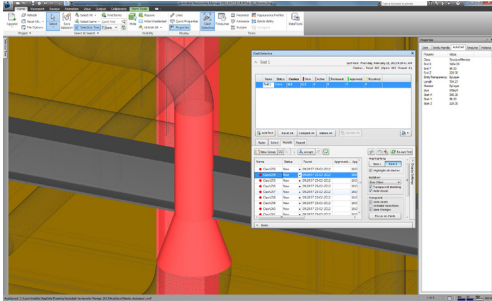
Model and File Aggregation
Combine design, construction, and other project data from most 3D design or laser scan formats into a single, whole-project model.
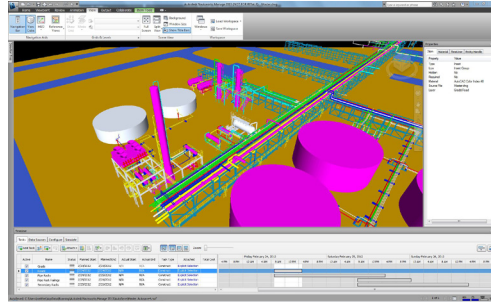
Real-Time Navigation
Explore a whole project model using advanced navigation tools, including Walk, Look Around, Zoom, Zoom Box, Pan, Orbit, Examine, Fly and Turntable.

Near Photorealistic Visualization
Create 3D animations and imagery for presentations. Customize and configure every render aspect, including materials, lights, backgrounds, and styles.

4D Scheduling
Simulate construction schedules and logistics in 4D to help visually communicate, analyze, and validate project activities and reduce sequencing problems.

Clash Detection
Help avoid potential problems before construction to minimize expensive delays and rework. View clashes in context of the model and in relation to other clashes. Manage and track clashes from identification to resolution.

Increase Efficiency
Advanced tools can be used for collaboration and analysis of project information. Multidisciplinary, project-wide design data created in a variety of design and engineering applications can be combined into a single integrated project model for efficient whole-project review.

Reduce Rework
Project team members, clients, and partners can explore small design details to help identify errors before they occur.

Stay on Budget and on Schedule
Help minimize project risks by helping teams to coordinate effectively, plan accurately, and identify problems earlier in the project cycle.

We believe Navisworks should be on the table of every engineer to help make work better, quicker, and more cost effective for the client.

—Leon Josepis
　　Managing Director
　　Unison Engineering

Create Real-Time 3D Presentations from CAD Data with Autodesk Showcase
With Autodesk Showcase software, you can more quickly and easily transform plant designs into compelling imagery, movies, and real-time presentations. Explore design variations dynamically with colleagues and clients in an immersive 3D environment. Help accelerate design review cycles and helps bring your designs to life.

Explore Concepts and Produce Stunning Artwork with Autodesk SketchBook Designer
Use Autodesk SketchBook Designer to enrich your AutoCAD workflows. Access integrated painting and image editing capabilities directly within AutoCAD, enhancing how you explore and communicate your plant and equipment designs— without having to learn or use a separate illustration application.

One of the more challenging aspects of undertaking a plant retrofit, revamp or expansion is finding the right mix of tools to manage the complexities and nuances of individual projects. We see real value in Autodesk offering a compatible set of tools in one economical and convenient purchase. Autodesk Plant Design Suite reduces training time and minimizes support headaches for multiple tools and vendors, and also gives us access to more technology to help us innovate and differentiate ourselves from our competitors.

—Armando Valdez Cárdenas
  Central Region Unit Manager
  COMIMSA

Learn More or Purchase

Access specialists worldwide who can provide product expertise, a deep understanding of your industry, and value that extends beyond your software. To license Autodesk Plant Design Suite software, contact an Autodesk Authorized Reseller. Locate a reseller near you at **www.autodesk.com/reseller.**

To learn more about and to download free* trial versions of the Autodesk Plant Design Suite, visit **www.autodesk.com/plantdesignsuite**.

For Autodesk® Plant Solutions learning videos, discussions, user community discussions and other resources, visit **www.autodesk.com/plantexchange**.

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Autodesk®