UNITEC
INFORMATIONSSYSTEME GMBH

UNITEC Plant Solutions

Developer of Ground Breaking Tools,
Connecting Technologies with Solutions !!

Unitec Informationssysteme GmbH

Unitec, with over 15 years of experience as a professional partner for software developers of leading design solutions in the Plant and Mechanical industry, is specialized in CAD and process automation solutions for engineering contractors, owner/operators and manufacturers.

With our professional team, we offer our customers a complete solution which does not ends with the development or delivery of a piece of software. Unitec provides its customers with training, support (on-site and through our helpdesk), consulting, software development and optimization of your entire supply chain.

Our customers can be found in a number of industries, but our main focus lies with;

- Engineering contractors and Owner/Operators
- Specialized manufacturing
- Manufacturers in general

To make our customers successful in their line of work, we see it as our responsibility to support our customers in the following fields;

- Individual solutions and consulting
- Implementing- and migration projects
- Integration- and process automation
- Project support and monitoring
- Hotline & Support

UNITEC's Plant Specialization is based on solutions that add value through data exchange over multiple disciplines and are unique in the world. Also our long time experience with customer projects ensures we successfully deliver services, consulting, implementation, training and support emphasizes.

Some of our unique solutions that add value to your work process;

- Intelligent Structural import interface for AutoCAD Plant 3D (SDNF2PLANT)
- Intelligent import interface of pipelines for AutoCAD Plant 3D (ISO2PLANT)
- Engineering Base interface for AutoCAD Plant 3D (EB2PLANT)
- Intelligent AVEVA Plant/Marine (PDMS) interfaces
- Intelligent Intergraph PDS interface
- Intergraph SmartPlant 3D interface for Autodesk Navisworks
- Cloudisworks for Autodesk Navisworks
- 3D-PDF extension for Autodesk Navisworks

To achieve our high level of quality and successful projects, UNITEC has a highly specialized team with certified Plant specialists. Also we have a healthy professional relationship with several leading software developers and, of course, our long term experience.

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UNITEC Solutions for AutoCAD Plant 3D

Developer of Ground Breaking Tools,
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UNITEC Solutions for AutoCAD Plant 3D

To optimize the communication between AutoCAD Plant 3D and other design software, Unitec developed a set of tools that enable you to exchange data intelligently between the different solutions. Our tools are easy to use, easy to implement and, with a minimum amount of training, you will able to exchange the required data between your design software and AutoCAD Plant 3D.

The UNITEC tools deliver high quality data that instantly can be used in your Plant 3D design, this includes the necessary information for pipe work, structural designs and much more. Because of the powerful and intelligent data exchange it also offers you an easy, but safe way to migrate from your current design solution to AutoCAD Plant 3D.

Our solutions not only make it possible to exchange data between the different design solutions, but they also deliver high quality data that can be used instantly within AutoCAD Plant 3D (MCAD2PLANT). If you already have, for example, an existing structural design, then our tools let you import this design intelligently into AutoCAD Plant 3D (SDNF2PLANT). During import all necessary information is converted as well, allowing you to make changes to the design.

It becomes even more interesting if you need to exchange pipe designs between any plant design solution and AutoCAD Plant 3D. Our tools enable you to read IDF/PCF data and re-construct the entire pipeline in AutoCAD Plant 3D, including all the necessary inline components and pipe properties (ISO2PLANT). To achieve this, you don't even need to have a license of the original plant design software, only the IDF/PCF data is required.

The UNITEC solutions for AutoCAD Plant 3D, as we like to say;

"Ground Breaking Tools, Connecting Technologies with Solutions".

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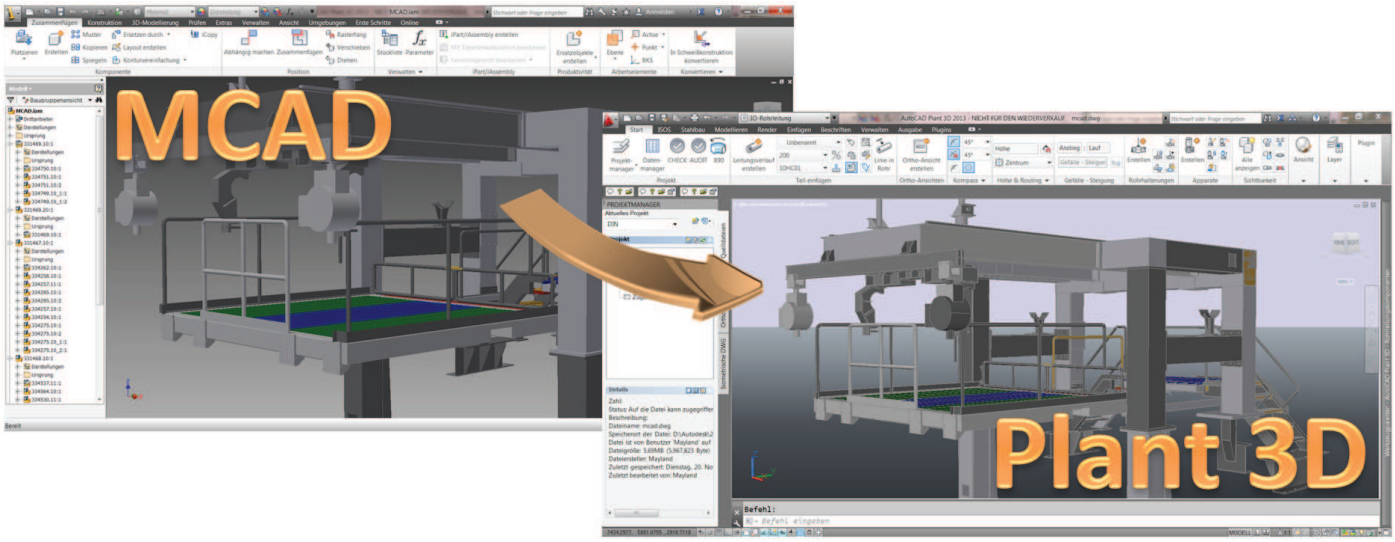
MCAD2PLANT

MCAD - PLANT converter from Unitec

Within your company several 3D software solutions are used. For example; you use Inventor or Solid Edge for your Mechanical designs and AutoCAD Plant 3D for the general layout and/or Piping routes. Exchanging data between the MCAD solutions and AutoCAD Plant 3D is not only time consuming, but often also impossible to do.

Unitec recognized this challenge and developed an interface that allows you to use any Mechanical CAD Design Software, which can be imported into AutoCAD Plant 3D without any difficulty. With our MCAD2PLANT interface you can use existing 3D CAD models, from mechanical design or even architectural design, in AutoCAD PLANT 3D.

Re-using your designs, mechanical and/or architectural, will save you not only time, but also money as there is no need for re-modeling. Additionally re-using the MCAD models also prevents from false interpretation or errors when re-modeling, handing you a more accurate design and an optimized project overview.



The benefits when using both systems

- Bi-directional exchange of data between your CAD-system and AutoCAD Plant 3D
- Visualizing of assemblies and build groups from your Process and Mechanical designs
- Collision detection of assemblies and build groups from your Mechanical design in AutoCAD Plant 3D
- Creation of drawings and details in your Mechanical design software and in AutoCAD Plant 3D

Our interfaces connect the market leaders:

- Easy to use conversion from your Mechanical design into AutoCAD Plant 3D
- Optimal combimation of faces and 3D primitives
- The quality of the conversion can be optimized for each project seperately
- With migration projects you will receive professional support of Unitec
- Unitec, as certified partner, offers modification and service for your interface

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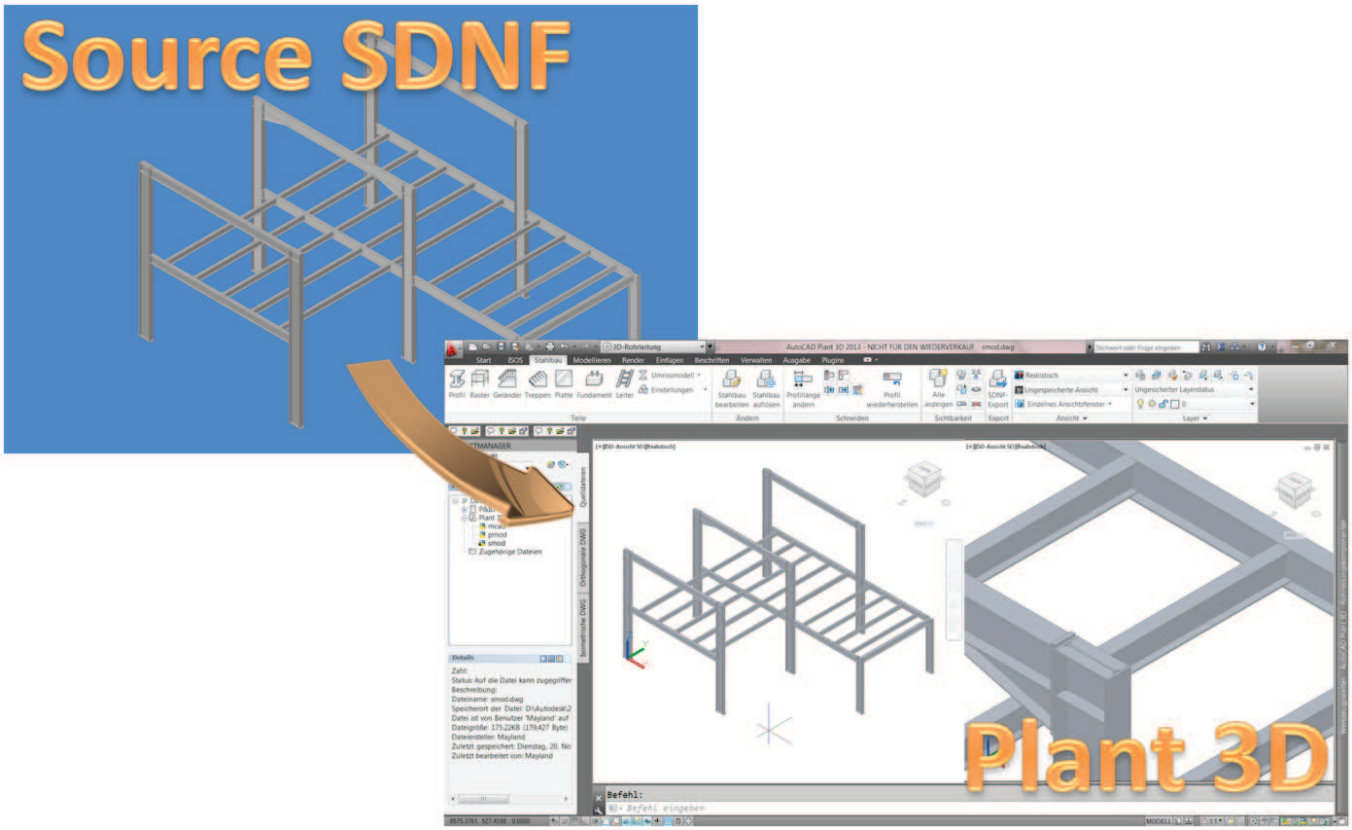
SNDF2PLANT

The translator for Structural Designs

Within many companies Plant Design and Structural Design are often different disciplines and sometimes even separate departments. To re-use your structural design is, in many cases, difficult to achieve and what happens is that the structural design is re-created instead of re-used.

The SDNF2PLANT interface is developed to overcome this issue; it is aimed to create input data files for AutoCAD Plant 3D. The input data files that the interface creates are based on the neutral SDNF format (Steel Detailing Neutral Format), this way the data can be exchanged effectively between the Structural Design and AutoCAD Plant 3D software. The interface supports the standard formats SDNF 2.0 and 3.0.

