

Equipment and Systems Engineering solutions



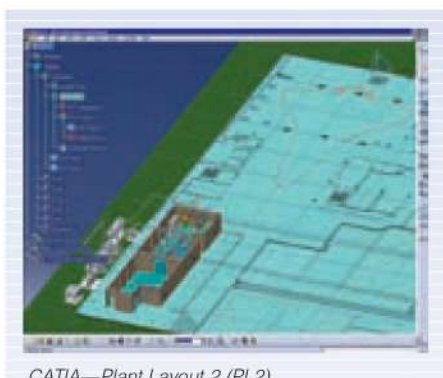
Equipment and Systems Engineering solutions

CATIA V5 Equipment and Systems Engineering solutions provides a set of products allowing simultaneous design and integration of electrical, fluid and mechanical systems within a 3D digital mock-up while optimizing space allocation. It includes products for optimizing plant layouts, creation of circuit boards and design of structural products. These solutions enrich your product design in any industry. For example, fuel/brake systems for aircraft and automotive, HVAC/piping for shipbuilding and chemical and petroleum industries, tooling structure for industrial machinery and circuit boards for electronics. Product highlights include:

- A set of electrical products to address 2D and 3D requirements—CATIA V5 electrical products provide the necessary tools for managing the electrical behavior of components and their integration into a 3D digital mock-up. A bi-directional interface between CATIA V5 and CAD-based electrical systems defines the electrical behavior of mechanical parts and assemblies for electrical devices. They also manage the definition of electrical wires within the digital mock-up. A relationship can be set between 2D logical design and 3D digital mock-up to ensure consistency of both schematic and physical representations.
- An advanced common platform for all CATIA V5 diagramming applications—Based on CATIA Piping and Instrumentation diagrams and CATIA HVAC diagrams as the common platform for all 2D logical schematic tools (including tubing, waveguide, electrical connectivity), these applications are a base for all diagramming systems. Integrated into the rest of the CATIA V5 platform, they allow the user to define relationships between the 2D logical design and 3D allocation.
- Solutions to create, manage and analyze documents, equipment and systems—CATIA V5 provides a complete set of tools to satisfy the lifecycle requirements of manufacturing plant equipment designs and tubing, piping and HVAC designs.
- The ability to manage and optimize space allocation for equipment and systems—Users can create and manage their system pathways to ensure space reservations and allocations. Using these products customers can optimize their electrical system routing layouts for them to automatically follow functionally defined pathways.

- High productivity focus on ship design and systems integration—The consistent and scalable nature of the CATIA V5 solution set delivers unprecedented capability to large-scale projects. It supports shipbuilding with specific applications for key processes in the ship design lifecycle. Many CATIA V5 applications also include features that support requirements specific to the industry. Specification-driven design ensures compliance with project standards and 2D logical design can drive the 3D definitions. Use these specification-driven design features to prevent using 3D equipment if it is not part of the 2D P&ID diagram, for example.
- Tools that can be used from virtual product to virtual plant—Plant layout tools in this solution set combine the disciplines of civil engineering and manufacturing engineering in one seamless approach.

CATIA—Electrical Wire Harness Installation 2 (EI2) Provides all the necessary tools to create and manage electrical wires and harnesses in one seat. Its comprehensive package of 3D advanced products allows the user to design physical harnesses within a 3D mock-up environment. At the same time, it manages the definition of electrical wires within the digital mock-up according to the functional definition of electrical signals. Its Electrical Library provides mechanical parts and assemblies with electrical behaviors for the user to define electrical devices. This, in turn, ensures a tight relationship between 3D physical implementation and its logical electrical representation.



CATIA—Plant Layout 2 (PL2) Provides all the necessary tools in one seat to produce and validate plant layout designs in a 3D digital mock-up environment for plant layout and routing systems. It allows for easy and constant evolution from 2D drawings to 3D layouts (thus protecting previous work) and from preliminary designs to the realization of their actual geometry. It delivers a quick and easy-to-use solution for companies to optimize their factory production and output. As a CATIA P2 configuration, this solution offers integration tools that are compatible with CATIA V4. It also includes data interfaces to most frequently used industry standards, including CADAM drawings.