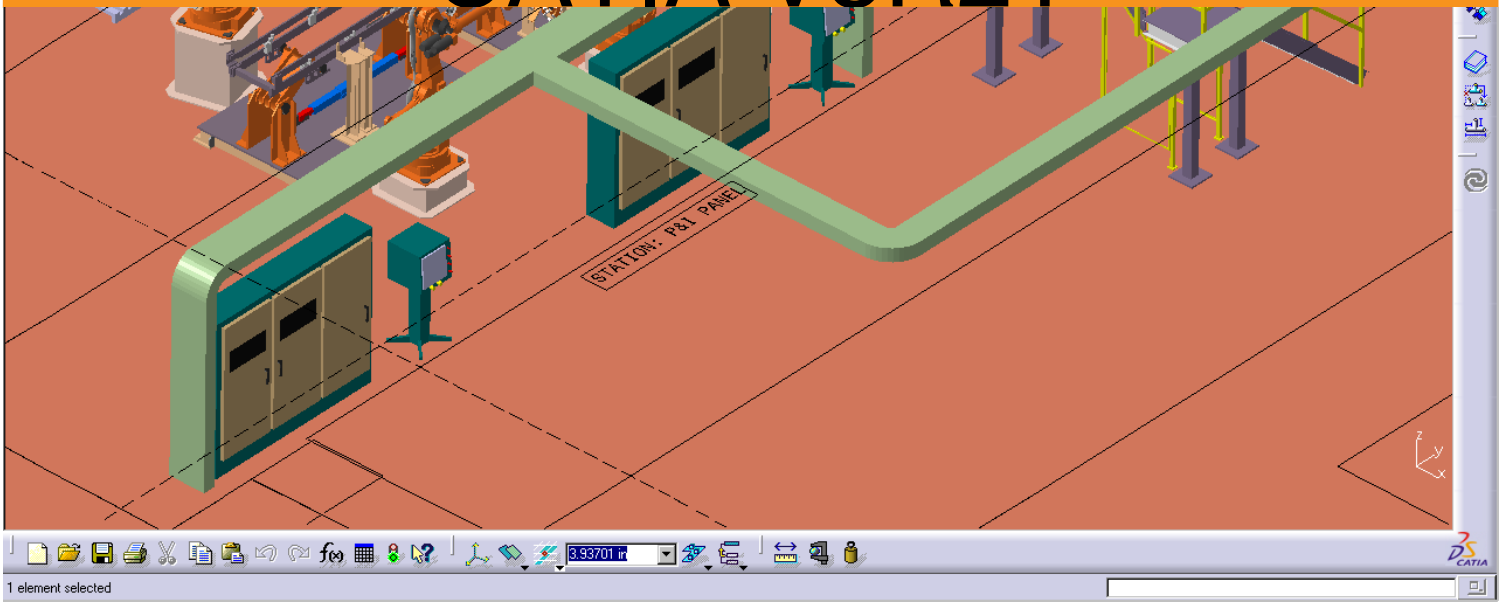
Equipment & Systems Engineering

CATIA - Plant Layout 1 (PLO)

CATIA V5R21



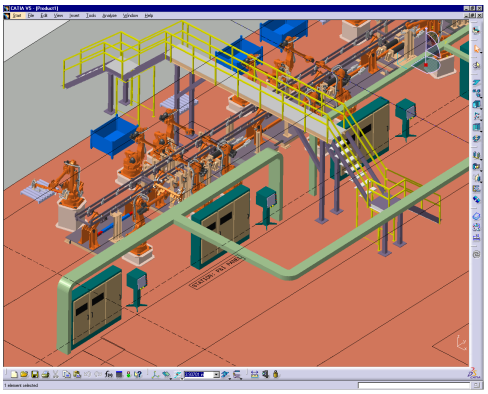
Equipment & Systems Engineering

CATIA - Plant Layout

Enable designers to reserve spaces, analyze area/volume allocations and optimize the general 3D layout of plants and equipment or tooling placed in them.

Product overview

CATIA - Plant Layout 1 (PLO) enables organizations to optimize their manufacturing plant layout. This product is one piece of Dassault's integrated Digital Manufacturing Solutions. It deals specifically with the "spatial organization" and components of the plant, allowing quick easy layout and downstream evolution of the layout design. Through the CATIA V5 integrated product environment, users have a seamless solution to address all their manufacturing environment needs. They have the tools necessary to optimize production facility layout, leading to optimized factory production and output. CATIA - Plant Layout 1 (PLO) provides an accessible solution for departments of small and medium enterprises. Its friendliness, intuitiveness, and ease of use makes it possible for inexperienced users to use the system with a minimal cost of implementation. The complete layout of the facility can be driven almost completely with the mouse and the product has a user interface that helps users make the transition from traditional 2D layout to 3D. With the intelligence behind the V5 Plant Layout model, plant designers and systems layout design teams can identify and solve problems with the layout or production process long before equipment is installed or moved inside the plant. The software enables users to not only complete designs faster, but also to significantly improve the quality of their designs. Today, every manufacturing company is looking for new methods to reduce the time it takes to ramp-up, reduce



the number of problems on the production floor including downtime, and get products to market faster. Dassault s Digital Manufacturing Solutions, which include the CATIA - Plant Layout 1 (PLO) product line, assist companies in achieving these objectives.