The SDNF files that are converted into AutoCAD Plant 3D still hold the information that was used to build the Structual model. Therefore the SDNF2PLANT interface can re-build the Structural model including necessary information like profile type and size, which instantly enables you to make changes to the Structural model in AutoCAD Plant 3D when necessary.



Benefits of the interface;

- All data used for planning is correct and contains no faults
- Converting of the SDNF files is easy and fast
- Saving valuable time and money
- Allows optimizing the workflow
- No re-modeling necessary

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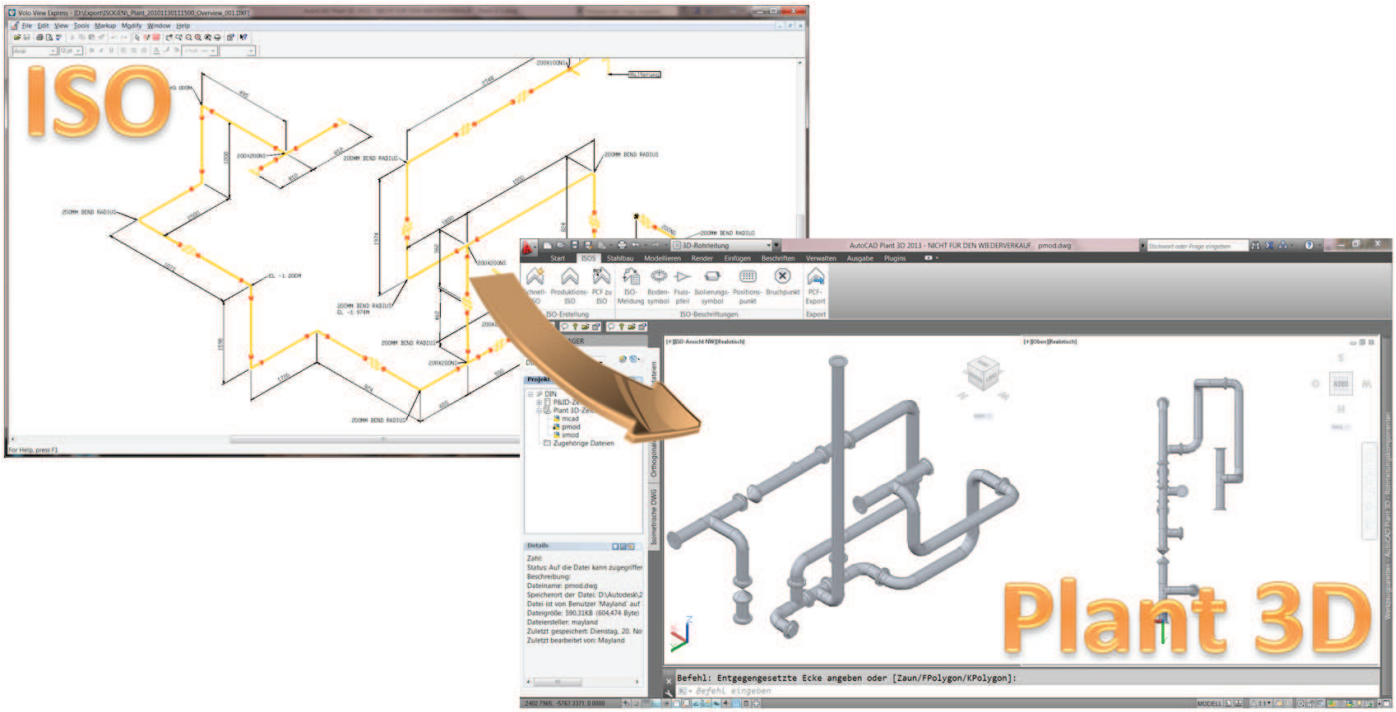
ISO2PLANT

Using ISO information to create 3D pipe lines

You are working on an existing installation and need to use the as-built situation as your starting point for design updates. Or you are migrating from one of the Plant Design solutions to AutoCAD Plant 3D. In both situations you will have the need to re-use the data that was created in an earlier stage. Often the information that is available is just an IDF/PCF file which typically doesn't help you to re-build your designs.

With the ISO2PLANT interface we enable you to use the IDF/PCF file to completely re-build your pipe design, including inline components, flanges, etc. The ISO2PLANT interface also maintains all the available information from the IDF/PCF file, which allows you to continue working on the model directly after the import.

The ISO2PLANT interface saves you valuable time and reduces errors when re-modeling your design. Not only is the re-build model an exact replica of your existing site, it also carries all the necessary information to create lists, bill of materials and it enables you to do your work straight from the start.



Benefits of the ISO2PLANT interface;

- No need re-model an existing design, saving time and money
- Re-build model is created with a generic pipe specification; original pipe specifications can be used but are not mandatory
- Re-build model is based on your existing design, eliminating the chance of errors when re-modeling
- Easy and simple to use interface, no special skills required to re-build a model

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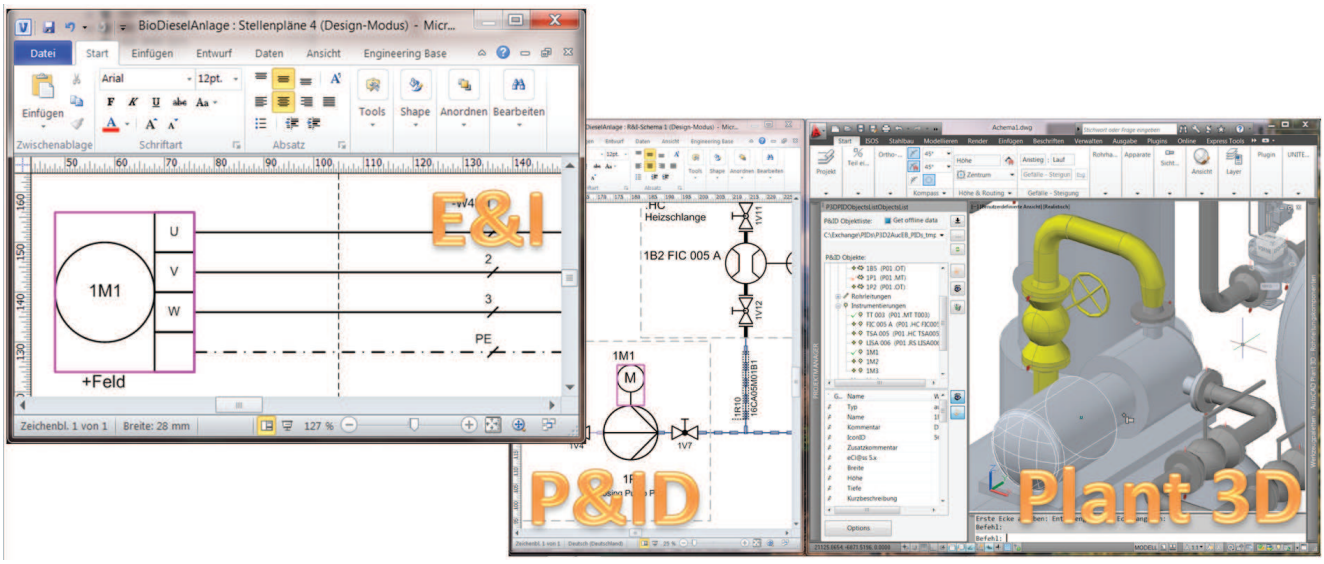
EB2PLANT

Engineering Base integration with AutoCAD Plant 3D

In many companies, changes occur on a daily base; these changes have to be updated in several different disciplines like manufacturing process, mechanical, instrumentation and electrical design. These specialists often work independently from each other, having major issues getting a clear overview of the complete installation.

This overhead leads to a planning risk, data to be inconsistent and the need for more and more communication. Also changes in reports, drawings and 3D models have to be made by hand by highly qualified engineers. It is clear that this needs to be minimized and not only for one discipline. The issue is that most of the disciplines work with their own CAD solution and their provider is capable of offering only one solution between 2D P&ID, Instrumentation and 3D models.

Engineering Base, the E&I solution of Aucotec, is integrated by Unitec with AutoCAD Plant 3D. With this interface Unitec is capable of linking 2D P&ID drawings in Engineering Base with the 3D model in AutoCAD Plant 3D. The link will not only control the equipment and inline assets, but also links the instrumentation and control systems. This offers a wide range of options like generating parts lists up to complete creation of control and instrumentation diagrams.



All disciplines involved will work with the same data from the start of the project; all project members will have the same data at any location, all the time. Unitec's interface with Engineering Base for AutoCAD Plant 3D, is a neutral developer independent communication platform. The interface with Engineering Base is ready, for the future we will also develop interfaces with AutoCAD P&ID, ISO15926 (COMOS, Smart-Plant) and SAP.

The current interface offers the following functionality;

- Object linking (2D to 3D)
- Property Update on request (2D to 3D)
- Model related status updates
- Bi-directional navigation
- Automatic zoom function
- Access to linked documents

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UNITEC Solutions for AVEVA Plant/Marine (PDMS)

Developer of Ground Breaking Tools,
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UNITEC Solutions for AVEVA Plant/Marine (PDMS)

To optimize and extend the communication between AVEVA Plant and/or Marine (PDMS) and other design software, Unitec developed a set of tools that enable you to use and exchange CAD data intelligently between PDMS and the most common design software solutions in the market. Our easy to use, easy to implement tools hand you the flexibility needed in today's engineering demands.

By implementing our tools in your environment, we provide you the opportunity to use data from any design software available in the market. If your equipment, for example, is modeled in a Mechanical design solution or in a regular CAD solution, our tools enable you to import and use this data within your PDMS environment. The Unitec solutions allow you to exchange the data from and to PDMS; this can be done for Mechanical designs, P&ID'S, Structural Designs, ISO's and a lot more.

With the Unitec solutions for AVEVA Plant/Marine, you not only can exchange data between PDMS and other design software, it also offers you the opportunity to use mid-range design solutions, like for example AutoCAD Plant 3D, to work on smaller projects. The Unitec tools allow you to import the 3D-models, including all the necessary intelligence, into PDMS so that you still can have the overview of the entire project you're working on.

Also with the Unitec tools for AVEVA Plant/Marine you will be able to use, for example AutoCAD Plant 3D, other design software for re-use, design studies and your Tender Phase. The data created can then easily be imported into PDMS for further detailing and project designs. By using our tools you instantly create the opportunity to work together with multiple engineering contractors; our tools are capable of creating high quality and accurate models, making the hand-over from any design software into PDMS as easy as possible. Because of this easy to perform hand-over and re-use of engineering data, you will save time (no re-modeling necessary) and costs, giving you a jump start at the beginning of your project.

Now with the Unitec tools for AVEVA Plant/Marine, you can use the most optimal software solution for each project, but without losing the powerful functionalities and performance of PDMS. Using our tools will not only save you time and money, it also opens up a much larger workforce to you working with the other design solutions.

UNITEC solutions for AVEVA Plant/Marine, opening up a whole new world with opportunities, or as we like to say it;

"Ground Breaking Tools, Connecting Technologies with Solutions".

