



SMARTPLANT® PES

Plant Engineering Solutions Schematic Products Bundle

The ability to act quickly and make the right decisions can be crucial to the production and safety of your facility. Intergraph® now offers the SmartPlant® Plant Engineering Solutions (PES) Schematic Products Bundle to enable flexibility and speed in design and engineering. The SmartPlant PES solution bundle includes:

- SmartPlant Electrical Basic
- SmartPlant Electrical Detailed
- SmartPlant Instrumentation
- SmartPlant P&ID

A single license of SmartPlant PES offers access to all of these powerful schematic products, enabling you to quickly access, create, and modify related data for project and maintenance work.

EXAMPLE SCENARIOS

SmartPlant PES is your complete engineering and design solution for tasks involving the P&ID, control system, and electrical distribution system. You can leverage the flexibility and power of SmartPlant PES in both engineering and owner work processes.

EPCs

A smaller EPC office may be composed of several engineers. With SmartPlant PES, it requires fewer licenses since the concurrent licensing model enables flexibility.

For example, a small EPC office executes a project. The project team includes a process engineer and two E&I engineers. The team has access to two SmartPlant PES licenses for this project. The process engineer uses one license to work in the P&ID design. Later that day, he quickly switches to the instrumentation task to complete the process data for the instruments. At the same time, one of the E&I engineers uses the other license to begin creating the instrument index, and later, the electrical key one-line diagram.

After a few days, the process engineer completes the initial design. That license can then be picked up by the first E&I engineer to start detailing the electrical distribution and detailed schematics and wiring with SmartPlant Electrical Detailed while the second E&I engineer focuses on instrumentation with SmartPlant Electrical Basic. Each user can switch between the tasks. A user can switch to the P&ID to look at data or add instrument tags to the P&ID.

O/Os

In many cases, a plant has a small engineering staff due to cost concerns and low average workloads. One person may be responsible for a combination of functions, such as instrumentation and electrical. SmartPlant PES is a perfect fit, since both disciplines can be covered with one SmartPlant PES license.

In this example, operations requests the addition of a motor-operated control valve. Using SmartPlant PES, the user accesses the latest P&ID and adds the valve in the line as requested by operations. The rules in the solution ensure the design is in compliance with plant standards and practices. Next, the user switches to SmartPlant Instrumentation to add the instruments and loops to the system to make the connection to the DCS. Finally, in SmartPlant Electrical Basic and Detailed, he adds the power supply.

This is all accomplished using a single SmartPlant PES license, taking advantage of the interface between the tasks to create the combined electrical schematic with the DCS interlocks.

COMPONENTS

One SmartPlant PES license enables concurrent access to one of the products in the bundle at a time, giving you the ability to cover multiple tasks in your workflows. SmartPlant PES consists of the following components:



SmartPlant Electrical

SmartPlant Electrical is a task-specific, rule-driven, and data-centric solution that helps you gain a competitive edge in the industry. SmartPlant Electrical is made up of two modules that offer complete life-cycle coverage for both engineering companies, as well as plant owners. You can use the two modules separately or together as an integrated total electrical solution based on your project scope:

- **SmartPlant Electrical Basic** – Power distribution network engineering and design, including a bi-directional interface with ETAP for comprehensive electrical analysis and simulation.
- **SmartPlant Electrical Detailed (powered by SIGGRAPH.CAE®)** – Detailed scope with three-line schematics, wiring, panel designs, and PLC configuration, helping you fast-track your electrical engineering with knowledge-based engineering and documentation from concept to detailed design for electrical engineering.

SmartPlant Instrumentation

SmartPlant Instrumentation – the industry-leading instrumentation solution – helps EPCs execute projects with high efficiency and design quality. O/Os can lower their operational risks by better managing and storing the history of their instrumentation and control systems, as well as prevent unscheduled shutdowns by improved planning maintenance. SmartPlant Instrumentation also helps EPCs and O/Os plan plant expansions or control system modernizations.

SmartPlant Instrumentation provides a single source of instrumentation information that you can easily access and update. It ensures consistency across the different instrument tasks and deliverables, which are automatically created as a “view” of the design data. The software pays for itself by providing information quickly and accurately. Since there is a single data source, it eliminates the need to search for information in multiple locations. Its External Function allows for on-the-fly data validation and data entry-based custom rules which can access external data sources.

SmartPlant P&ID

SmartPlant P&ID is an asset-centric, rule-driven engineering solution that can help you efficiently create and improve plant configurations. This software helps you design and configure your plant processes using design rules that enforce engineering and customer standards. You can 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.

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.

VALUE PROPOSITION

SmartPlant PES component products are production-ready, proven by thousands of users over many years and on a wide variety of projects in terms of scope, size, and complexity:

- **SmartPlant Electrical Basic** represents Intergraph Process, Power & Marine division's fastest growing product.
- **SmartPlant Electrical Detailed** is an industry-driven product, developed with the support of major companies such as Siemens.
- **SmartPlant Instrumentation** is used by more than 20,000 professionals from around the world.
- **SmartPlant P&ID** is the market-leading, rule-driven P&ID solution and has created more than 200,000 P&IDs for plants across the globe.

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 to make processes and infrastructure better, safer, and smarter. The company'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, operation, and data management of plants, ships, and offshore

facilities. Intergraph SG&I provides geospatially powered solutions to the public safety and security, defense and intelligence, government, transportation, photogrammetry, and utilities and communications industries. Intergraph Government Solutions (IGS) is an independent subsidiary for SG&I's U.S. federal and classified business.

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