



## SMARTMARINE® 3D FOR OFFSHORE

### CHANGING THE WAY YOU ENGINEER AND DESIGN OFFSHORE STRUCTURES

Intergraph® SmartMarine® 3D is a complementary, full-suite solution that provides all of the capabilities needed to design and build many different types of marine assets: semi-submersible, fixed, and other types of platforms; floating production, storage, and offloading (FPSO) systems; drilling vessels; as well as other types of industrial waterborne facilities.

SmartMarine 3D's advanced scalability and modular design enable organizations of any size to configure the exact type of system that meets their workflow and workload requirements. Choose SmartMarine 3D to:

- Streamline building processes
- Lower manpower and material costs
- Reduce the time to design and construct world-class facilities
- Boost production flexibility
- Meet the challenge faced by more and more companies – distributed, multi-site design and production of offshore structures
- Provide for better integration with complementary work processes and computer systems
- Bridge early design with detailed design and production

#### Competitive Edge

Across disciplines or across the world, SmartMarine 3D provides all the tools you need to prosper in a highly competitive, dynamic, and concurrent offshore design and manufacturing environment. Gain a competitive advantage with:

- **A full multidiscipline design environment** – SmartMarine 3D extends and builds upon the existing capabilities in SmartPlant 3D by offering all of the solutions necessary to design and fabricate a marine facility from structural design and piping design all the way through to equipment design, structure, planning, compartments and zones, and electrical.

- **Global, concurrent engineering** – Designers, yards, sub-contractors/suppliers, authorities, and others can manage and execute projects across company borders easily and effectively. The software's global engineering and data reuse capabilities substantially reduce cost and shorten project schedules, while providing a wider range of users with valuable product model information.
- **Managing deliverables** – Automated drawings and reports reduce the cost of design and provide accurate, up-to-date documentation of the design at any time.
- **Complete enterprise capabilities** – SmartMarine 3D is a key component of the SmartMarine Enterprise, our portfolio of out-of-the box, digitally integrated solutions that address the marine life cycle, encompassing process design through fabrication to operations and maintenance. Your own legacy systems may be integrated by means of SmartPlant adapters.
- **Design reuse** – Capturing new and existing designs so they can be saved and reused in the future is the key to success in today's competitive global economy. SmartMarine 3D preserves your corporate knowledge, and provides for continuity and design innovation. It preserves the integrity of design data and enables reuse for future projects based on existing designs.

#### Design Reuse

A new Model Data Reuse Wizard enables you to copy objects, systems, units, and complete projects. This is a significant market differentiator that allows the systematic repurposing of 3D model data. Repurposing data offers a number of benefits, such as:

- Significant savings on design time and costs
- The ability to inventory best-in-class design configurations, giving you the ability to respond more quickly and accurately to requests for proposals (RFPs)

- More accurate material take-offs, as well as cost savings associated with long-term visibility on material requirements
- Best-in-class solution enables you to jump start on leveraging an automated retagging system

## Shorter Project Schedules

SmartMarine 3D is the ideal tool for the contractor and yard to use on projects of all sizes and complexities – reducing design costs and shortening project schedules (accomplishing distributed design and manufacturing, and supporting a transformation of the project team) to allow more multidiscipline work by a single engineer.

The capabilities provided by SmartMarine 3D streamline and compress the entire design process, which, in turn, reduces project schedules. These capabilities include:

- **Design rules** – Increase data quality, ensure design integrity, and contribute to a level of automation for design and production unmatched by any other available offshore design and production system.
- **Interference checking** – Enjoy consistent management of change and enable interferences to be resolved at the most cost-effective time – the moment they are created.
- **Improved offshore capabilities** – Boost productivity with enhanced modeling, detailing, and manufacturing of jacket legs and truss assemblies.
- **Advanced component and detailing catalogs** – Preconfigure manufacturing equipment characteristics to the particular detail, enabling full freedom in choosing shop fabrication lines without redesign.
- **Automation of routine tasks** – Customized rules drive the detailing of structural plates and profiles; placing of stiffener endcuts; definition of stiffener penetrations, seam cutouts, notches, etc.; and the determination of weld details, based on the geometry of the connection.

- **Automated drawing generation capabilities** – Reduce the cost of design and provide accurate, up-to-date documentation of the design at any time.
- **Rule-based joints, built-up members, and geometric constructions** – Speed design.
- **Detailing content** – Use member connection details, end preparations, bearing plates, etc.

## Enjoy the Following Benefits

- **Complete 3D model solution** – Capture mistakes early, save time, and increase design quality with less rework.
- **Rules-driven design on all disciplines** – Speed the design process, resulting in less rework and enforced standards.
- **Full integration among all the disciplines building the 3D model** – Propagate design changes across disciplines to ensure the effect of changes are captured and actioned, reducing labor hours and rework.
- **Wider scope than any other system, covering all disciplines from conceptual design to manufacturing** – Reduce need for training, as well as the number of applications to manage.
- **New level of integration with other systems** – Extend integration between functional (2D) and topological (3D) applications. Expand integration among Intergraph native authoring tools and other enterprise tools and systems, such as SAP®. Increase quality and consistency and reduce labor hours and rework.
- **Intelligent design rules checking** – Benefit from continuous clash checking and user-definable design rules checking through automation. Increase design consistency and minimize rework.
- **New levels of automation, operating system and relational database capabilities** – Boost productivity.

## 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 into understandable visual representations and actionable intelligence. Intergraph'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, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

For more information, visit [www.intergraph.com](http://www.intergraph.com).

