



# CATIA PLM Express

## CATIA - Tubing Schematic to Design

**Enables System engineer and tubing designer to cover the global process engineering for tubing design project.**

Early in the product conception phase, companies need to take into account manufacturing standards and norms. The lack of built-in catalogs and specifications increases design time and costs.

### Overview

CATIA - Tubing Schematic to Design product enables the designer to design and manage logical lines of tubing systems using standards and specifications according to industry usage. It enables the creation of component catalogs with multi-representation, attributes and design rules. The system engineer creates intelligent schematics tubing diagrams. Fully integrated, the tubing designer builds the 3D design directly from 2D diagrams (2D/3D driven). These intelligent diagrams and 3D design capability enable users to create and validate their designs with respect to company know-how.

This product covers project engineering from basic design up to detailed design.

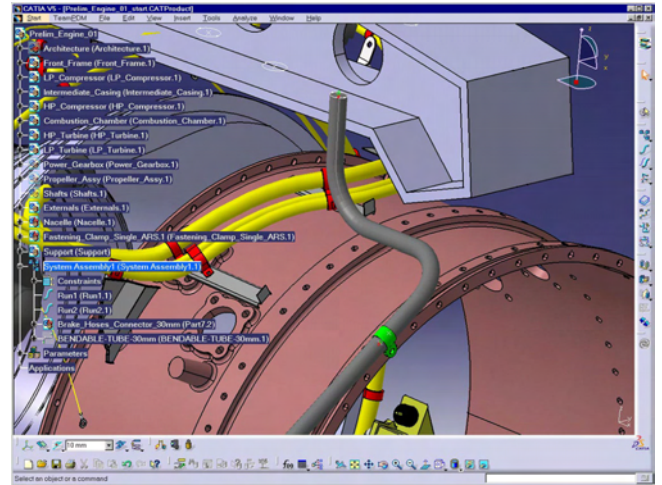
Tubing versus Piping: tubing lines are manufactured using a bending process. The diameter is usually smaller than piping. Tubing lines may include flexible tubes.

### Customer Benefits

- Improve product performance and quality thanks to standard and materials specification taking account design rules, automatic parts placement and multi-representation
- Full associativity between 2D schematics and 3D Tubing design
- Improves design time with an intuitive user interface to annotate, validate the model, query data and generate appropriate report information
- Full integration between mechanical and equipment and system products such as associativity between supports and tubes
- Enables complex 3D design of tubing placement taking into account room constraint
- Capitalize on company know-how to design right the first time
- Catalogs customization with full parametric components alongside technological attributes such as pressure, temperature, etc.

## Key Capabilities

- Creates catalogs of 2D and 3D parametric components according to standards and material specifications
- Defines and manages tubing lines for different engineering systems
- Creates intelligent schematics with respect to standards and specifications such as text annotation templates, off-sheets connector and automatic gaps
- Designs the 3D preliminary tubing layout routes while checking/verifying design rules with respect to the material's bending capabilities
- Adds spec-driven 3D tubing components to detail the design
- Allows associative 3D creation directly driven by the 2D schematic
- Creates flexible tubes with bend, slack or length rules alongside local bundle if needed
- Provides BOM reports, query and analysis
- Provides input report for Numerical Control bending production



Screen capture of CATIA - Tubing Schematic to Design

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