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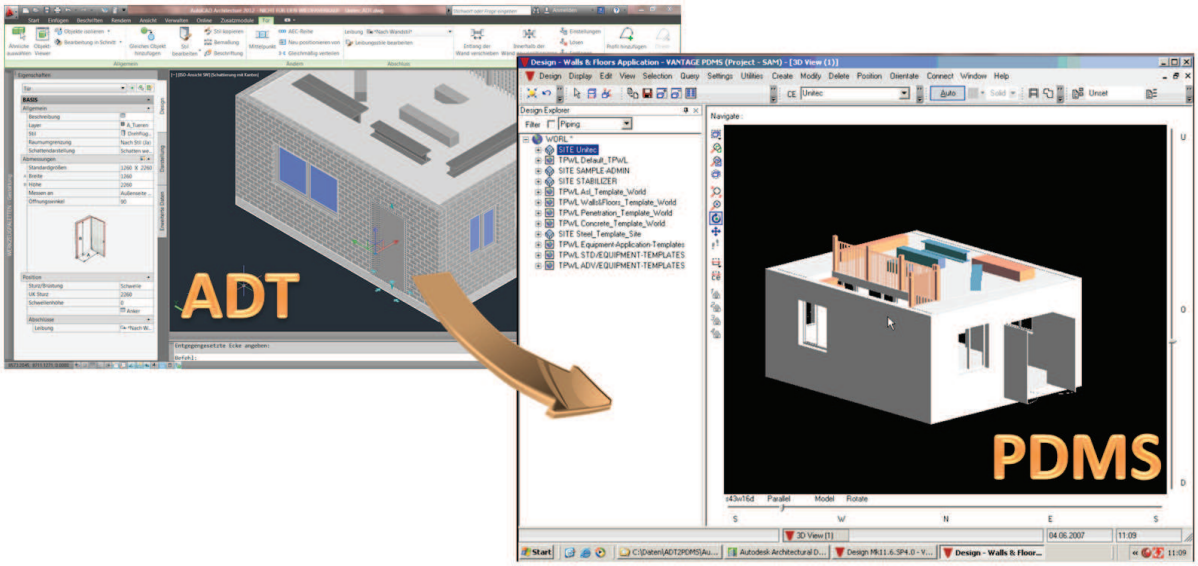
ADT2PDMS

AutoCAD Architecture to PDMS

For your Plant Design you use AVEVA Plant/Marine (PDMS), but for your architectural design you use AutoCAD Architecture (ADT). The challenge that you run into, is to get the data created in AutoCAD Architecture in your Plant Design created in PDMS. Re-modeling is not an option as this is very time consuming and will cost a lot of money.

Our Unitec interface ADT2PDMS makes it possible to intelligently export AEC objects, objects created in ADT, to PDMS. AutoCAD Architecture styles that were used to create the model can be automatically converted or you can assign the styles to match the catalog component of PDMS manually.

The ADT2PDMS interface we developed is especially interesting for architects and engineering contractors, who need to supply models to the leading plant design solution AVEVA Plant/Marine. The conversion is done quick and easy with as a result a high quality model that can be imported into PDMS. Our ADT2PDMS interface is capable of translating practically all AEC objects like slabs, walls, doors windows and openings, but also recognizes complex AEC structural objects like stairs, railings and plates. By using our ADT2PDMS interface we provide you the opportunity to re-use designs and save time & money doing it.



Functional overview;

- Retrieval of defined AutoCAD Architecture (ADT) styles
- Retrieval of AutoCAD Architecture styles in use
- Configurable and automatic mapping between AutoCAD Architecture styles and PDMS catalog components
- Analyzing and automatic creation of generic PDMS elements based on structural AEC objects (members).
- Objects can be created as section elements or using a bounding box representation.
- The end result can be placed in any orientation and position in the PDMS model.

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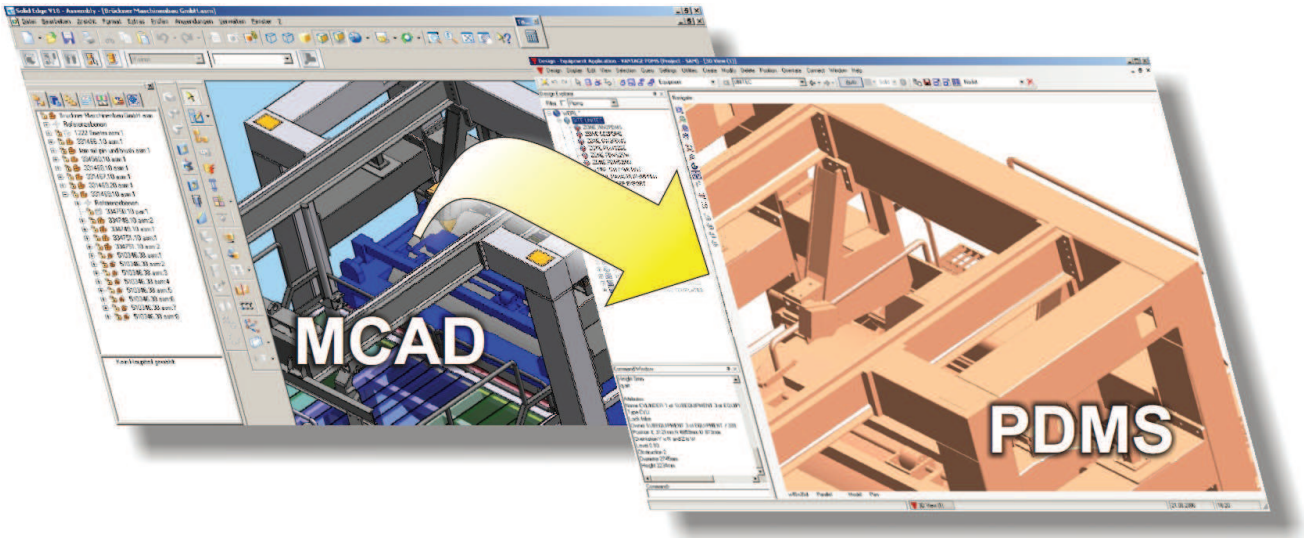
MCAD2PDMS

MCAD - PDMS converter from Unitec

Within your company several 3D software solutions are used. For example; you use Inventor or Solid Edge for your Mechanical designs and AVEVA Plant (PDMS) for the general layout and/or Piping routes. Exchanging data between the MCAD solutions and PDMS is not only time consuming, but often also impossible to do.

Unitec recognized this challenge and developed an interface that allows you to use STEP (AP214) or Parasolid files to generate an AVEVA PDMS PML-Macro, which can be imported into PDMS without any difficulty. With our MCAD2PDMS interface you can use existing 3D CAD models, from mechanical design or even architectural design, in AVEVA Plant or AVEVA Marine.

Re-using your designs, mechanical and/or architectural, will save you not only time, but also money as there is no need for re-modeling. Additionally re-using the MCAD models also prevents from false interpretation or errors when re-modeling, providing you a more accurate design and an optimized project overview.



The benefits when using both systems

- Bi-directional exchange of data between your CAD-system and PDMS
- Visualizing of assemblies and build groups from your Process and Mechanical designs
- Collision detection of assemblies and build groups from your Mechanical design in PDMS
- Creation of drawings and details in your Mechanical design software and in PDMS

Our interfaces connect the market leaders:

- Easy to use conversion from your Mechanical design into PDMS
- Optimal combimation of faces and 3D primitives
- The quality of the conversion can be optimized for each project seperatly
- With migration projects you will receive professional support of Unitec
- Unitec, as certified partner, offers modification and service for your interface

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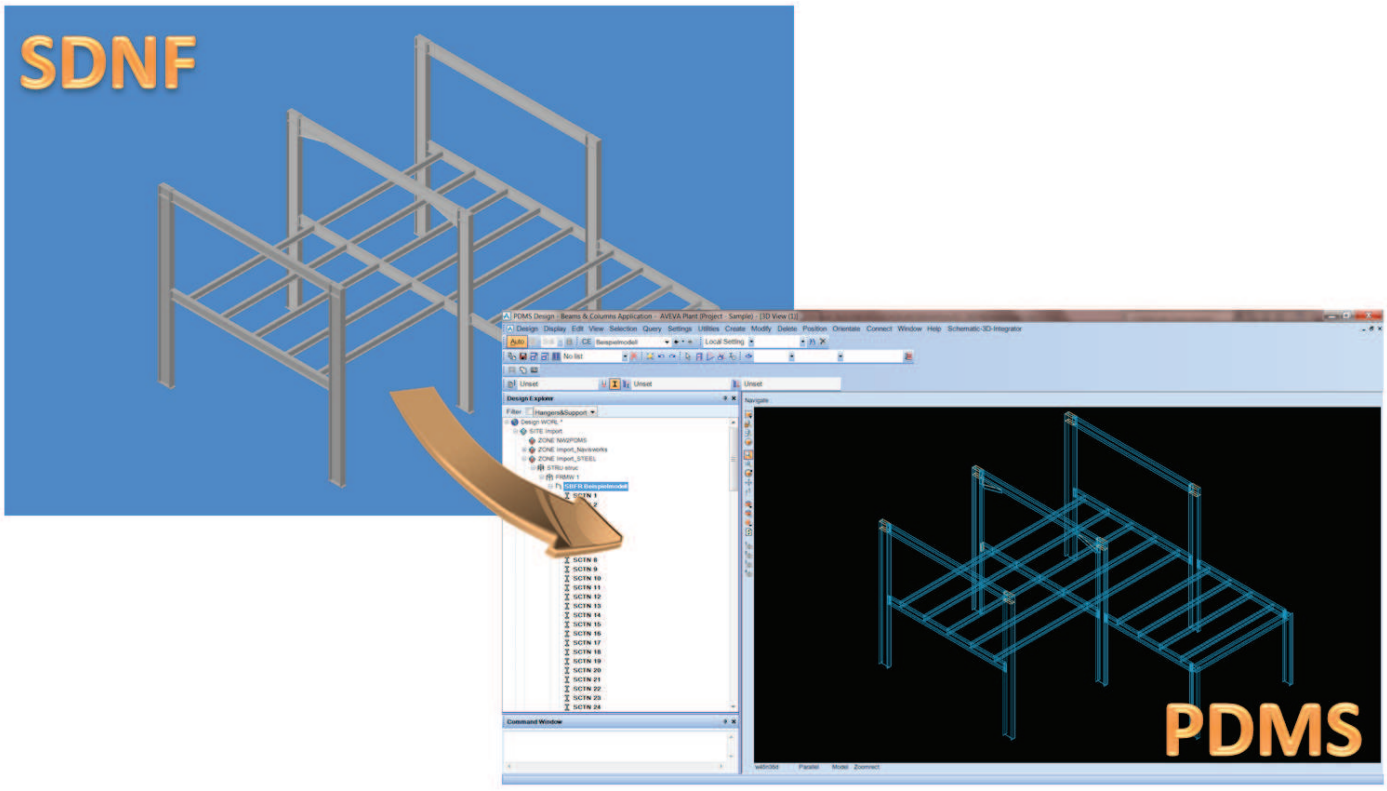
SDNF2PDMS

The translator for Structural Designs

Within many companies Plant Design and Structural Design are often different disciplines and sometimes even separate departments. To re-use your structural design is, in many cases, difficult to achieve and what happens is that the structural design is re-created instead of re-used.

The SDNF2PDMS interface is developed to overcome this issue; it is aimed to create input data files for AVEVA Plant/Marine (PDMS). The input data files that the interface creates are based on the neutral SDNF format (Steel Detailing Neutral Format), this way the data can be exchanged effectively between the Structural Design and PDMS. The interface supports the standard formats SDNF 2.0 and 3.0.

The SDNF files that are converted into PDMS still hold the information that was used to build the Structual model. Therefor the SDNF2PDMS interface can re-build the Structural model including necessary information like profile type and size, which instantly enables you to make changes to the Structural model in AVEVA Plant/Marine when necessary.