CATIA - Plant Layout 1 (PLO), together with Dassault Data Management offerings, gives users the power to manage their plant layouts and associated components from initial design to plant operations, in a way that is easily adapted to how the customer works.

Product Highlights

- Includes an optimized user interface for easy maneuverability and layout design iteration
- Provides an easy tool to define pathway route for preliminary space claim.
- Provides optimized tools for quick and easy layout of complex configurations.
- Enables quick design changes through an extensive set of modification tools with

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intuitive "Snap to 3D Grids" function and direct manipulations.

- Parametric catalogs (design tables) enabling sizing of equipment at the time placement.
- Provides specialized interference detection and equipment change-out capabilities
- Analyses area and footprint to determine resources used in each region of a plant
- Features advanced 2D-to-3D capabilities which allow engineers to reuse legacy data and drawings
- Generates customized area bills of materials

Product Key Customer Benefits

Tools Specifically For Plant Layout Design And Maintenance ... CATIA - Plant Layout 1 (PLO) enables companies to optimize the "spatial organization" of a plant, allowing quick and easy layout and downstream evolution of the design. CATIA - Plant Layout 1 (PLO)provides an accessible solution for small and medium enterprises. Its friendliness, intuitiveness and ease of use makes it possible for new users to benefit from the system with minimal cost of implementation. CATIA - Plant Layout 1 (PLO) helps users identify and solve layout of production process problems long before equipment is installed or moved inside a plant. Companies thus have the power to manage the plant components from initial design to plant operations, and to be flexible in the way they work.

Optimized User Interface ... CATIA - Plant Layout 1 (PLO) has an easy-to-use, interface, optimized to the needs of a plant designer. It offers familiar techniques, such as cut-and-paste and drag-and-drop, which users already know. The organization of space in user-defined grids, simplifies the placement of plant features and equipment.

Advanced Plant Design Capability ... CATIA - Plant Layout 1 (PLO) enables the user to create layouts of plant sites by defining the buildings, the major areas, all the way down to the individual cells and stations. This is done by simply creating walls, fences or boundaries with an extruded mode for enhanced visualization. Sub areas for facilities, workcells, stations, and lines can then be created within the plant. The system allows a hierarchical approach including true partition of space with shared boundaries, areas with multi patches, and so on. The user can use the "snap to 3D grid" to easily position equipment. CATIA - Plant Layout 1 (PLO) enables the user to perform space allocation and reservation for products and resources (equipment, tooling, robots, etc.). This can even be done for resources not yet designed.

Plant-specific Capabilities Accelerate Design... Beyond standard Windows commands, such as copy-and-paste, CATIA - Plant Layout 1 (PLO) provides advanced capabilities such as: Direct manipulations, move, boundary align, mirror, offset from object and snap to drafting element. These enable the user to quickly do the initial design and then to rapidly change the design as the plant layout evolves.

Parametric Catalog Facilitates Equipment Sizing ... CATIA - Plant Layout 1 (PLO) comes complete with a starter catalog of common equipment. The parameterized nature of these parts let the user size each component as it is placed in the design. The parameters in the catalog can be imported, exported and edited as design tables in Microsoft Excel. Users can modify any of the equipment included in the starter catalog and can even define their own catalog (using the CATIA Part Design product, for example). In addition, a product can be placed from the catalog on any plane of an object. When used with the CATIA Systems Routing 2 product, CATIA - Plant Layout 1 (PLO) allows the user to evolve the layout from space reservation to the actual 3D equipment, and from routing pathways to the actual system lines and parts.

Area/footprint Analysis ... Reports made up of Excel-format graphical charts can be easily

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customized to provide space utilization analysis based on equipment footprints.

Interference Detection And Equipment Change-out Capabilities ... When used in collaboration with the CATIA Space Analysis product, CATIA - Plant Layout 1 (PLO) lets users manage equipment within the factory without damage. Using CATIA - Plant Layout 1 (PLO) with the CATIA DMU Fitting Simulator 2 product, the change out of large equipment within the plant can be simulated off-line. This helps users to understand, in advance, the procedures that will be required to clear permanent fixtures in a facility during a complex move.

Advanced 2D-to-3D Capabilities ... Engineers can reuse existing 2D plant and equipment drawings (including legacy data and DXF) to define facility areas/footprints. This functionality enables user to evolve from 2D to 3D design, reusing previous work, and benefiting from 3D space in solving factory layout problems.

Customized Bills of Materials ... Users can generate customized Bills of Materials - even down to the areas level of detail - to facilitate material needs definition.

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ABOUT CATIA V5R21

CATIA is Dassault Systemes' PLM solution for digital product definition and simulation.

www.3ds.com/products/catia

For more information about our products visit www.3ds.com/contact

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