

Business Technologies and Ship Design & Material Technologies Joint Panel Meeting Suffolk VA

Panel Project **LiftShip3**

NSRP Panel Project
(2019-483-010)

April 30 – May 2, 2024

NSRP | National Shipbuilding Research Program

TEAM:

ShipConstructor Software USA, Inc. (SSIUSA)(Prime)

Fincantieri Marinette Marine

Austal USA, Inc.

Halter Marine

Ship Architects, Inc.

Genoa Design International, LTD

ATA Engineering

Altair Engineering

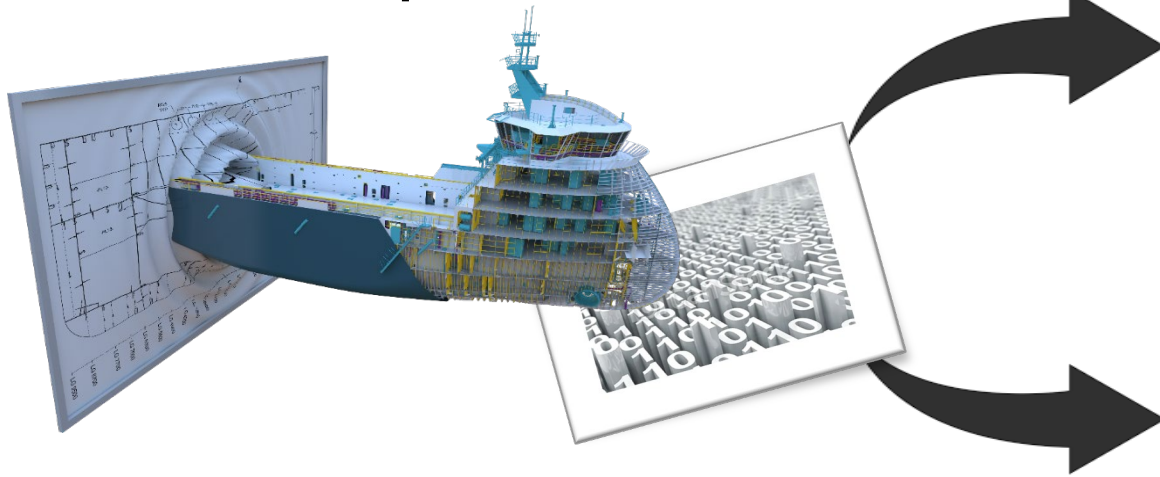
NAVSEA NSWC Carderock

LiftShip 3



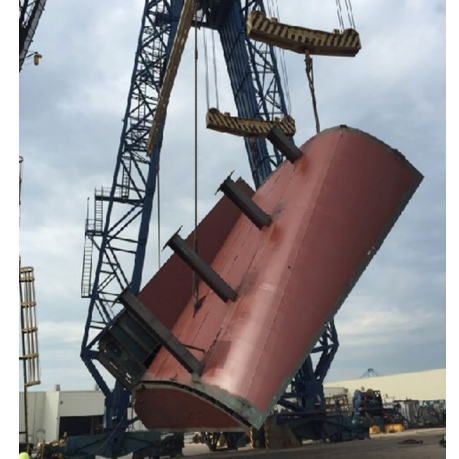
Why is LiftShip3 Important?

- It builds upon the successes of the original LiftShip project



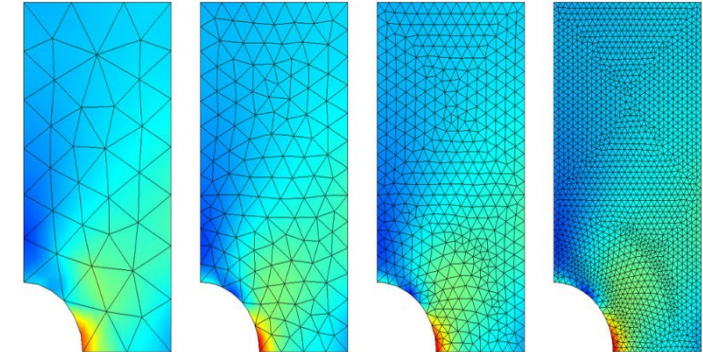
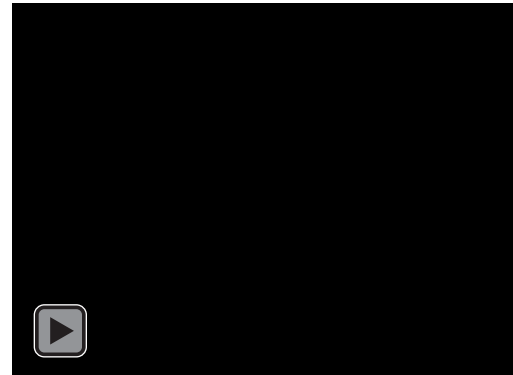
Altair
HyperWorks®