Benefits of the interface;

- All data used for planning is correct and contains no faults
- Converting of the SDNF files is easy and fast
- Saving valuable time and money
- Allows optimizing the workflow
- No re-modeling necessary

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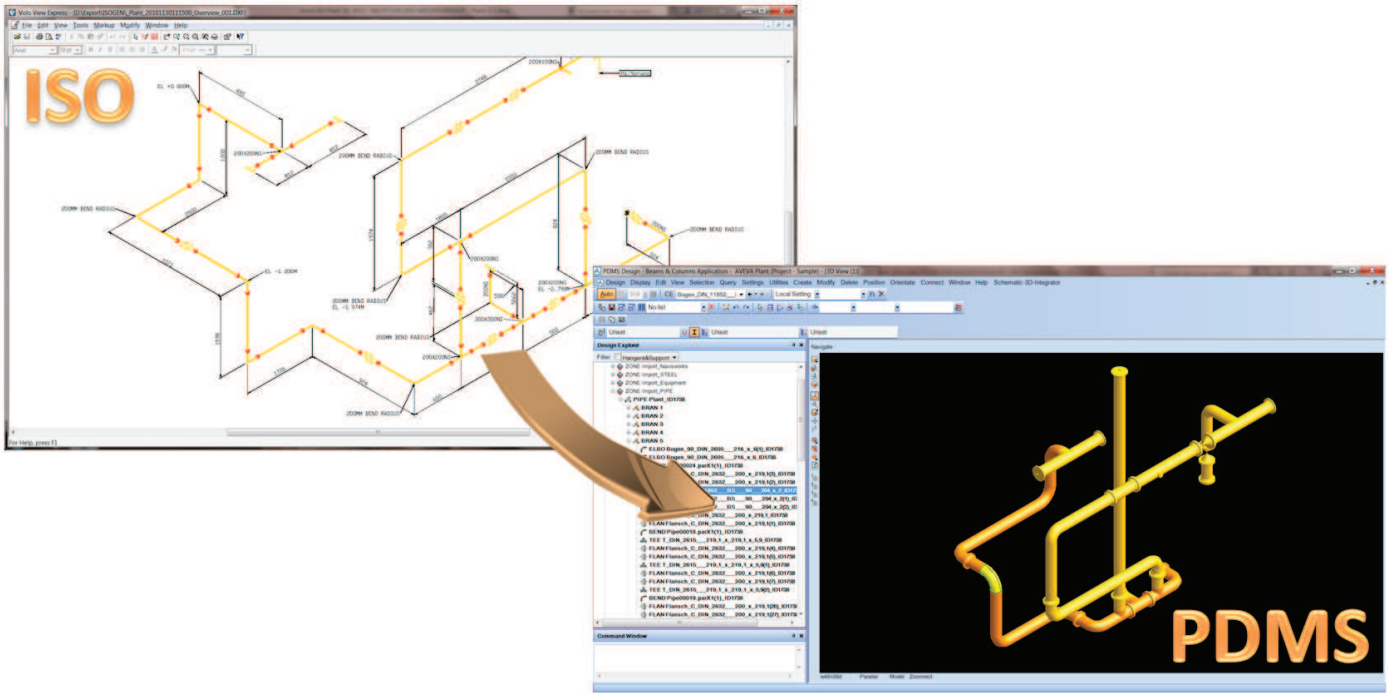
ISO2PDMS

Using ISO information to create 3D pipe lines

You are working on an existing installation and need to use the as-built situation as your starting point for design updates. Or you work together with engineering contractors that use different Plant design solutions. In both situations you will have the need to re-use the data that was created in an earlier stage. Often the information that is available is just an IDF/PCF file which typically doesn't help you to re-build your designs.

With the ISO2PDMS interface we enable you to use the IDF/PCF file to completely re-build your pipe design, including inline components, flanges, etc. The ISO2PDMS interface also maintains all the available information from the IDF/PCF file, which allows you to continue working on the model directly after the import.

The ISO2PDMS interface saves you valuable time and reduces errors when re-modeling your design. Not only is the re-build model an exact replica of your existing site, it also carries all the necessary information to create lists, bill of materials and it enables you to do your work straight from the start.



Benefits of the ISO2PDMS interface;

- No need re-model an existing design, saving time and money
- Re-build model is created with a generic pipe specification; original pipe specifications can be used but are not mandatory
- Re-build model is based on your existing design, eliminating the chance of errors when re-modeling
- Easy and simple to use interface, no special skills required to re-build a model

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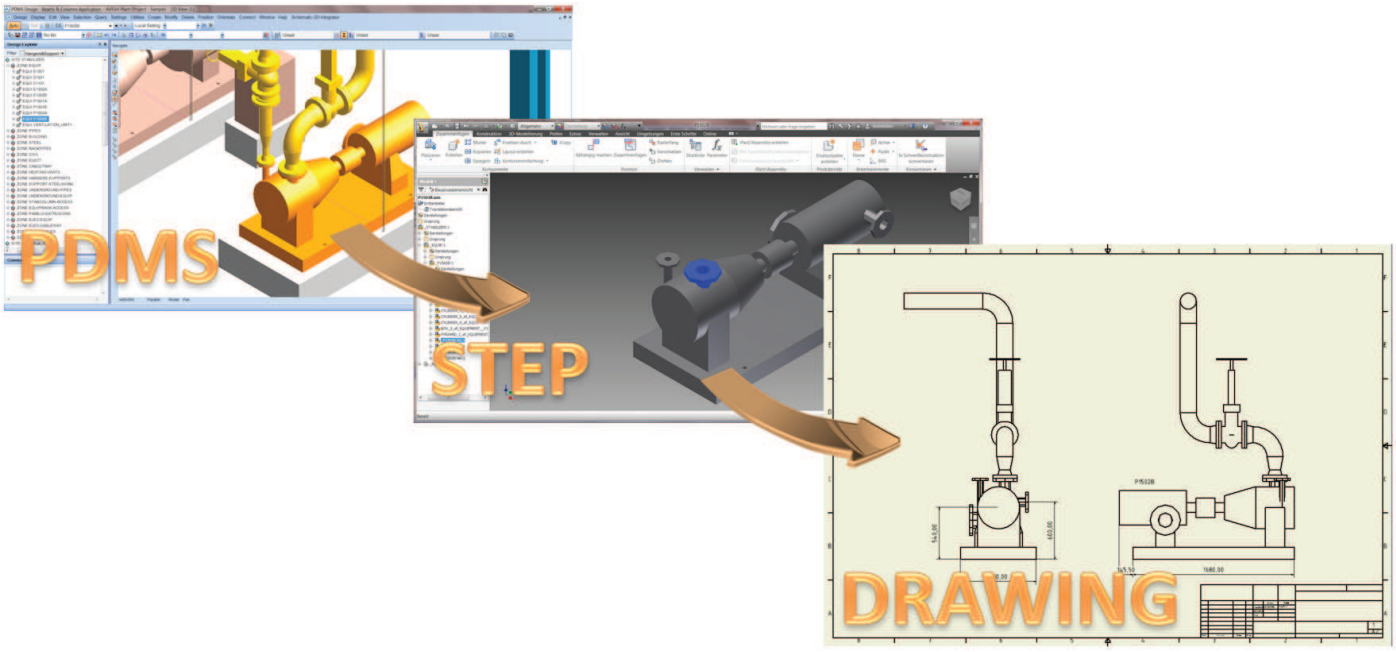
PDMS2STEP

PDMS – STEP Converter from Unitec

You're working with PDMS and you need to exchange some or all of your data with a 3rd party 3D system. Typically this is a time consuming and often an impossible task to fulfill, next to that changes made in the 3rd party application cannot be imported again in PDMS.

Unitec's PDMS2STEP converter covers all these issues in an easy to use and very powerful tool. PDMS-2STEP allows you to export PDMS 3D models to STEP-Format (AP 214 CD), including the object hierarchy of the PDMS model. The STEP format ensures a high quality file format which can be read by most 3D Design systems, Analyzing and Simulation software.

The PDMS2STEP exports PDMS data to the STEP-Format, but you also want to be able to import the modified data back into PDMS. To achieve this Unitec offers you additional interfaces for the leading 3D systems in the market.



PDMS2STEP functionalities

- Selected 3D elements in the PDMS model structure are exported completely
- Colours used in the model are included in the export
- During the export the PDMS model structure will be left in tact
- Export of the PDMS models can take place at any desired level
- Line models in PDMS can be exported as thin cylinders or as wireframe
- Negative bodies can be taken care off during the STEP export
- The exporter configuration will be stored in a control file; this control file also holds the settings for the used language in the user-interface
- PDMS2STEP has the capability to run in batch mode, making your work even easier

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UNITEC Solutions for JT Data Exchange

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JT is a 3D data format developed by Siemens PLM Software (formerly UGS Corp.) and is used for visualization, collaboration and CAD data exchange. It can contain any combination of approximate (faceted) data, exact boundary representation surfaces (NURBS), Product and Manufacturing Information (PMI), and Metadata (textual attributes) either exported from the native CAD system or based on neutral industry standards. The JT File Format Reference was accepted by ISO in 2009 September 18th as a Publicly Available Specification (PAS).

JT as a Standard Today

The JT format is a highly flexible neutral CAD format that offers full representation of relevant model information. The JT format is a lightweight format handing you high performance so that even the largest assemblies can be represented. Optionally the JT format is capable of extracting surface geometry, product structures, attributes and product manufacturing information (PMI).

JT files are used in the Design and Plant lifecycle by engineers and other professionals for the purpose of:

3D CAD Design and Analysis

Companies are driven by increasing pressure to manage the project in shorter time frames, while maintaining high levels of quality. Even with capable 3D CAD technology, many companies have failed to significantly improve their design processes, and the benefits of lower costs and shorter cycle times remain elusive. Next-generation design tools and technologies are superior in power, flexibility and productivity and help companies transform design process. From design modeling to Active Mockup for multi-CAD design, the JT format set new standards for speed, performance, and ease of use.

Data management

JT data can be very lightweight, holding little more than facet data or it can be richer and hold associations to the original CAD information, assemblies, product structure, geometry, attributes, meta data and PMI. It supports multiple tessellations and level-of-detail generation.

Interoperability (data exchange)

UNITEC developed translators for the most popular Mechanical CAD and Plant Design Systems into JT. It is one of the few formats available to the major applications which could be used in an enterprise.

Visualization and Collaboration

JT Open helps to leverage benefits of open collaboration across the extended enterprise through the adoption of the JT format, a technology that makes it possible to view and share information throughout the lifecycle.

Summary

Lifecycle visualization standard solution incorporates full 2D/3D visualization and markup capabilities for extended enterprise collaboration. Intelligent 3D visualization and navigation helps users navigate complex models through hierarchical product structures. In addition, comprehensive 3D markup capabilities facilitate rich knowledge exchange throughout the product lifecycle.

Extending product design data beyond the design process, lifecycle visualization standard solution empowers your extended product teams by enabling them to access and visualize design information, including 3D CAD data (in JT™ data format) and 2D drawings in most major 2D formats. Whether your users are manufacturing engineers who need to assess the manufacturability of a new innovation or managers who review design changes, the lifecycle visualization standard solution puts the right collaboration tools at your users' fingertips.

