Autodesk®
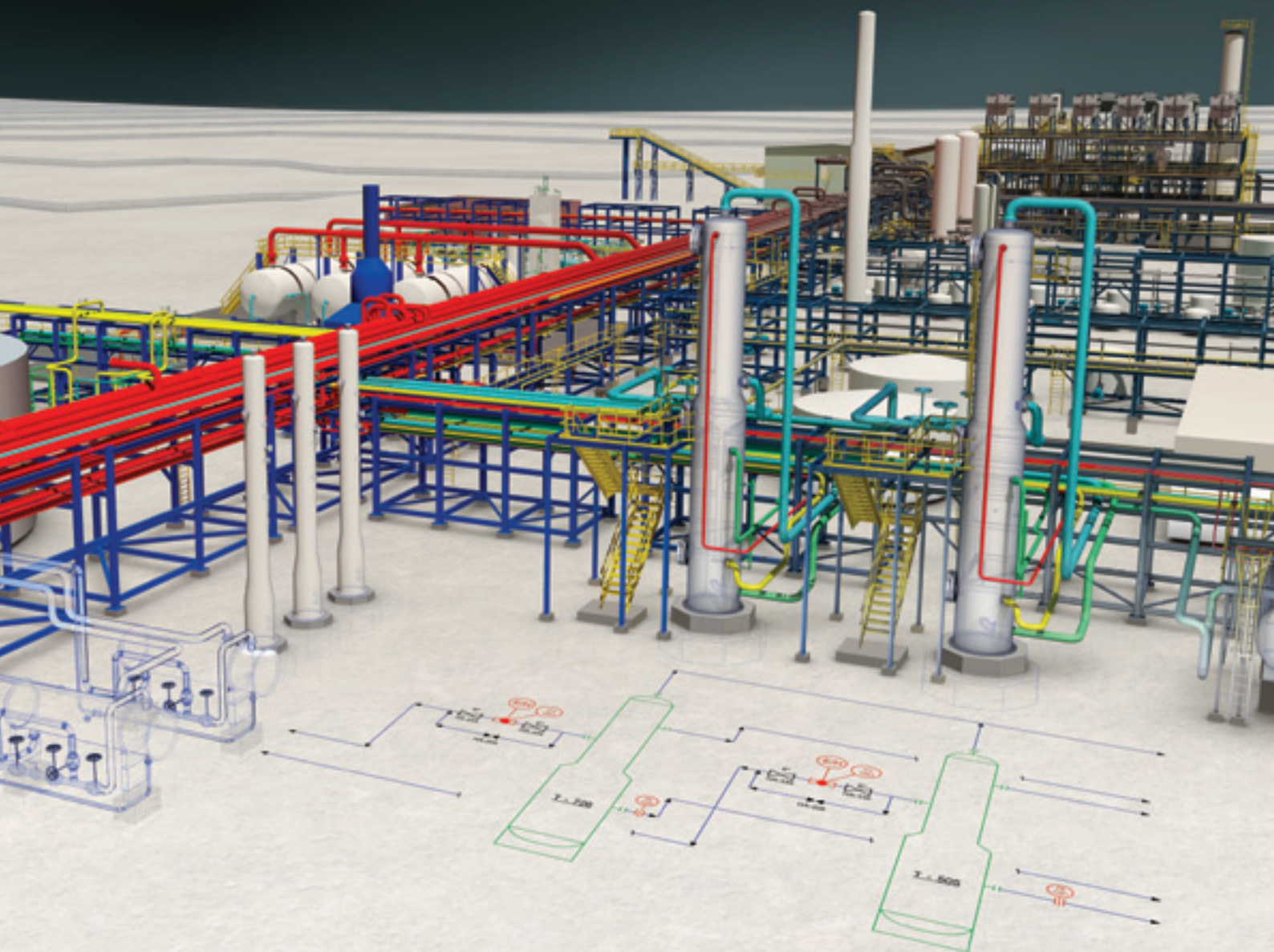# Plant Design Suite

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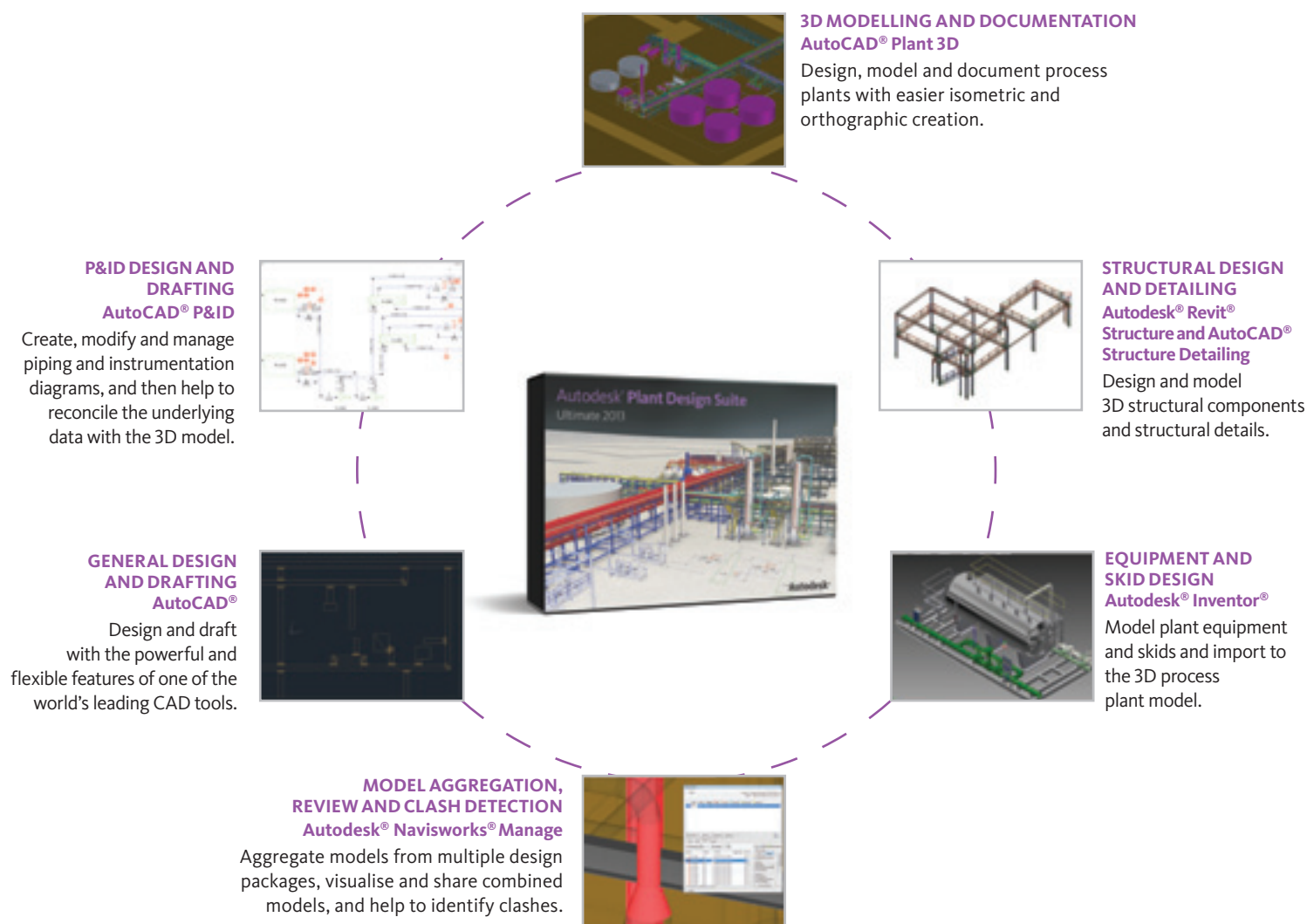
Autodesk

The Suite Advantage: Convenient, Comprehensive, Cost-Effective

Autodesk® Plant Design Suite provides comprehensive plant design, modelling 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 co-ordination.

