SMARTPLANT® LAYOUT

SmartPlant® Layout is a new solution for preliminary 3D plant layout, including proposal development, early design estimates, and plant layout optimization from Intergraph®. Based on the next-generation 3D design solution, Intergraph Smart™ 3D, SmartPlant Layout is a standalone product extending the SmartPlant Enterprise suite through the addition of tools for automatic pipe routing, layout case management, and cost estimation.

SmartPlant Layout enables preliminary designs to be reused by carrying forward initial layouts into detailed design without additional remodeling – saving time and improving design quality. Because SmartPlant Layout is built on Smart 3D architecture, software administrative burden is significantly diminished in comparison to using standalone early design software.

STREAMLINING PRELIMINARY DESIGN

SmartPlant Layout significantly streamlines the preliminary layout design process. The interface is simple to learn and use – all application commands are available in a single, consistent environment. We have optimized the resulting plant layout workflow to ensure you achieve high-quality layout options with minimal design modifications by the designer.

You can initially define the location of major equipment, pipe racks, and other important space reservation zones used by the integrated pipe autorouter, such as attraction, avoidance, and obstruction areas (see Figure 1). Supporting this stage, you can define and apply rules that monitor and enforce your design standards to ensure consistency, including layout of pipes inside pipe rack volumes, and minimum nozzle standout distances.

Following initial zone definition, pipe runs are either directly input by the user, imported from an externally created line-list spreadsheet, or derived from P&IDs (see Figure 2). The integrated SmartPlant Layout pipe autorouter then calculates and displays the lowest possible cost pipe routes for a given plant layout and applied rules.

Case management enables the display and comparison of results from various layouts. At any point in the preliminary design process, you can generate preliminary layout drawings and review models. Similarly, SmartPlant Layout’s advanced reporting capabilities help you create a wide variety of standard and user-defined reports, including summary bulk materials quantities for cost estimation purposes.

BENEFITS OF USING SMARTPLANT LAYOUT

SmartPlant Layout offers powerful tools for preliminary plant layout and design, including:

• Comprehensive Smart 3D equipment, piping, structure, and space management commands.
• User-definable design layout rules used to monitor and, where necessary, enforce industry or project design standards for equipment and rack spacing, piping configuration, and object placement.
• Available pipe-run interface options:
  • Direct user input.
  • Import from line-list spreadsheet(s).
  • P&IDs.
• SmartPlant Layout-integrated pipe autorouter to calculate and display the lowest possible cost pipe routes for a given plant layout and applied design standards.
• Automated definition of Smart 3D drawings and reports, including bulk materials quantities reports for cost estimation purposes.
• Ability to publish SmartPlant Review visualization model(s) of the preliminary layout.
• Case management enabling the display and comparison of results from various layouts.
INTERFACE WITH DETAILED DESIGN

All of the equipment, pipe racks, piping, and other plant objects created as part of the preliminary design process in SmartPlant Layout are intelligent, Smart 3D objects. SmartPlant Layout customers already using Smart 3D for detailed design enjoy the benefits of eliminating up to 90 percent of the remodeling normally required when transitioning from preliminary design applications and formats to detailed design.

By using SmartPlant Layout in conjunction with Smart 3D, the preliminary design simply evolves into a more comprehensive, detailed design.

ADMINISTRATIVE SAVINGS

SmartPlant Layout supports the industry’s leading commercial databases, Oracle and Microsoft SQL Server, enabling it to be deployed in full compliance with your corporate database standards. Since SmartPlant Layout is based on Smart 3D technology, customers who use both products today realize significant savings through elimination of administration overhead, reference data management, and training burdens.

SmartPlant Layout is an integral part of the SmartPlant Enterprise. The SmartPlant Enterprise suite enables you to create, capture, and maintain engineering information and knowledge throughout a plant’s life cycle, from design and build through operations and maintenance. Enjoy improvements in operational excellence and safety, profitability, and protection of knowledge assets.

ABOUT INTERGRAPH

Intergraph helps the world work smarter. The company’s software and solutions improve the lives of millions of people through better facilities, safer communities, and more reliable operations.

Intergraph Process, Power & Marine (PP&M) is the world’s leading provider of enterprise engineering software enabling smarter design and operation of plants, ships, and offshore facilities. Intergraph Security, Government & Infrastructure (SG&I) is the leader in smart solutions for emergency response, utilities, transportation, and other global challenges. For more information, visit www.intergraph.com.

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.