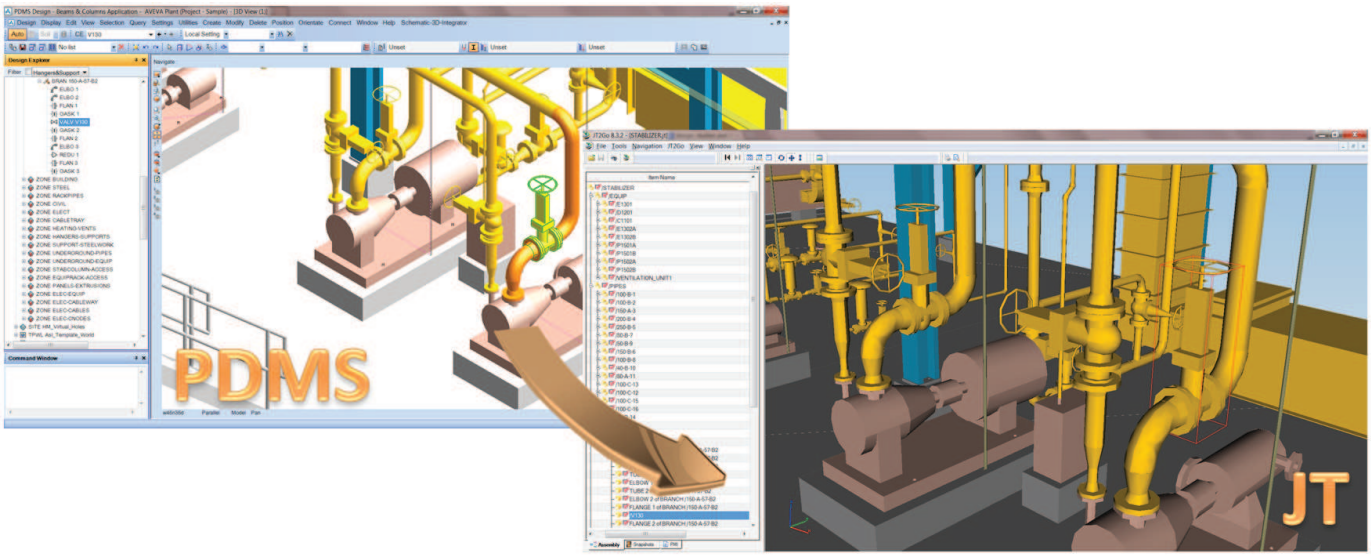
PDMS2JT

As partner for leading manufacturers of software solutions in the plant and mechanical design, UNITEC provides solutions based on the JT format, which is the industry standard developed by Siemens PLM. The JT format simplifies collaborating, visualizing and exchanging data on a Multi 3D CAD Platform and offers integration between the different CAD systems, PDMS, PLM and ERP systems. Therefore UNITEC is a member of the JT Open program from SIEMENS.

Our PDMS2JT interface and future interfaces will allow you to easily exchange data from PDMS to;

- Analyzing
- ERP
- Leading 3D Mechanical Design solutions
- PLM
- Visualizing

The JT format can carry different types of information, the graphical representation is one of them, but with the JT format you can also include attribute information which is required for data administration so you can re-use your data more effectively.



For engineering contractors the PDMS2JT interface offers the possibility to exchange data into your PLM system where the data can be used for project-, configuration- and knowledge management, preventing you for making the same mistakes twice. By using this functionality you will be able to run projects more smoothly, more effectively and the necessary information will be at hand all the time. This will help experienced but also new employees to understand your design and project workflow.

Owner/Operators have different needs; Owner/Operators want to manage their assets and want to be able to look at plant information. For the Owner/Operator the data will be cross vendor, vendor independent and delivered from Multiple CAD systems. As the Owner/Operator wants to examine and analyze data from one source an up-to-date PLM system is more than essential. Our PDMS2JT interface makes communicating and exchanging easy, simple and very powerful and it makes it possible to keep the PLM system up-to-date with the latest information and designs.

Today the PDMS2JT export interface is available for AVEVA Plant PDMS, other interface are to be followed shortly.

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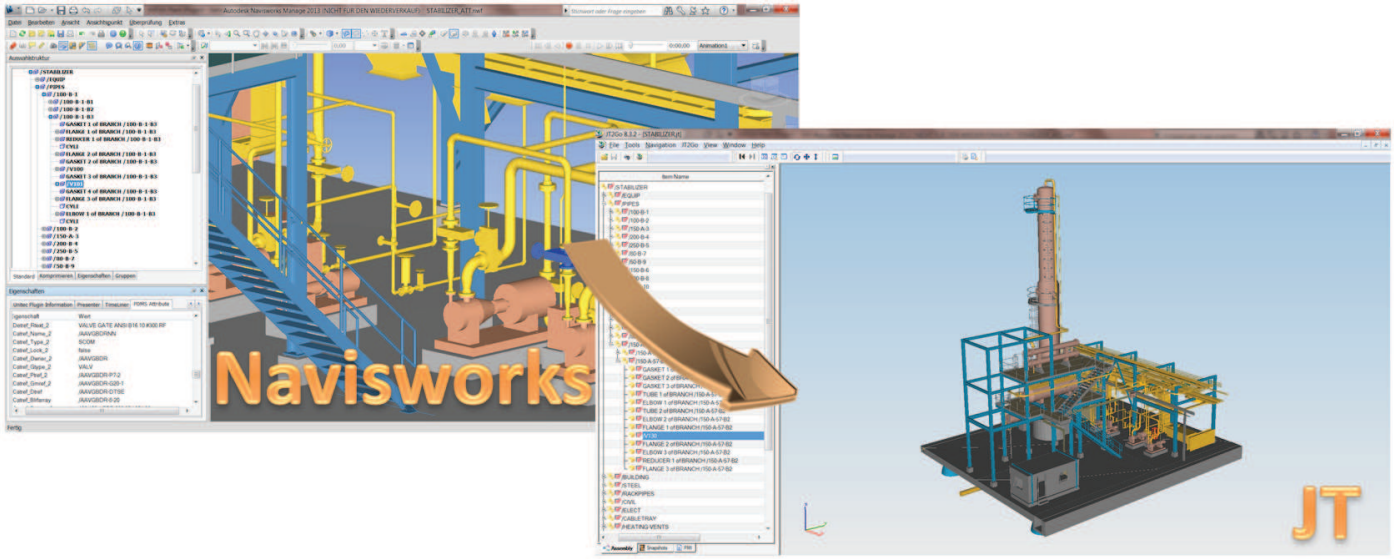
NW2JT

As partner for leading manufacturers of software solutions in the plant and mechanical design, UNITEC provides solutions based on the JT format, which is the industry standard developed by Siemens PLM. The JT format simplifies collaborating, visualizing and exchanging data on a Multi 3D CAD Platform and offers integration between the different CAD systems, Navisworks, PLM and ERP systems. Therefore UNITEC is a member of the JT Open program from SIEMENS.

Our NW2JT interface and future interfaces will allow you to easily exchange data from Navisworks to Multiple CAD systems, but also to PLM and ERP solutions used for your project(s). The NW2JT interface is easy to use, supports most of the leading CAD systems and offers you a powerful exporter to the JT format.

The JT format can carry different types of information, the graphical representation is one of them, but with the JT format you can also include attribute information which is required for data administration so you can re-use your data more effectively.



For engineering contractors the NW2JT interface offers the possibility to exchange data into your PLM system where the data can be used for project-, configuration- and knowledge management, preventing you for making the same mistakes twice. By using this functionality you will be able to run projects more smoothly, more effectively and the necessary information will be at hand all the time. This will help experienced but also new employees to understand your design and project workflow.

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Today the NW2JT export interface is available for Autodesk Navisworks, other interface are to be followed shortly.

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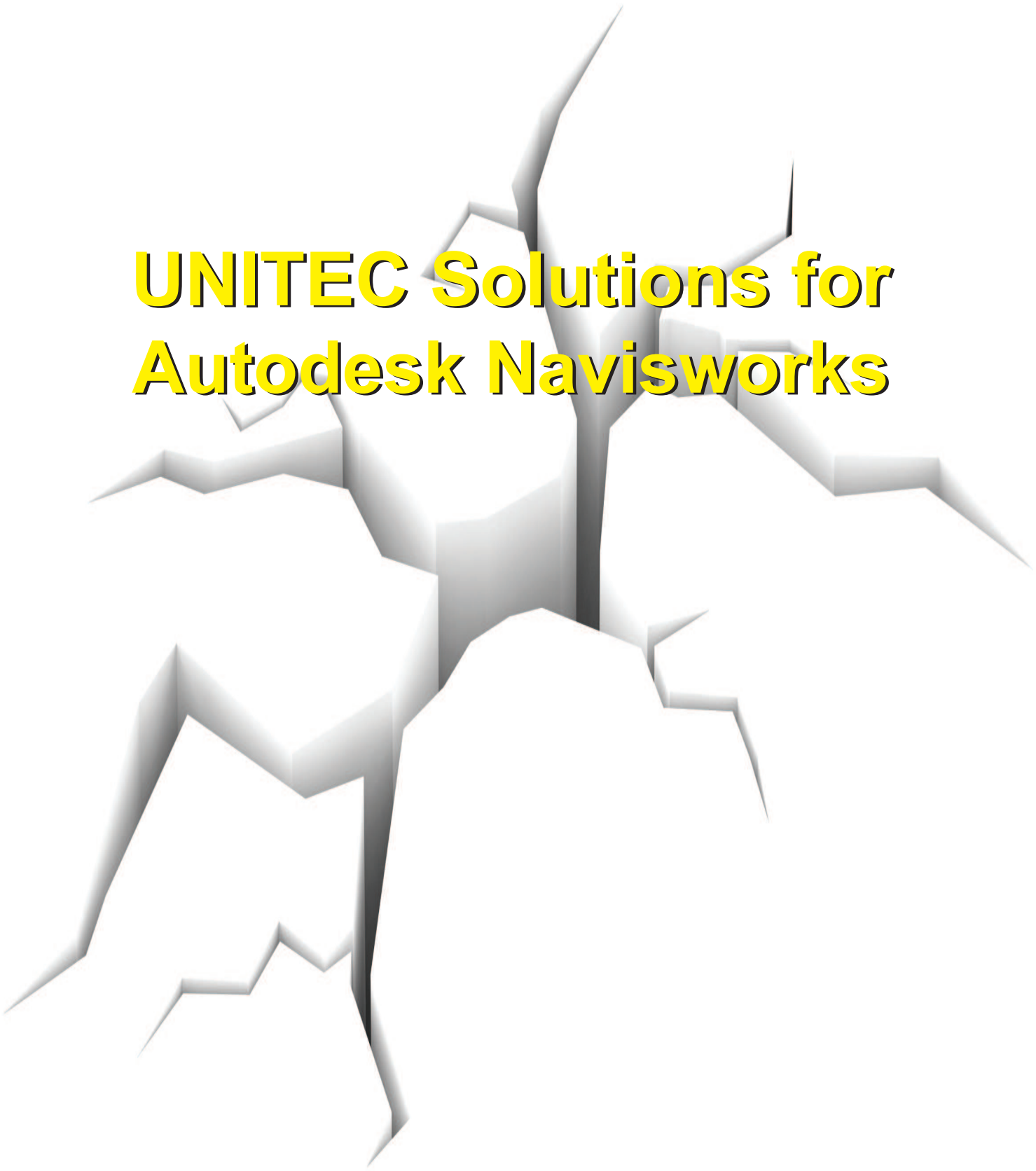
UNITEC Solutions for Autodesk Navisworks



Developer of Ground Breaking Tools,
Connecting Technologies with Solutions !!

UNITEC Solutions for Autodesk Navisworks

With Autodesk Navisworks, in comparison to other similar visualization solutions, you have a solution that gives you true value for your money. Individual functionalities like collision detection, sectioning, search capabilities, comparison of your models and visualizing, can all be used within the free of charge viewer called Freedom. By using the Freedom viewer design experts obtain a valuable tool that helps to handover design planning, interactive visualization and real-time project realization. This without having any limitations in the size or the complexity of the 3D model, the Freedom viewer even allows measuring and red-lining of the design for review purposes. Autodesk Navisworks is capable of reading the most common 3D design formats like AutoCAD, Microstation, Intergraph PDS, and many more.

UNITEC is aware of the power of Autodesk Navisworks and developed a number of interfaces that even enhance the functionalities of Navisworks. The interfaces offer you the opportunity to read and write to practically every popular CAD solution, they also are capable of reading 3D designs and create a much higher quality model including all attributes of the original CAD solution. With the UNITEC interfaces the hierarchy stays intact and you will be able to collaborate with and analyze multiple different CAD formats.