3D MODELLING 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 to 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, visualise and share combined models, and help to identify clashes.

Common Project Set-Up, Data Management and User Interface

Project Set-Up
Enter pertinent information such as project standards and specs that will be used to drive the 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 organisation and management of DWG™ files.

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

Workspace and User Interface
The interface includes a large drawing window, desktop organisation 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 visualise scanned objects more quickly directly within the modelling workspace.

Specialised Suites Help to 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. Communicate design intent more clearly 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 modelling, structural design and visualisation. Using Premium products, firms can design, model and document process plants; draft, design and analyse 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 specialised software to support 3D equipment and skid design. Use it to aggregate models from multiple design packages, visualise and share combined models, and help to 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 more easily, run better and finish sooner.

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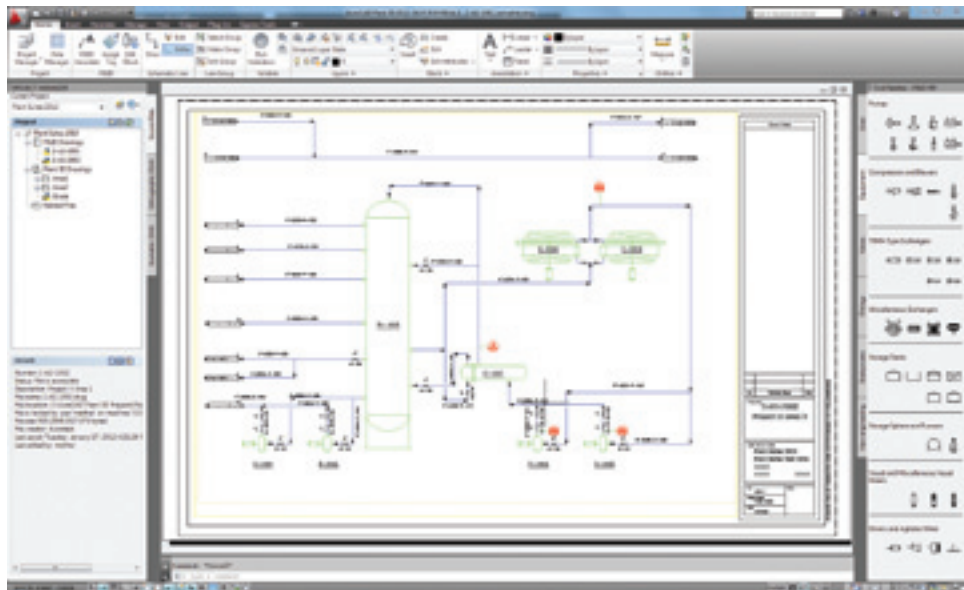
AutoCAD® P&ID software is included in all editions of the Autodesk Plant Design Suite and features simple reporting, editing, sharing, validation and exchange of design information. Routine P&ID work tasks are streamlined and automated to help boost productivity, while component and line information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

