



SMARTPLANT® INSTRUMENTATION

A SINGLE SOURCE FOR PLANT INSTRUMENTATION

Intergraph® SmartPlant® Instrumentation – the industry-leading instrumentation solution – helps EPCs execute projects with high efficiency and design quality. Owner operators 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 can be easily accessed and updated. 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.

WHY CHOOSE SMARTPLANT INSTRUMENTATION?

SmartPlant Instrumentation helps you shorten time to market, improve compliance with safety and environmental regulations, and reduce instrumentation expenses. It provides an efficient way to engineer and manage your instrumentation and control system – adding value to your company’s work processes and bottom line. SmartPlant Instrumentation supports distributed projects in hosting or thin-client environments, which has been proven to yield large benefits on large-scale projects, such as LNG plants.

BENEFITS FOR OWNER OPERATORS

- Streamline data handover from design to operations and maintenance (support hosting).
- Enforce engineering standards with design rules and validation.
- Simplify assembly of instrument construction and commissioning

packages during commissioning and enjoy accurate, up-to-date test status for planning and reporting.

- Promote rapid input of as-built data, providing a platform for safe, compliant startup and operations.
- Enable all users – plant operations, maintenance, and management – to access consistent, current information from a single source (supported by SmartPlant Explorer).
- Exchange data with vendors, saving time and increasing data quality; a free specification editor module is available online.
- Improve plant uptime, safety, and compliance through effective change management.
- Integrate with business systems to provide access to instrumentation data across the entire life cycle through the SAP R/3 interface.
- Better schedule plant shutdowns with accurate, current data and a long-range view of instrument behavior.
- Maintain instrument performance through capture and analysis of calibration, as-found, and as-left, through the Fluke interface.
- Keep plant information up to date with as-built functionality and allow multi-project execution on an existing facility.
- Add multiple process cases for production scenarios.
- Support new control system technology, such as fieldbus.
- Integrate with SmartPlant Electrical, SmartPlant P&ID, and SmartPlant 3D.
- Perform cable management to 3D.
- Benefit from the Dimensional Data for Piping (DDP) module.

BENEFITS FOR EPCs

- Enforce engineering standards with design rules and validation, such as for fieldbus, and other bus systems.
- Facilitate faster, concurrent engineering – reducing hours and cost – because all instrumentation data is consolidated, managed, and revised in one database.
- Support distributed inter-office and inter-company engineering using thin-client technology and hosting.

- Provide design automation with wiring, connectivity validation, cross wiring, etc.
- Interface with up- and downstream engineering, procurement, and construction tasks through SmartPlant Enterprise.
- Employ template design to increase productivity and data consistency, and take advantage of established best practices.
- Create deliverables quickly, accurately, and automatically – directly from the database, including instrument loop diagrams, resulting in consistent deliverables.
- Exchange data with vendors such as Emerson, Honeywell, ABB, and E+H, saving time and increasing data quality.
- Streamline procurement, helping to avoid surplus material or material shortages, protect schedule, and eliminate costs.
- Apply revision tracking to manage engineering changes – revision numbers are clearly indicated on the drawings.
- Enjoy the support of engineering standards, such as KKS, for power industry intelligent datasheets to ensure accurate and correct designs.

Gain Value Across the Workflow

SmartPlant Instrumentation addresses instrument-related work processes throughout the plant life cycle – from process cases through the design construction and operational tasks like calibration.

Engineering

Use SmartPlant Instrumentation to create and manage instrumentation data in a single database with a complete control system scope in one place, facilitating faster, concurrent engineering and reducing work hours and cost. The software ensures accurate data and consistent deliverables, effectively manages change, and optimizes design and review scenarios. To ensure data integrity, SmartPlant Instrumentation offers the powerful capability to use and create engineering rules.

Design

SmartPlant Instrumentation flexibly adapts to your design process. You can enter and refine conceptual data and create documents at

any time during the project cycle to review or use the data. It interfaces with DCS component vendors, such as Emerson Process Management, Yokogawa, ABB, and Honeywell, to reduce design time and increase data quality. Interfaces with the up- (P&ID) and downstream tasks (SmartPlant Electrical, SmartPlant 3D) help to drive productivity and design quality.

Procurement

When used with SmartPlant Materials, Intergraph's material procurement and management system, SmartPlant Instrumentation eliminates handover of instrument design data to procurement, shortening the procurement and delivery cycle and supporting downstream change control. You can minimize materials surplus/shortages, reducing project cost and schedule. SmartPlant Instrumentation also provides a solid basis for other procurement methods in easily extractable specialty instrument and bulk material information.

Construction

SmartPlant Instrumentation lets you extract views of the control system from the database to create work packages, assign them to subcontractors, and then track progress/completion. The solution is integrated with SmartPlant Construction.

Commissioning

SmartPlant Instrumentation allows you to create test packages during commissioning. It streamlines instrument test package assembly and provides accurate, current data for planning and reporting. SmartPlant Explorer and SmartPlant Markup add value by providing data access and red-lining capability across the Web.

Operations & Maintenance

Along with the P&ID, instrumentation data is the most critical to access during plant operations. SmartPlant Instrumentation provides a single source of current, accurate, and consistent data that all plant personnel can quickly access to perform their duties and improve plant uptime, safety, and compliance. The product is part of the SmartPlant Engineering and Schematics solution and SmartPlant Enterprise for Owner Operators to help lower the risk of operating a plant.

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, including ERDAS technologies, to the public safety and security, defense and intelligence, government, transportation, photogrammetry, and utilities and communications industries. Intergraph Government Solutions (IGS) is a wholly owned subsidiary of Intergraph Corporation responsible for the SG&I U.S. federal business.

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