Increase value by sharing information with all engineering partner and workflow automation. “Reduce effort and improve daily tasks”, to achieve that UNITEC developed the following functionalities that are integrated into our interfaces;

• Batch Utility	Automate and optimize your workflow and create Navisworks files in batch
• Clash Optimizer	Optimizing and combining clashed that belong together
• Cloudisworks	Point clouds used intelligently for as build documentation
• Design Case Extension	Exchange change requests between Navisworks and PDMS
• Hyperlink Utility	Create automated Hyperlinks
• Link External File	Automatically Link external documents like P&ID’s, piping isometrics, Data sheets, Operation and maintenance documentation
• Report Utility	Easily create data sheets and reports (part lists)
• Switchback Connection	Bi-directional 2D P&ID / 3D-Model Navigation
• Tag Creator	Adding 3D Tags in the model for selected objects

All functionalities mentioned above are integrated in our interfaces, next to that UNITEC also offers extended CAD-readers and Writers for Navisworks using a modular approach;

Enhanced Readers;

- CATIA V4 & V5
- Intergraph SmartPlant 3D
- PDMS Exporter
- Piping Isometric PCF-Reader
- Siemens JT-Reader
- Solid Edge Reader
- SolidWorks Reader
- Structural Design SDNF-Reader

Enhanced Writers;

- 3D PDF Writer
- JT Export
- PDMS Export
- STEP Export
- STL / VRML Export

“Today the most common readers and writers are available, if you have the need for any other reader or writer then don’t hesitate to contact us to see how we can help you. UNITEC has extensive knowledge about exchanging data and is capable of adding new readers and writers when necessary.”

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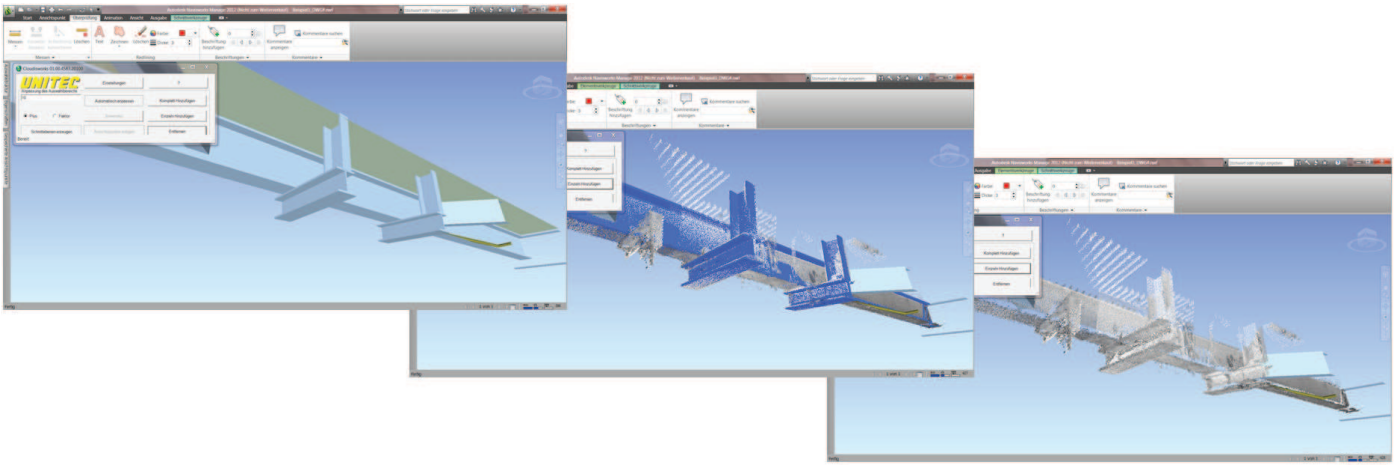
CLOUDISWORKS

You are using Navisworks and lately you have come into contact with laser scanning data that you need to use in your Navisworks model. Laser scanning is used more and more often in the world of Process and Power, especially with existing sites and buildings.

Unitec understands the challenges that you are facing and created a neutral Navisworks interface, called Cloudisworks, for importing the most common laser scan data (ASCII/Las). Cloudisworks is capable of working with large data volumes, as it by default supports multi-core processor technology.

In many projects, to fulfill all legal obligations, it is necessary to document the “As Built” situation. With Cloudisworks you will be able to make a comparison between the As Built and As Designed situation, this to help to determine what needs to be modeled.

Cloudisworks lets you select objects and use these objects to load dedicated parts of the Point Cloud, enabling you to work with large data volumes. Users will be able to see the current situation, without the need to load the entire model. Cloudisworks is the perfect enhancement for users that want to work more efficiently with Point Clouds in Navisworks.



Functionalities Cloudisworks offers are:

- You have the choice to build-up the model using the original colors, a higher intensity value or a mis match color setting to see the differences.
- Adjustable Sampling rate to control the required density.
- Selected points will be converted in cubes or spheres, were you can set the sphere diameter or edge length manually.
- When converted to spheres, the faceting factor can be set.
- Creating sections using coordinates or parallel converting of the entire point cloud in quadrant spaces by entering start point and offset.
- All converting can be done batch wise, this makes the visualization and analyzing of laser scan data and point clouds simple, fast and inexpensive!
- You also will be able to load Point Clouds effectively into Navisworks.

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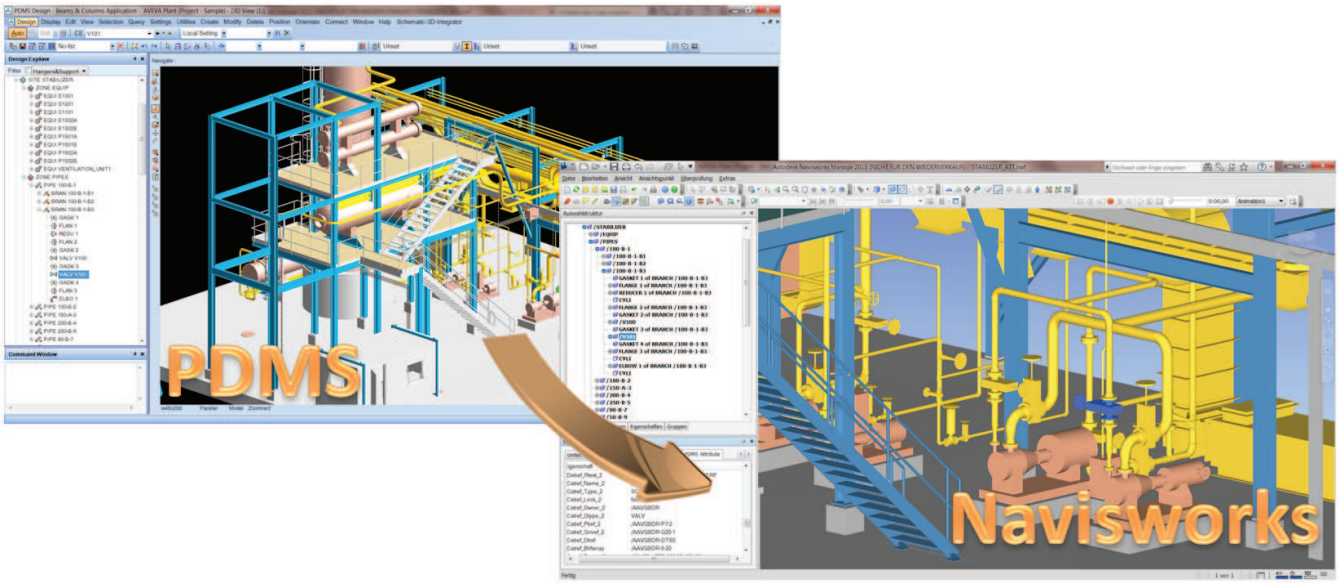
PDMS-EXPORTER

PDMS to Navisworks converter

In your daily work you use Navisworks for reviewing, analyzing, visualizing and planning. Navisworks by default is capable of working with PDMS data, but the import doesn't allow you to specify which attributes to show or divide the model into disciplines and areas. Because of this bulk import it is very difficult and time consuming to show the correct data within the Navisworks model. Also not all information is available, for example information from catalogs and specs will not show up if you import a model into Navisworks.

Unitec recognizes this issue and developed an interface were you can configure what needs to be exported, but more importantly how it is going to be exported. Our PDMS-exporter, which can be used with a graphical interface but also as a batch export, allows complete configuring how the export should take place. Our interface not only exports the 3D model, but also offers you the opportunity to select the properties that you want to export (standard attributes, but also from the catalogs and specs).

When exporting attributes the PDMS Attribute Viewer starts automatically, displaying all the available attributes in a separate property window. Also when exporting with the PDMS-exporter interface, the entire hierarchy of the PDMS model is exported including the colors used to visualize the model.



Functionalities of the PDMS-exporter;

- The 3D geometry of Pre-defined elements are imported including the model structure
- Colors defined for the models are included in the export
- Object hierarchy of the PDMS objects is included in the export
- Attributes defined in PDMS can be exported, including attributes from catalogs and specs
- PDMS models, divided over several locations, can be exported separately and be combined in the Navisworks model
- PDMS models can be exported as Navisworks Cache (nwc) and Navisworks snapshot (nwd) file
- It is possible to store the configuration information for the PDMS export, allowing you to easily perform the same export over and over again
- Exporting can be done in the afterhours, as the PDMS-exporter supports scheduled batch runs

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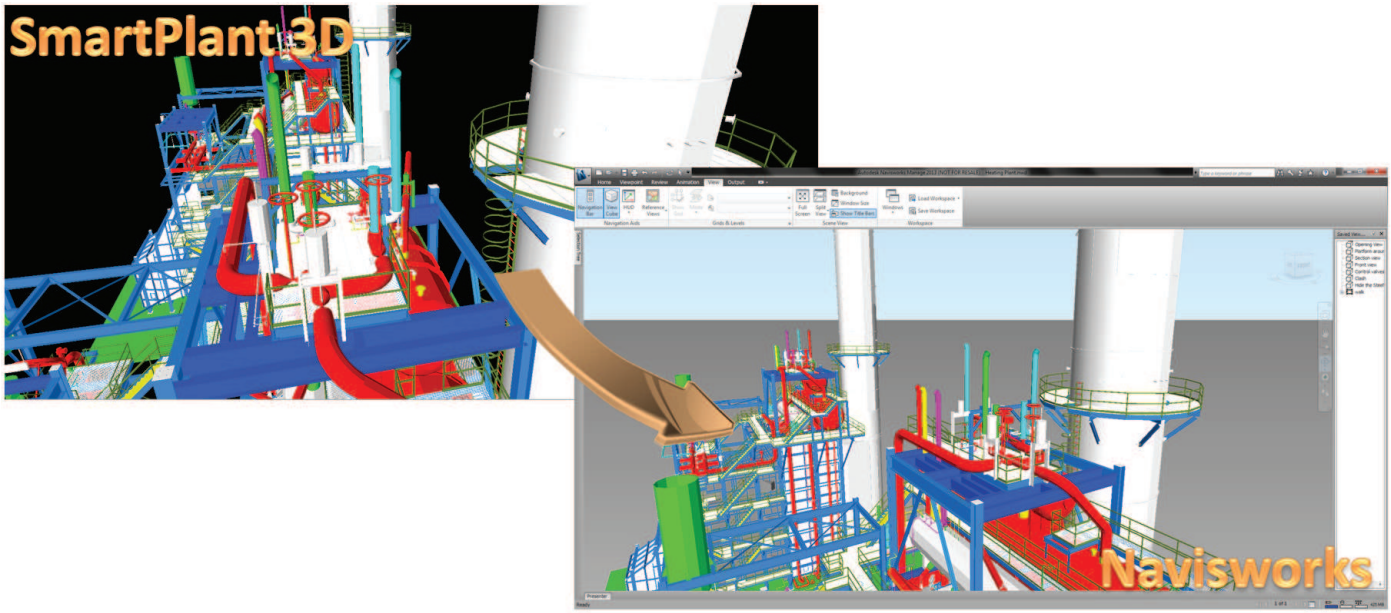
SP3D2NW

SmartPlant® 3D to Autodesk Navisworks

As a user of SmartPlant® 3D you probably are aware of the difficulty in communicating with project members, customers and suppliers that don't have SmartPlant® 3D. One of the better solutions on the market to achieve this is Navisworks®, which is well known as a design review tool and is used in almost every project worldwide. Unitec recognizes the challenge to get SmartPlant® 3D into Navisworks®, this includes all required properties from the SmartPlant® 3D model. With Unitec's SmartPlant® 3D interface for Navisworks®, you will be able to import your SmartPlant® 3D models into Navisworks®.



