



INTERGRAPH SMART® 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. Hexagon PPM now offers the Intergraph Smart® Plant Engineering Solutions (PES) Schematic Products Bundle to enable flexibility and speed in design and engineering. The Smart PES solution bundle includes:

- Intergraph Smart Electrical
- Intergraph Smart Instrumentation
- Intergraph Smart P&ID

A single license of Smart 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

Smart 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 Smart PES in both engineering and owner work processes.

EPCs

A smaller EPC office may be composed of several engineers. Smart PES 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 Smart 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 Smart Electrical, while the second E&I engineer focuses on instrumentation with Smart Instrumentation. 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.

Owner Operators

In many cases, a plant has a small engineering staff to manage the cost plus they execute a low number of change projects. One person may be responsible for a combination of functions, such as instrumentation and electrical. Smart PES is a perfect fit, since both disciplines can be covered with one Smart PES license.



In this example, operations requests the addition of a motor-operated control valve. Using Smart 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 Smart Instrumentation to add the instruments and loops to the system to make the connection to the DCS. Finally, in Smart Electrical, he adds the power supply.

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

COMPONENTS

One Smart 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. Smart PES includes:

Intergraph Smart Electrical

Smart Electrical is a task-specific, rule-driven, and data-centric solution that helps you gain a competitive edge in the industry. Smart Electrical offers complete lifecycle coverage for both engineering companies and plant owners. You can manage your complete distribution system and associated deliverables such as one lines and schematics.

- **Smart Electrical** – Power distribution network engineering and design, including a bi-directional interface with ETAP for comprehensive electrical analysis and simulation.

Intergraph Smart Instrumentation

Smart 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. Smart Instrumentation also helps EPCs and O/Os plan plant expansions or control system modernizations.

Smart 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 build-in rules allows for on-the-fly data validation and data entry-based custom rules that can access external data sources.

Intergraph Smart P&ID

Smart P&ID is an asset-centric, rule-driven engineering solution that can help you efficiently create and improve plant configurations. This solution 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, Smart 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

Smart 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:

- **Smart Electrical** – is used to design and optimize safe and reliable power distributor systems
- **Smart Instrumentation** – is used by more than 30,000 professionals from around the world
- **Smart P&ID** – is the market-leading, rule-driven P&ID solution and has created more than 500,000 P&IDs for plants across the globe

ABOUT HEXAGON

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE). Our industry-specific solutions create smart digital realities that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.5bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.