# WHAT'S NEW IN SMARTPLANT® 3D

## INCREASE PRODUCTIVITY, ACCELERATE PROJECTS, AND GAIN A COMPETITIVE EDGE

The latest release of SmartPlant® 3D continues the product's position as the first and only next-generation 3D plant design solution for the process and power industries. Smart 3D technology delivers approximately 30 percent more productivity than any other system available today. Take advantage of the key components of the Smart 3D technology architecture:

- **Rules** – Capture engineering knowledge and push it into design with an extensive and customizable rule set
- **Relationships** – Capture and maintain design intent
- **Automation** – Drive actions through the system with minimal user input, which removes the mundane and enables a focus on value-added operations

## REFERENCE 3D

SmartPlant 3D continues to bolster its ability to bring external 3D data into projects through enhancements to its powerful Reference 3D (R3D) functionality. Integrating the proven SmartPlant Review engine, this technology continues to expand its support for a wide array of 3D formats, including multiple versions of SmartMarine® and SmartPlant 3D, PDS® 3D, PDMS, SAT, MicroStation, and AutoCAD®.

New features in Reference 3D include the ability to clash externally-generated 3D datasets against one another in a single project. With this capability, datasets generated from multiple sites can be checked for interferences against one another in a single SmartPlant 3D project. The latest version of SmartPlant 3D also offers the ability to create and persist intelligent connections to referenced datasets. For example, designers can connect piping to equipment nozzles referenced from another 3D application so that the proper bolt sets and gaskets are assigned and reported via the appropriate MTO deliverables.

## IMPROVED DESIGN REUSE

SmartPlant 3D's one-of-a-kind associative, data-centric architecture affords the ability to offer a unique value proposition with respect to design reuse. The latest version further leverages this technology to enable projects and RFPs to be delivered on time, at lowered cost, and with a high level of accuracy. The Model Data Reuse command now offers:

- Inclusion of assemblies such as spools
- Automated expansion to include WBS hierarchy and assignments

The Copy to Catalog command has been enhanced to provide additional capabilities:

- Portability of "copied" assemblies across catalog databases
- Increased compatibility with route solver while "pasting" data into the model

## EXTENDED SMARTPLANT 3D MODELING CAPABILITIES

The latest release offers new functionality for modeling circular and arced pipe for production of pipe bend configurations critical to projects in the oil and gas, power, and process industries. This "first-to-market" technology will facilitate the straightforward yet highly-precise design of ring headers, turbine manifolds, helical coil, and other complex configurations that are particularly challenging in other automated 3D CAD solutions. All component placement and manipulation functionality – including rotation and sliding – is now fully supported on curved pipe.

Enhancements have been made in the electrical and duct modeling environments as well. In the electrical environment, maintenance volumes are automatically modeled for cable trays to ensure adequate space is reserved for placing cables in the trays during construction. In duct design, the ability to specify gas flow direction has been added.

Structural designers can place handrails as individual members which are then easily modified as the plant design evolves. Take full advantage of the rule-driven placement of parts according to a handrail symbol while adding the flexibility of localized changes such as moving or deleting portions of the handrail system. Convert existing handrails to structural members, enabling straightforward mitigation of clashes identified late in a project.

## DELIVERABLES

The latest release offers increased stability, easier creation of annotation rules, and various drafting improvements for generating project deliverables. Enhancements include:

- Update process validates reference data and available memory, and includes a default behavior to keep the previous state of a drawing should an error occur.
- New drawing styles improve the automatic placement of labels and dimensions around the perimeter of a view.
- Hanger support drawings now include automatic Key Plans, Notes, Elevation Points, CAD Details, Weld Labels, and Ordinate Dimensioning styles.
- Drawings of logical objects, such as systems, can be created.
- Changes made to drawing volumes in the model are reflected in the drawing view size after update.
- A powerful 2D hide command improves drafting.

## IMPROVED MANAGEMENT OF CHANGE

Change is ever-present on large, complex 3D projects. The latest version of SmartPlant 3D offers powerful tools for managing it. A real-time meter has been added to the design environment to provide designers and managers with an early warning if a large number of error records is created. When such situations arise, the To-Do-List management console has been enhanced to allow additional sorting/filtering of records as well as to accept issues that require no corrective action. With these capabilities, projects can absorb any number of upsets caused by external changes or modifications to underlying reference/catalog data without significant impacts to schedule or data fidelity.

## 3D DATA VIEWING AND MANIPULATION

SmartPlant 3D's command enhancements ensure the right data is pulled into the design environment and, once in place, can be easily manipulated however needed. Support for filtering has been added to the Select Command so that the cursor can now be "made intelligent," selecting only the objects specified by the many powerful filters already being used in other areas of your projects. Those same filters are now easier to identify and manage via the highlighting of the components used to create their underlying definition.

Several capabilities have also been added to the designers' view controls. For example, previews are available prior to setting view clipping or display depth. Enjoy simplified centering of a view to a particular object. Automated snapping to the centroid of cylinders and boxes has been added. Plus, enhanced contrasting in the Workspace Explorer ensures the correct objects are graphically selected in the 3D view(s).

## EXPANDED CONTENT

Intergraph's ongoing commitment to delivering a large and diverse set of sample catalog data continues to grow the value proposition of adopting SmartPlant 3D on your next project. New symbols available for use with the latest release include:

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| 500 Piping Symbols | Valves, valve operators/actuators, offshore fittings, underground fittings, piping specialties, marine penetrations |
| 200 Electrical & Instrumentation Symbols | Tray and conduit fittings, flow measurement, miscellaneous fittings |
| 50 Equipment Symbols | Process, HVAC, materials handling |
| 100 Other Symbols | Duct fittings, structural, layout assemblies |

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