

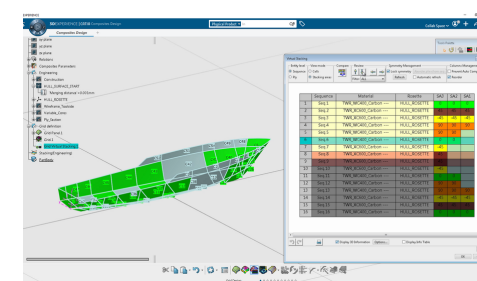
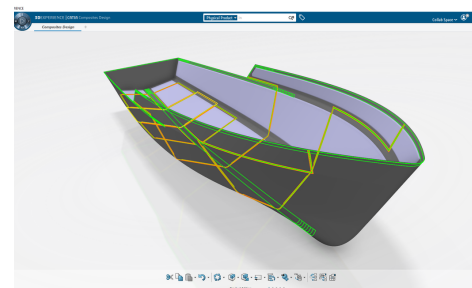
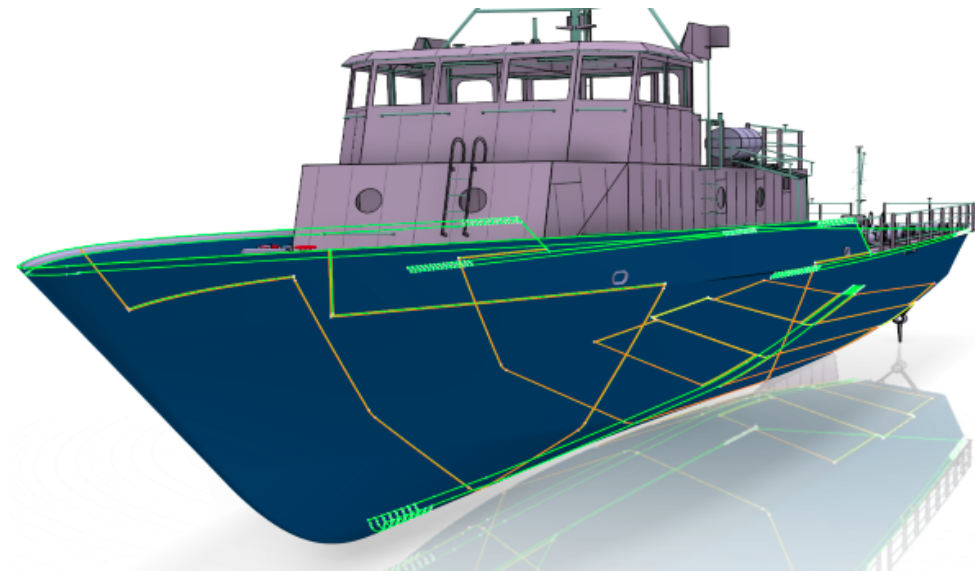
Composites for Marine & Offshore (SHCOM)

Cut design cycle times of hull composites structures by designing in context of collaborative design loops while accounting for manufacturing constraints.

The Composites Designer for Marine and Offshore role offers a wide range of tools specialized for designing composites structures. The role offers robust design methods, dedicated to capturing both design intents from stress department as well as the context of assembly, while also considering the manufacturing process and its associated constraints. This conceptual to detailed design approach fully matches with the design practices of the composites industries, from the 'ply by ply' approach for simpler part, to the 'grid' approach for more complex stiffened structure.

Dedicated tools helps the composites design engineers to integrate with other disciplines (numerical sizing and manufacturing) and to produce the expected data while the design reaches its final maturity (conceptual solid, refined ply contours & properties, 3D Sections, weight estimation, etc.). At all stages of the design process, the manufacturability of the parts can be easily assessed with fiber simulation for hand layup or for fiber placement/tape laying, ensuring the release of a producible composites part with regards to the targeted manufacturing process.

The Composites Designer for Marine and Offshore role is fully integrated with the Composites Manufacturing Engineer for Marine and Offshore role dedicated to the preparation of a composites design into a producible part, and all the data of a composites design model can be consumed by the simulation products of the 3DEXPERIENCE platform in order to perform structural validation.



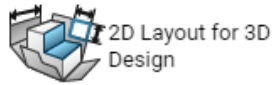
Benefits

- Advance Surface Modeling tools along with Industry-proven design approaches to create composites data on complex surfaces.
- Fully associative design to handle changes, modifications and updates quickly and automatically.
- Capabilities to design in context of Assemblies.
- Define and manage complete stacking and generate plies from the virtual stacking.
- Ability to generate conceptual solids or IML surfaces for early integration of the composites parts in the mock-up.
- Advanced Producibility Analysis with fiber simulation for Hand Layup and Fiber Placement
- Powerful and accurate plies modification (swap, reroute, drop-off, plies chamfer, plies corner,...)
- Account manufacturing constraints early in the design process with dedicated features (3D Multi-Splicing, Darts, No Splice Zone, Butt Splice Zone,...)
- An array of Review tools (Check and Validate Contours, Perform Numerical Analysis, Visualize ply section, Core samples,...)
- Integrate Quality rules based approach for robust design and control of composites data.
- Prepare drawing-based ply book with ease and manage updates and changes automatically.
- Support for composites data model simulation with the Composites Simulation Engineer role.
- Leverage Model Based Design through fast 3D Tolerancing adoption
- Reduce errors of tolerancing and drawing interpretation .
- Complete Product definition throughout 3D annotations conveying full Product Manufacturing Information.

Highlights

- Robust surface modeling tools
- Industry-proven design approaches
 - Preliminary grid & zone design
- Ply modeling tools based on associative 3D features
- Best-in-class Solid and IML
 - ITA and Junction lines control
 - Core elevation
- Advanced producibility analysis
 - Real-Time fiber deposit deviation analysis (Dynamic Draping)
 - Fiber deposit strategies control
- Integrate Quality rules in the design process for robust design and control.
- Engineering deliverables and DMU integration
 - Associative Drawings with Generative view style and annotation templates
 - Review results export
- The Semantic Tolerancing Advisor guides the designer to be compliant with standards such as ISO, ANSI/ASME and JIS

APPS



2D Layout for 3D Design



3D Annotation Experience



Data Setup



Design IP Classification



Product Finder



Product Structure Design



3D Annotation Insight



3D Printing



Design Review



Drafting



Quality Rules Reuse



Shape Healing



3D Templates Capture



3D Tolerancing & Annotation



Drafting Template Essentials



Exchange Management



Simulation Finder



Sketch Tracer



Assembly Design



Bookmark Editor



FreeStyle Shape Analysis



Generative Shape Design



System Finder



Change Execution



Collaborative IP Management



Generative Shape Develop



Interference Check



Collaborative Lifecycle



Composites Design



Interference Finder



Manufacturing Finder



Converter for IGES



Converter for STEP Multidiscipline



Material Definition



Part Design