Functional Overview:

- The 3d geometry can be imported using the ACIS/SAT format or DGN files.
- It is possible to merge several input files into a Navisworks model (.nwc or .nwd) with a common, overarching hierarchy.
- Attribute data can be filtered using an attribute filter file to concentrate on the important properties in the Navisworks model.
- Using a mapping file delivered with the software, property values can be individually mapped (which is of particular importance for enumerations values).
- The SmartPlant 3D interface supports batch runs, that can be scheduled.
- The completeness of the exported SmartPlant 3D geometry is guaranteed, since components that could not be assigned in the model structure are collected in a separate model area.
- Similarly, component without any graphical representation will be accounted for in the model structure and include with all their properties.

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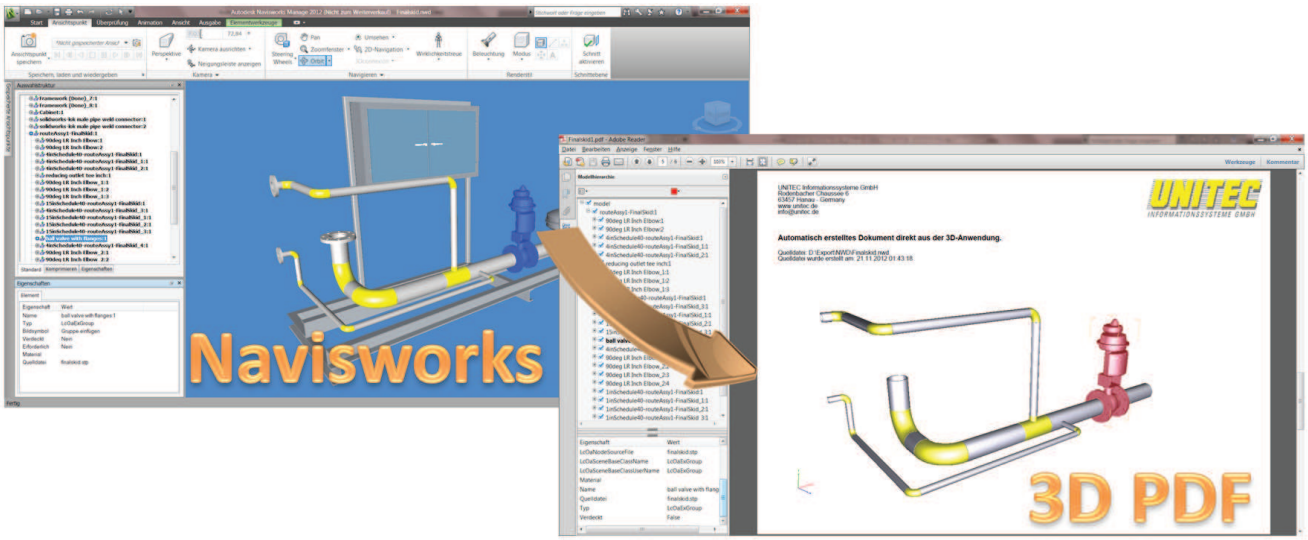
3D PDF WRITER

3D PDF extension for Autodesk Navisworks

During the run-time of a project, numerous documents are created. Many of them can easily be read by using the “regular” PDF format and by using a standard reader. CAD drawings are often treated in the same way and as long as it is a 2D drawing there normally isn’t any problem. Today’s design cycles however use more and more 3D design systems with all the benefits 3D has to offer. Most 3D design software solutions have their own viewer of some kind, but this viewer is mostly not installed on the computer of a Non-CAD user.

UNITEC recognized this challenge and developed an interface that allows you to create a 3D PDF document which can hold a 3D model, but also allows you to zoom, rotate and navigate through the 3D model. To generate the 3D PDF document, UNITEC developed an extension for Autodesk Navisworks which allows you to create a 3D PDF straight from within Navisworks.



With our 3D PDF interface you can make the most out of the opportunities offered by a PDF document;

- Equipment and assembly structures are included; by simple selecting of components you can hide them or look at the properties that were included during the creation of the 3D PDF.
- Visualization styles like shaded, hidden line removal and transparent are included.
- Fully configurable templates for easy PDF creation with your own layout, logos and formats.
- Safety features like password protection and expiration date of the PDF document
- Using the PDF file as a container that can hold multiple document types like 3D STEP, DXF Drawings, Word and Excel documents, etc.
- Combining files makes safe and easy transfer possible

Improve your communication with suppliers, partners and your project team by using the 3D PDF functionality. To read a 3D PDF file, no necessary additional viewers are required, any Adobe Reader V8 and higher is capable of reading the 3D PDF Document. The 3D viewer functionality is part of the 3D PDF document and is for viewing purposes only; however it is possible to add the original CAD data to the 3D PDF as you can use the 3D PDF as a container or compressed file.

UNITEC’s 3D PDF Extension for Navisworks takes your communication possibilities to a new level, without the need for expensive CAD software or complex viewers your entire project team can make good use of your 3D designs.

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UNITEC Solutions for Mechanical Design Systems

Developer of Ground Breaking Tools,
Connecting Technologies with Solutions !!

UNITEC Solutions for Mechanical Design systems

To optimize and extend the communication between your Mechanical Design system and other design software, Unitec developed a set of tools that enable you to use and exchange CAD data intelligently between the most common design software solutions in the market. Our easy to use, easy to implement tools provide you the flexibility needed in today's engineering demands.

By implementing our tools in your environment, we offer you the opportunity to use data from any design software available in the market. If your equipment, for example, is modeled in a Mechanical design solution or in a regular CAD solution, our tools enable you to import and use this data within any design environment. The Unitec solutions allow you to exchange the data from and to these design systems; this can be done for Mechanical designs, P&ID'S, Structural Designs, ISO's and a lot more.

With the Unitec solutions for Mechanical Design systems, you not only can exchange data between design software, it also offers you the opportunity to use any design solution, like for example Solid Edge, solidWorks or Autodesk Inventor to work on projects. The Unitec tools allow you to import the 3D-models, including all the necessary intelligence, into any design system so that you still can have the overview of the entire project you're working on.

UNITEC solutions for Mechanical Design systems, opening up a whole new world with opportunities, or as we like to say it;

"Ground Breaking Tools, Connecting Technologies with Solutions".

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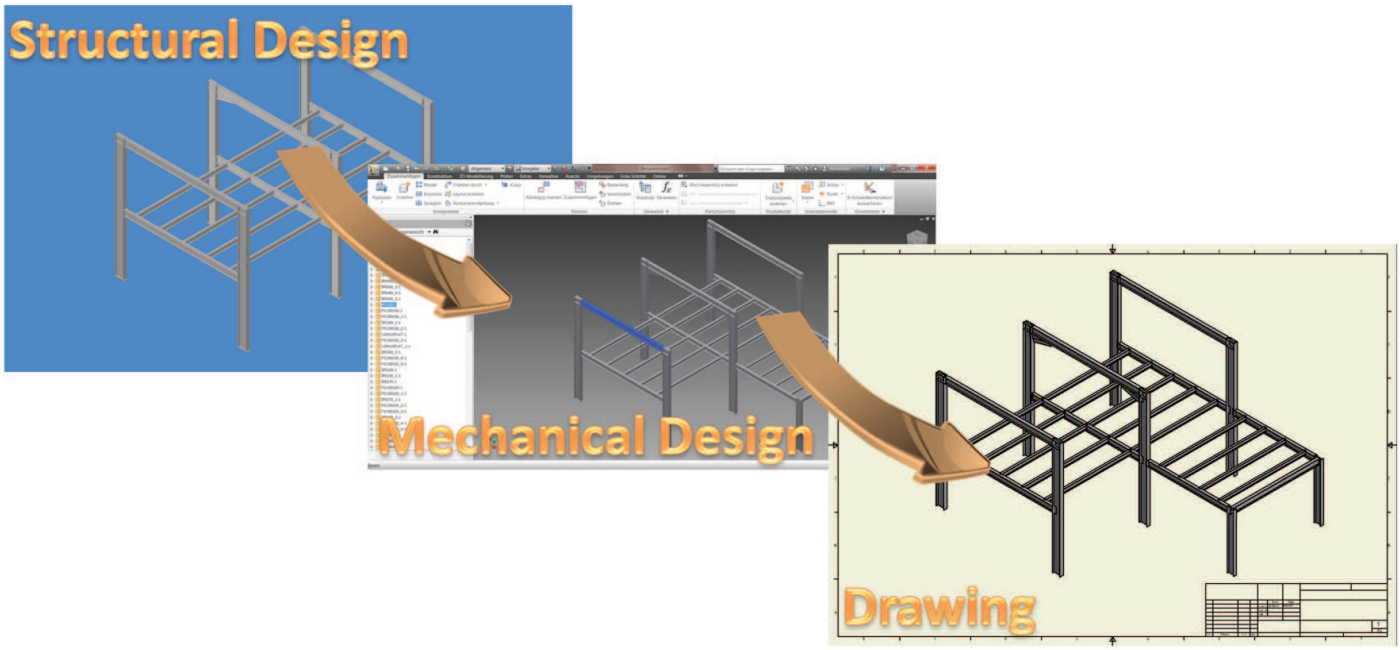
SDNF2STEP

The translator for Structural Designs

Within many companies Mechanical Design and Structural Design are often different disciplines and sometimes even separate departments. To re-use your structural design is, in many cases, difficult to achieve and what happens is that the structural design is re-created instead of re-used.

The SDNF2STEP interface is developed to overcome this issue; it is aimed to create input data files for Mechanical Design Systems. The input data files that the interface creates are based on the neutral SDNF format (Steel Detailing Neutral Format), this way the data can be exchanged effectively between the Structural Design and Mechanical Design software. The interface supports the standard formats SDNF 2.0 and 3.0.

The SDNF files that are converted into your Mechanical Design software still holds the information that was used to build the Structual model. Therefor the SDNF2STEP interface can re-build the Structural model including necessary information like profile type and size, which instantly enables you to reference the Structural model in your Mechanical Design software and hands you a clear overview of the required space. The imported model is of high quality and used 3D solids instead of surfaces, making the model light and easy to use without losing performance.



