

SmartPlant® P&ID



CREATE AND MANAGE YOUR PLANT CONFIGURATION FROM CONCEPT TO OPERATIONS

A key part of Intergraph® SmartPlant® Enterprise, SmartPlant P&ID is an asset-centric, rule-driven engineering solution that can help to efficiently create and improve plant configurations. SmartPlant P&ID helps you design and configure your plant processes using design rules that enforce engineering and customer standards. It allows you to configure the plant accurately and make the right decision early on in the design cycle, increasing the efficiency of downstream design activities such as control system design and piping. Engineering decisions made in five minutes impact the 40-year life of a plant. SmartPlant P&ID plays a key role in design, construction, commissioning, and operations, enabling plant owners to better plan for maintenance, operational tasks, and expansions or modifications. In addition, the SmartPlant P&ID data can be leveraged to plant operation-critical systems, such as safety with HAZOP analysis (SmartPlant Process Safety), control systems (SmartPlant Instrumentation), and process optimization with FALCONEER, a third-party solution.

ADD VALUE ACROSS THE ENTERPRISE

SmartPlant P&ID offers value for all plant operations teams, such as engineering, technical services, research, environment, and inspection. It helps improve the value of your existing P&IDs by allowing conversion of P&IDs created in AutoCAD, MicroStation, and other formats via SmartPlant Import Assistant and technical support services to SmartPlant P&ID. Focused on data and derived deliverables, SmartPlant P&ID streamlines data entry, identifies and resolves inconsistencies, and helps you present your data in the format that best meets the needs of your specific task. This is made possible by functions such as system editing, engineering data editing, automation, the ability to import data from spreadsheets, and the display set function, which basically queries the data and presents it in a graphical view.

Take a test drive today at <http://testdrive.intergraph.com>.

STREAMLINE ENGINEERING TASKS THROUGHOUT THE WORKFLOW

The design rules built into SmartPlant P&ID streamline engineering tasks throughout the workflow. Automation enables application integration and provides the ability to import data from other tasks, such as equipment data from the mechanical group, process data from process engineers, etc. SmartPlant P&ID provides workshare capabilities to support multi-office project execution, and allows you to compare versions for effective management of change. SmartPlant P&ID's built-in design rules and system editing capabilities also allow fast and consistent data entry throughout a complete piping system. The rules enable design validation across the project, and allow automatic updating of the design when the design basis changes, saving a significant amount of design checking time and increasing the design quality. Rules help design data consistency and accuracy, for example, checking against pipe specifications.

BENEFITS FOR EPC COMPANIES

EPC contractors can use SmartPlant P&ID to efficiently deliver a high-quality design with a competitive edge by streamlining project execution. SmartPlant P&ID helps to:

- Facilitate global worksharing for multi-office project execution and concurrent engineering, reducing hours and cost and increasing design quality.
- Create, update, and effectively manage P&IDs from project onset to the final handover of data to the plant owner.
- Drive substantial savings during front-end engineering design, ensure accurate data and deliverables, and optimize design and review scenarios. Link with SmartPlant Layout for concept design.
- Create consistent design driven by the built-in rules, streamlining the entire data checking process. Perform system editing.

- Plan construction activities and extract plant views from the data-base during construction to create work packages for assignment to subcontractors.
- Streamline commissioning test package assembly and provide accurate data for reporting.
- Shorten the commissioning cycle, speed time to plant startup, and provide as-built P&IDs for operations.
- Ensure data consistency across the design – SmartPlant P&ID streamlines the entire data checking process, resulting in substantial time savings.
- Automate deliverables and automate design actions.
- Take advantage of typical.
- Use pipe specification access and rules.
- Take advantage of HAZOP, logic diagrams, and action management
- Facilitate better planning for maintenance and plant shutdowns, manage RBI processes by identifying critical systems and assets, and benefit from connectivity of the systems on the P&ID
- Conduct maintenance planning and identify critical dependence of systems through the connectivity model
- Meet regulatory agency demands and prove compliance with governmental regulations, such as OSHA, EPA, and FDA
- Support the as-built project by executing projects in running plants, keeping new and existing situations separate, and consolidating them after project execution
- Find first block valves to safely exchange assets using the connectivity and relationships in SmartPlant P&ID through automatic tagouts
- Use display sets to create deliverables to execute specific tasks such as maintenance, inspection, etc.
- Make data available via SmartPlant Explorer in an easy-to-use, safe environment
- Enable process and controls optimization via the interface with FALCONEER
- Conduct “what if” production scenarios to assess project capabilities

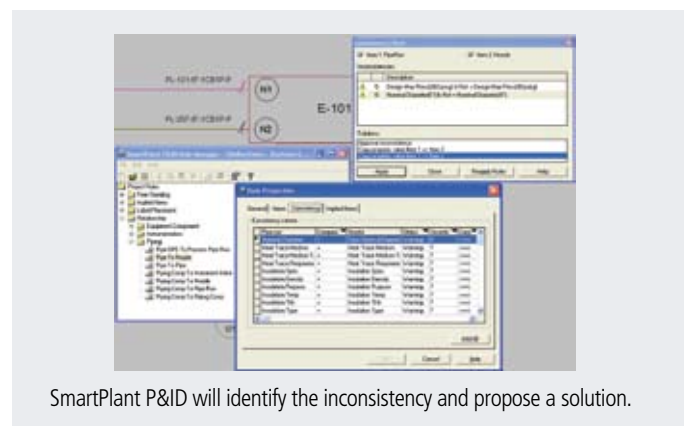
CREATE A HIGH-QUALITY PLANT CONFIGURATION

SmartPlant P&ID offers unique capabilities to create the plant configuration with all equipment, pipelines, and instruments, and develop a connectivity and relationship between these assets that will better verify and use the design throughout the complete plant life cycle. SmartPlant P&ID helps you create, access, and manage your data. The software focuses on the plant data instead of on drafting, with all P&ID information stored in the data model.

BENEFITS FOR PLANT OWNERS

SmartPlant P&ID helps O/Os better plan for maintenance, expansions, and modifications; manage risk-based inspection (RBI) processes; enhance plant safety; and more. You can:

- Use P&ID data in complementary operational and engineering-critical activities such as safety analysis, hydraulic analysis optimization, and process optimizations
- Automate HAZOP identifications with SmartPlant Process Safety, reducing the effort and improving the quality of the safety analysis using corporate knowledge base



SmartPlant P&ID will identify the inconsistency and propose a solution.

ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph

PP&M provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

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