SMARTPLANT® ENTERPRISE FOR OWNER OPERATORS
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Owner operators face many demands to minimize CAPEX and OPEX expenditures; deliver projects as quickly as possible; ensure safe, sustainable production; demonstrate compliance to meet regulatory authority requirements; and many more. To help meet these demands, Intergraph® offers SmartPlant® Enterprise for Owner Operators (SPO).

FROM CONSTRUCTION TO OPERATIONS

SPO Systems Completion takes a project from construction closeout to operations. Systems Completion is arguably the most critical and complex phase of the facility life cycle. Success during this phase is dependent on access to complete, correct, and consistent data. SPO Systems Completion helps maintain the integrity of the virtual plant asset throughout the project to support mechanical completions, commissioning, preservation, and pre-startup safety checks. Allocation of check sheets is automated based on user-defined rules, saving months of manual labor. Check sheets can be completed offline in the field and uploaded into SPO. Graphical 4D reporting on 3D plant models and intelligent P&IDs provides timely and effective oversight of the status of completion processes.

MANAGING OPERATIONS CHANGE & INSPECTIONS

SPO Operating Plant supports Management of Change in the operating facility. This solution manages proposed changes through the initiation, review, approval, and implementation cycle. Change impact analysis is supported by tight integration with the underlying engineering design basis to identify potential conflicts and synergies between changes. SPO offers interoperability with other enterprise operations systems – such as enterprise asset management (EAM), reliability and asset integrity, process safety, and digital control systems – ensuring that information in those systems is maintained in an accurate and current state. SPO leverages the virtual plant asset throughout the project to support process safety management and asset integrity.

SPO leverages the engineering design basis to provide an extensive portfolio of integrated, pre-configured solutions addressing key owner operator work processes across the plant life cycle. These processes leverage the underlying virtual plant asset in Intergraph’s industry-leading SmartPlant Foundation repository and are supported by integrated SmartPlant engineering design tools. SPO offers a comprehensive platform to support critical initiatives such as process safety management and asset integrity.

Date-stamping of all information changes and electronic workflows provide auditable traceability to demonstrate compliance for regulatory authorities.

PROJECT DELIVERY

SPO Project Execution manages key processes for successful project delivery. These include management of: interfaces between project stakeholders, project change, non-conformities, and technical queries (also known as Requests for Information). Tight integration between these processes and the underlying engineering design basis enables effective impact analysis within and across these processes. SPO Project Execution is suitable for use with both CAPEX projects and turnaround projects. The processes offer complete auditable traceability and management overview of these critical processes during project delivery to prevent CAPEX cost overruns and delays in project schedules.

REQUIREMENTS TRACEABILITY

SPO Requirements Management and Traceability is designed to support owners and contractors in highly regulated industries that need to maintain and demonstrate compliance to changing stakeholder requirements through the plant design, configuration, and operational phases. It provides a dynamic line-of-sight between each requirement and its associated fulfillment in the plant design or documentation.

A document decomposer tool offers a fast and easy way to identify discrete requirements in documents and design specifications. A configurable workflow gives flexibility to determine which users are authorized to identify, approve, link, and aggregate requirements. Approved requirements can then be associated to objects in the plant design basis or documents. A management of change and impact analysis process ensures that requirements and their associated fulfillment items are re-evaluated when there are future changes to either the requirement or the design basis.

SUPPORTING MOBILE WORKERS

Owner operators undertake many activities on the plant floor, at remote sites, vendor premises, etc. where online access to information is not available. SPO Mobile Applications takes information and documentation wherever it is needed. With SPO Mobile Applications, information and documentation are immediately available on tablet PCs or laptops from the plant floor or any remote location. A subset of data and documentation is taken offline into a briefcase where it can be easily accessed through a highly intuitive interface. Photo-realistic laser scans, 3D models, and intelligent schematics can help the user navigate quickly and easily to find the information needed. This eliminates the need to take cumbersome hardcopy documents into the field. Information such as photographs, notes, and inspection check sheets can be captured and uploaded back to SPO with a single click once network connectivity is available, avoiding the burdensome task of manually transcribing hardcopy markings when back in the office.

MANAGING THE VIRTUAL PLANT ASSET

SPO Core provides the platform and common processes for managing data and documentation throughout the plant life cycle. These include management of the plant breakdown structure; work breakdown structure; central tag allocation and registers; documents and transmittals; tight integration with Microsoft Office; electronic dossiers such as system operating manuals and vendor data books; and risk-reducing measures. Engineering business rules ensure accurate and unique allocation of tag and document numbers for projects and modifications.
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.

Intergraph is part of Hexagon (Nordic exchange: HEXA B; www.hexagon.com), a leading global provider of design, measurement, and visualization technologies that enable customers to design, measure and position objects, and process and present data.

For more information, visit www.intergraph.com.

KEY BENEFITS

- Rapid, low-risk implementation of preconfigured solutions supports key O/O work processes.
- Integrity of engineering information is maintained throughout the life cycle.
- Auditable traceability meets regulatory authority demands for demonstrable compliance.
- Data handover and validation from projects are managed in a secure and controlled manner.
- Collaboration is supported both within the O/O and with contractors and suppliers.
- Work processes are enforced.
- Data can be accessed quickly and simply through filtered queries, 2D/3D graphical user interface and photo-realistic TruView laser scans.
- Universal Web portal is role-based and user-friendly.
- Solution integrates with existing third-party and legacy systems.
- Management visibility reports are provided.
- Flexible and configurable solution rapidly incorporates customer-specific requirements.
- Mobile offline access and information capture support plant floor and remote workers.

PROJECT DATA HANOVER & BROWNFIELD DATA TAKE-ON

The handover of data from CAPEX projects and plant turnarounds is a formidable and costly undertaking. It can involve the transfer of thousands of documents and millions of individual data items. SPO provides three complementary solutions that address different aspects of the handover and take-on of data and documentation. One or more of these solutions can be included in a comprehensive information management strategy to reduce the cost and effort of data take-on.

**SmartPlant Fusion** enables the automated processing of unstructured documentation and extraction of available intelligence. This uses techniques such as optical character recognition and processing of 2D CAD files to extract lists of tag and document references to create references to a plant structure and to generate hotspots for navigation. Once documentation is processed by SmartPlant Fusion, it can be accessed and browsed in SmartPlant Fusion or made available in SPO alongside other information in SPO Core.

**SPO Validation, Transformation, and Loading (VTL)** manages verification and import of structured data (e.g., Microsoft Excel®, CSV) submitted from contractor or from legacy systems.

Data is imported into a staging area where it is held in quarantine prior to validation. Validation is performed against user-definable business rules. VTL enables improved management of the take-on of data from projects and brownfield facilities, reduces the time and effort needed for verification, and ensures a higher level of data quality. Data can be selectively exported and loaded from the staging area into target systems, which can be Intergraph or third-party systems.

**SPO Handover** enables the handover of information between two or more SmartPlant Foundation-based systems. Packages of information and documentation can be handed over on a periodic, incremental basis between project stakeholders – for example, from an EPC contractor using SmartPlant Enterprise to an owner operator using SPO. The transfer of information preserves the inherent intelligence from the source system.

Learn more at www.intergraph.com/go/spo.