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

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

Dynamic Lines and Components
Help to 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
Create, edit and customise tags and annotations based on industry-standard formats more easily. Simply drag data properties from the Data Manager into the P&ID drawing as annotations that update automatically.
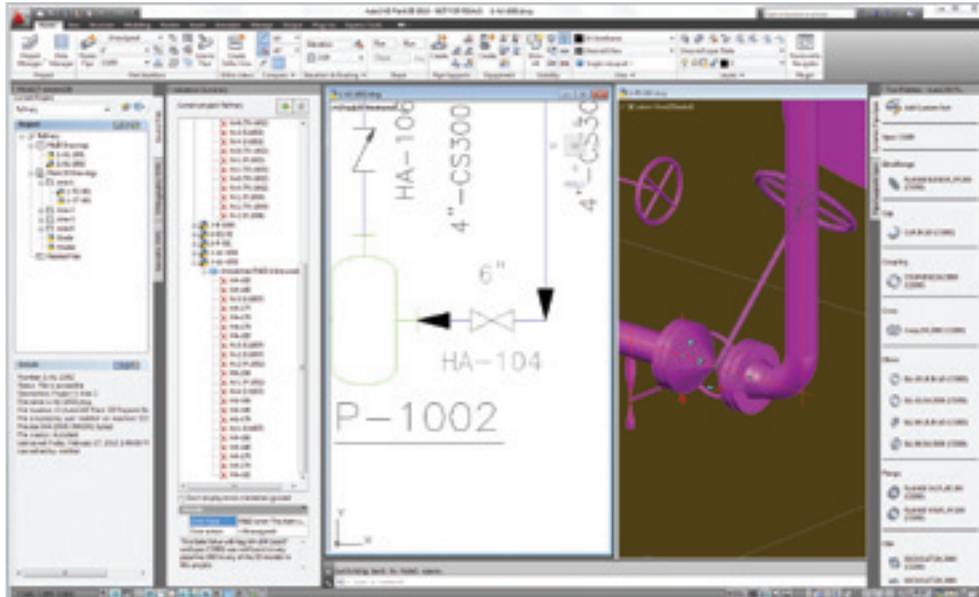
Data Management and Reporting
Report, edit, exchange and share project information more easily, and gain better insight into the impact of external data updates for change management. Export data into drawing data tables and various file formats such as Microsoft® Excel®. Sort and organise information more quickly for easier referencing. Enhanced change management, viewing and editing functionality help to 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 maximise productivity with updated tools for conceptual design, model documentation and reality capture.

Complete 3D Piping Design Work More Efficiently and Accurately

Bring modern 3D modelling to your everyday plant design projects with AutoCAD® Plant 3D software.

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 to simplify the design and editing of 3D plant models.

Enhance Design Productivity
Training and start-up 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 to simplify modelling and editing.

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

Improve Project Team Co-ordination
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 to the final design, AutoCAD Plant 3D software optimises 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.

Structural Elements
You can also externally reference structural drawings created in Autodesk® Revit® Structure software, AutoCAD® Structural Detailing software, and other applications.

Specifications and Catalogues
AutoCAD Plant 3D helps to streamline the placement of piping, equipment, support structures and other plant components through spec-driven technology and standard parts catalogues such as ANSI/ASME (B16) and DIN/ISO. When you need to create a spec, you can work directly with included content-rich catalogues or you can modify the catalogues 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
You can generate and share isometrics, orthographics and other construction documents more easily from the 3D model. Information is exchanged directly with the 3D model, meaning that your construction documents are more accurate, consistent and up to date.

# Speed Up the Design and Analysis of Plant Structures

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

Co-ordinate Piping and Structures
The structural design capabilities of the Autodesk Plant Design Suite allow you to import preliminary structural models from AutoCAD Plant 3D into Autodesk Revit Structure for detailed structural design and analysis. You can then take the detailed structural design back into AutoCAD Plant 3D for visualising the complete structure together with the piping.

Autodesk Revit Structure software is an intelligent 3D modelling solution developed for structural engineers and 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 co-ordination, minimise 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 modelling by extending structural design workflows to fabrication, enabling a more efficient and accurate process for creating fabrication details and drawings.
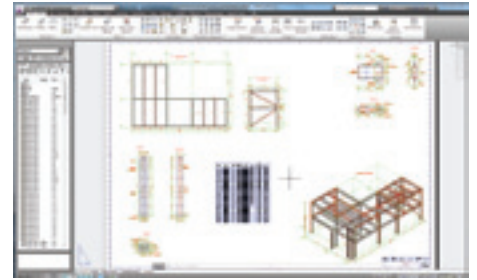
# Co-ordinate the Design of Plant Equipment and Skids

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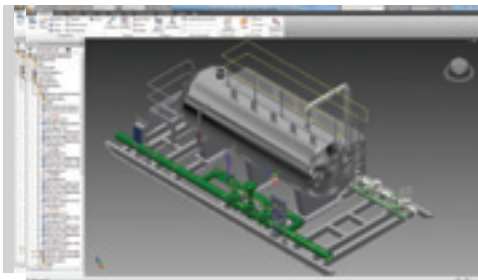
Align Equipment and Skids with Piping Design.
The equipment and skid design features of Autodesk Plant Design Suite enables you to import 3D models from Autodesk Inventor into AutoCAD Plant 3D and connect intelligently to the piping. There is no need to remodel the equipment and skids.