Benefits of the interface;

- All data used for planning is correct and contains no faults
- Converting of the SDNF files is easy and fast
- Saving valuable time and money
- Allows optimizing the workflow
- No re-modeling necessary

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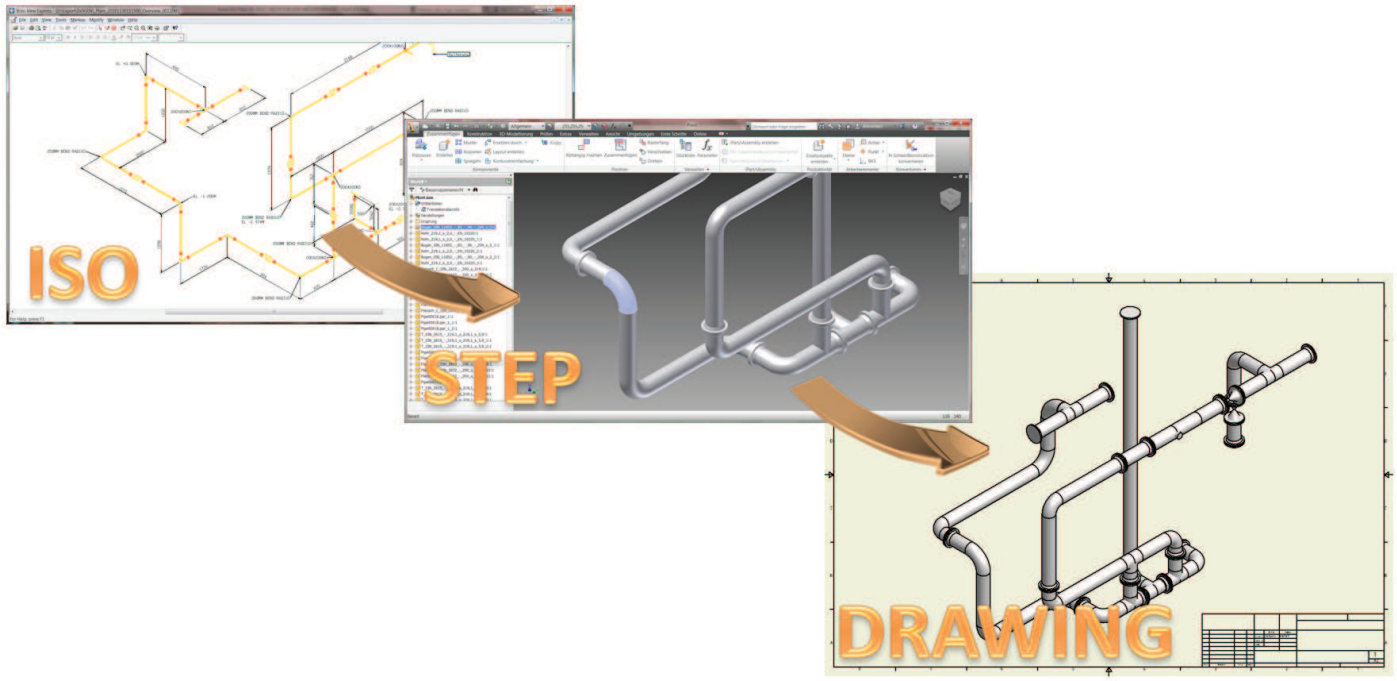
ISO2STEP

Using ISO information to create 3D pipe lines

You are working on an existing installation and need to use the as-built situation as your starting point for design updates. Or you want to re-use isometric data from a 3D Design systems in a Mechanical design solution. In both situations you will have the need to re-use the data that was created in an earlier stage. Often the information that is available is just an IDF/PCF file which typically doesn't help you to re-build your designs.

With the ISO2STEP interface we enable you to use the IDF/PCF file to completely re-build your pipe design, including inline components, flanges, etc. The ISO2STEP interface also maintains the available information from the IDF/PCF file, which allows you to continue working on the model directly after the import.

The ISO2STEP interface saves you valuable time and reduces errors when re-modeling your design. Not only is the re-build model an exact replica of your existing site, it also carries all the necessary information to create lists, bill of materials and it enables you to do your work straight from the start.



Benefits of the ISO2STEP interface;

- No need re-model an existing design, saving time and money
- Re-build model is based on your existing design, eliminating the chance of errors when re-modeling
- Easy and simple to use interface, no special skills required to re-build a model

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STEP2SDNF

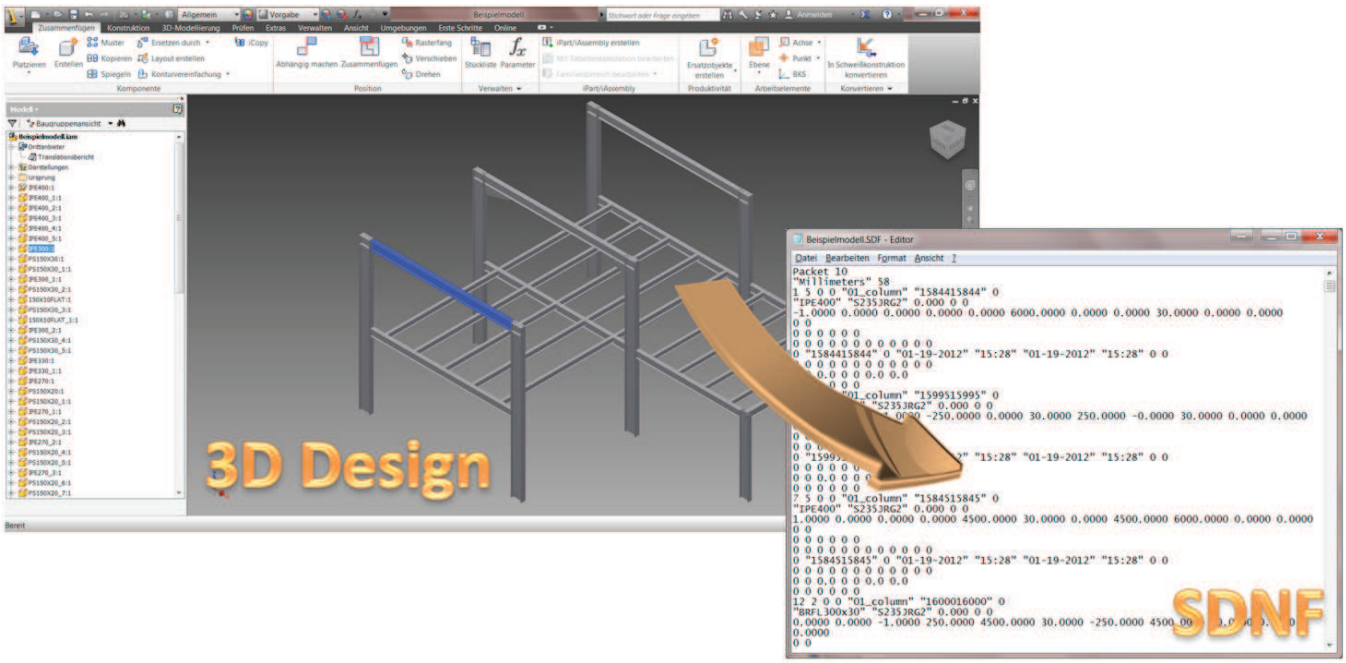
Creating Steel Detailing Neutral Formats from STEP

You are working with a Mechanical Design solution and created a structural design that needs to be analyzed or used within one of the Plant Design software solutions out there. In that case you would like to export the structural design including all its intelligence and information about members, columns etc. With a typical export to STEP only the geometry would come over and all intelligence would be lost.

Another scenario could be that you have a lot of 3D data of structural designs, but don't have a license of the software or the original software has been replaced. In most cases that would mean that if you want to re-use your design that you have to re-model it which means not only loosing valuable time, but also the risk of making errors while re-modeling.

UNITEC recognized the challenge of these issues and developed an interface where you can take the 3D design of the structural model and generate a neutral format out of it, with recognition of the steel profiles and types used. The export from your mechanical design software can be done easily using the STEP format, our interface reads the STEP file, analysis the content and generates a Steel Detailing Neutral Format (SDNF) file which then can be used to re-create an intelligent structural model. The re-creation of the structural design can be done for most of the common plant design and analyzing software, including the required profile dimensions, types, orientation and alignment.

Our UNITEC interface STEP2SDNF allows you to re-use your structural designs without the need for re-modeling, saving you not only valuable time but also money.



Benefits of the UNITEC STEP2SDNF interface;

- Re-using design saving valuable time and money
- No need for re-modeling, preventing errors to happen
- Intelligence is restored through profile and type recognition
- Legacy data can be converted into intelligent data again

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STEP2DXF

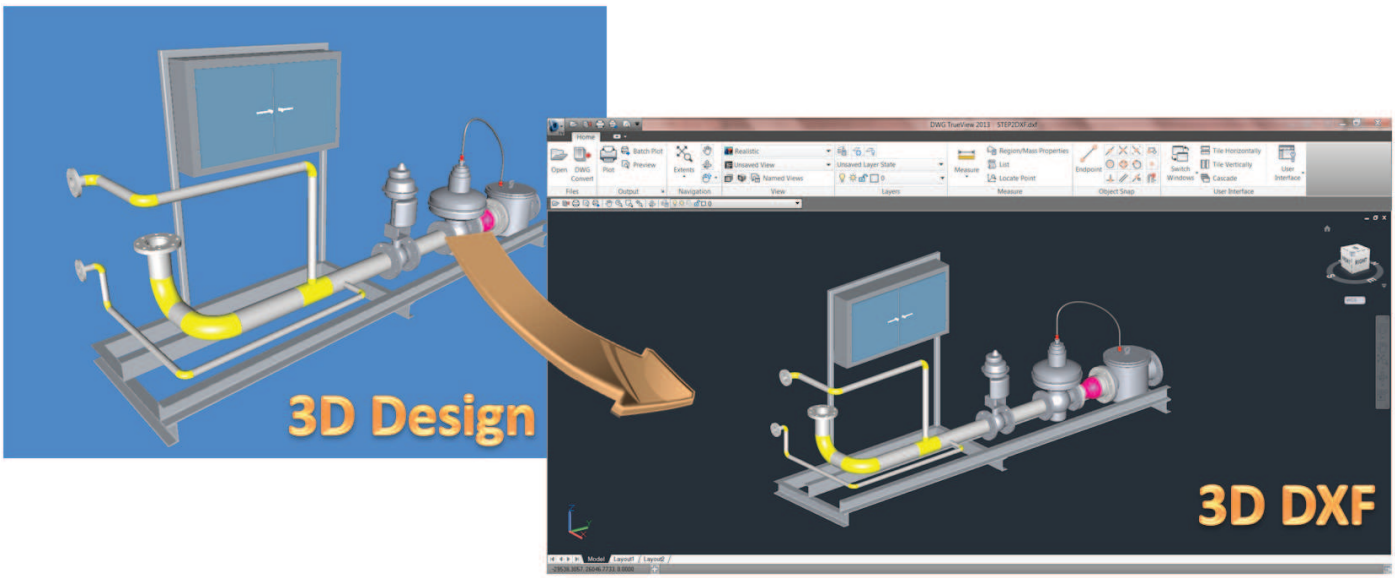
Creating DXF 3D format from STEP

You are working with a Mechanical Design solution and created a 3D design that needs to be analyzed or used within one of the other Design software solutions that only can read the traditional DXF format. In that case you would like to export the 3D design as detailed as possible, so that it can be used as a reference.

Another scenario could be that you have a lot of data of 3D designs, but don't have a license of the software or the original software has been replaced. In most cases, that would mean that if you want to re-use your design that you have to re-model it which means not only loosing valuable time, but also the risk of making errors while re-modeling.

UNITEC recognized the challenge of these issues and developed an interface where you can take the 3D design and generate a neutral DXF format out of it. The export from your mechanical design software can be done easily using the STEP format, our interface reads the STEP file, analysis the content and generates a 3D DXF file which then can be used to re-create an 3D solid model. The re-creation of the 3D design can be done for most of the common 3D design and analyzing software, however the DXF format doesn't allow to add intelligence to the model so dimensions, types, orientation and alignment of primitives will be lost.

Our UNITEC interface STEP2DXF allows you to re-use your structural designs without the need for re-modeling, saving you not only valuable time but also money.



Benefits of the UNITEC STEP2DXF interface;

- Re-using design saving valuable time and money
- No need for re-modeling, preventing errors to happen
- Legacy data can be converted

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