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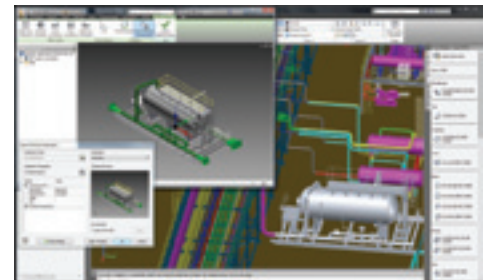
Combine Whole-Project Design Information for Comprehensive Reviews

Communicate and Co-ordinate with Autodesk® Navisworks® software.

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

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

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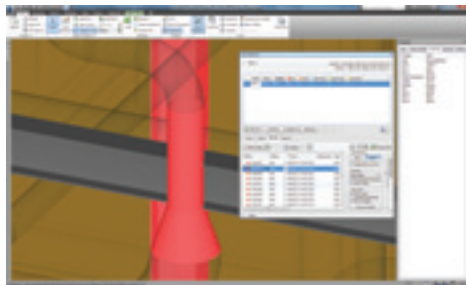
Model and File Aggregation
Combine design, construction and other project data from most 3D design or laser scan formats into a single, whole-project model.
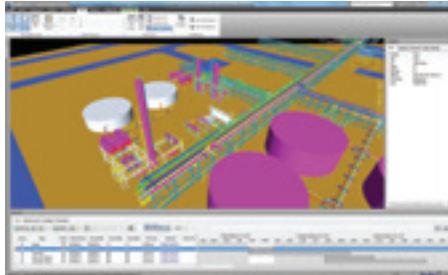
Real-Time Navigation
Explore a whole project model using advanced navigation tools including Walk, Look Around, Zoom, Zoom Box, Pan, Orbit, Examine, Fly and Turntable.

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

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

Clash Detection
Help to avoid potential problems before construction to minimise expensive delays and rework. View clashes in the 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 to identify errors before they occur.

Stay on Budget and on Schedule
Help to minimise project risks by enabling teams to co-ordinate 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
Autodesk Showcase software allows you to transform plant designs more quickly and easily into compelling imagery, videos and real-time presentations. Explore design variations dynamically with colleagues and clients in an immersive 3D environment. Help to accelerate design review cycles and 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 minimises 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 Value Added Reseller. To locate the reseller nearest you, please visit **www.autodesk.co.uk/reseller.**

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

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

Autodesk Education

From instructor-led or self-paced classes to online training or education resources, Autodesk offers learning solutions to fit your needs. Gain access to free* software if you are a student or educator. Get expert guidance at an Autodesk Authorised Training Centre (ATC®) site, access learning tools online or at your local bookshop and validate your experience with Autodesk Certification. To learn more, please visit **www.autodesk.co.uk/atc**.

Autodesk Services and Support

Keep your Autodesk products current with the latest service packs, updates and other maintenance releases. Access utilities and drivers, viewers, tools, certified hardware, sample files and plug-ins. These tools help you to make the most of your software, no matter what industry you are in. To learn more, please visit **www.autodesk.co.uk/servicesandsupport.**

Autodesk Subscription

Autodesk® Subscription is a software maintenance and support programme that provides additional advantages and delivers the lowest total cost of ownership. Discover the Subscription Advantage: **www.autodesk.co.uk/subscription**.

Autodesk is committed to sustainability. This brochure is printed on 100 per cent post-consumer waste recycled paper.

Autodesk®