ATA
ENGINEERING, INC.
FEMAP



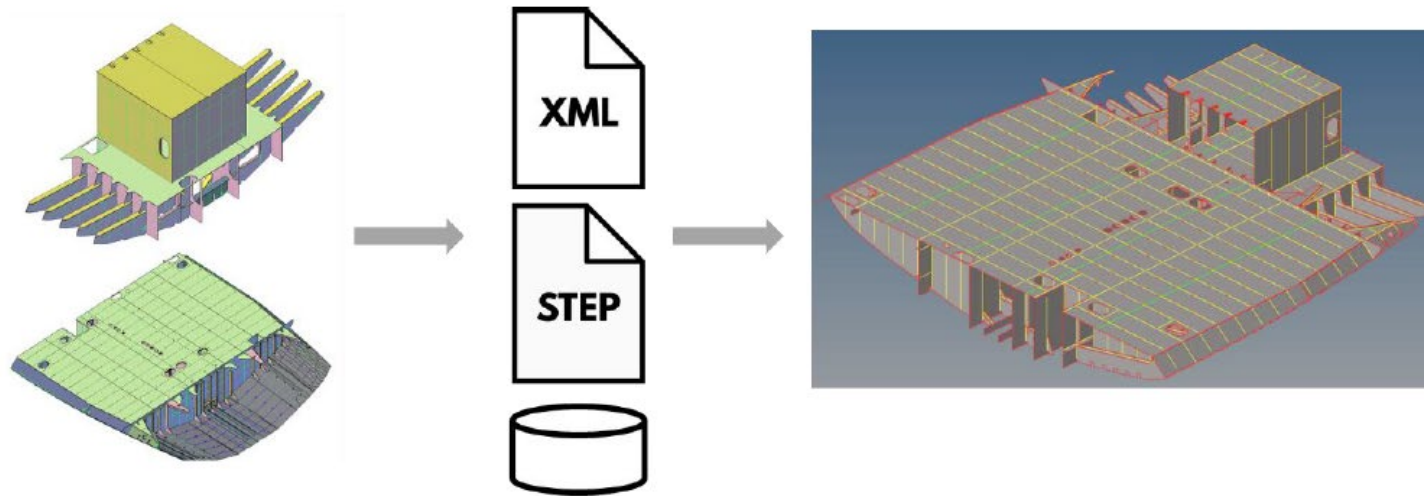
- It builds upon the successes of the recent LiftShip 2 project

- Turning/Complex Lift Operations
- Visual Reporting of FEA Results
- Import Level-of-Detail Options



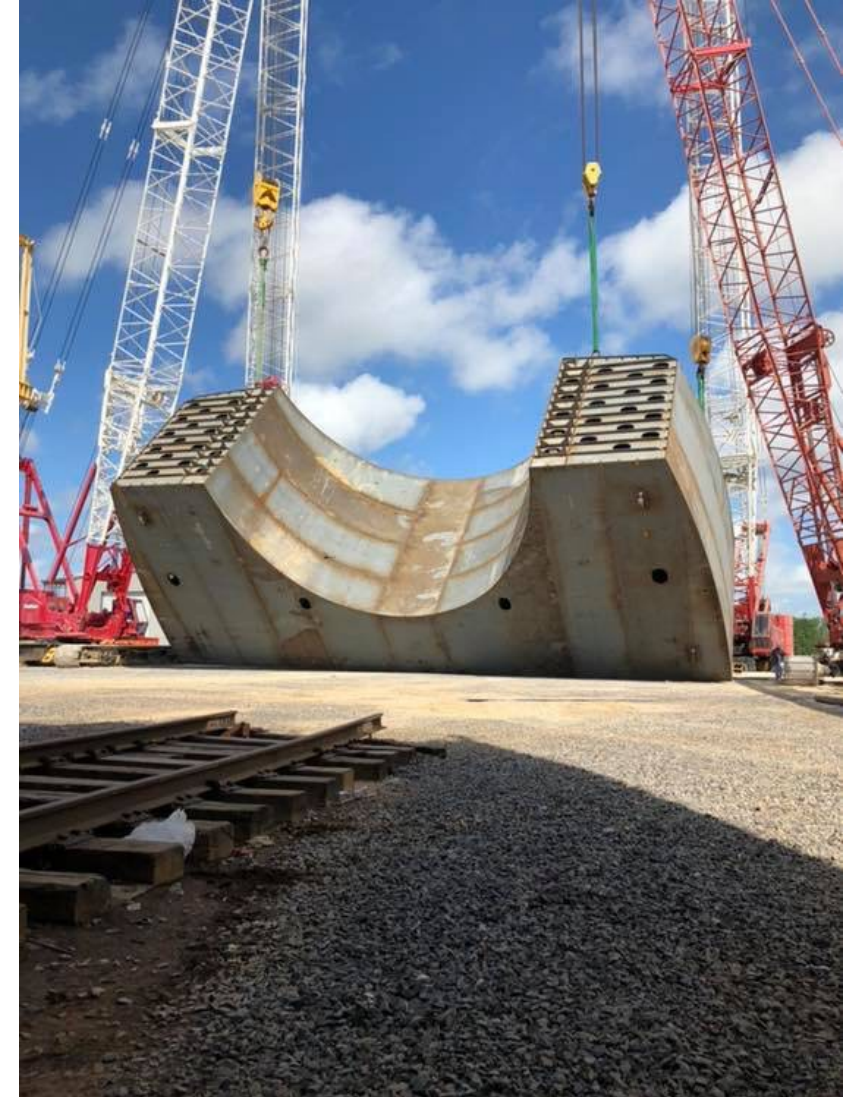
Project Background

- Liftship
 - Project (2018-438)
 - Developed methods to export ShipConstructor models to FEA tools.
 - Successfully Completed



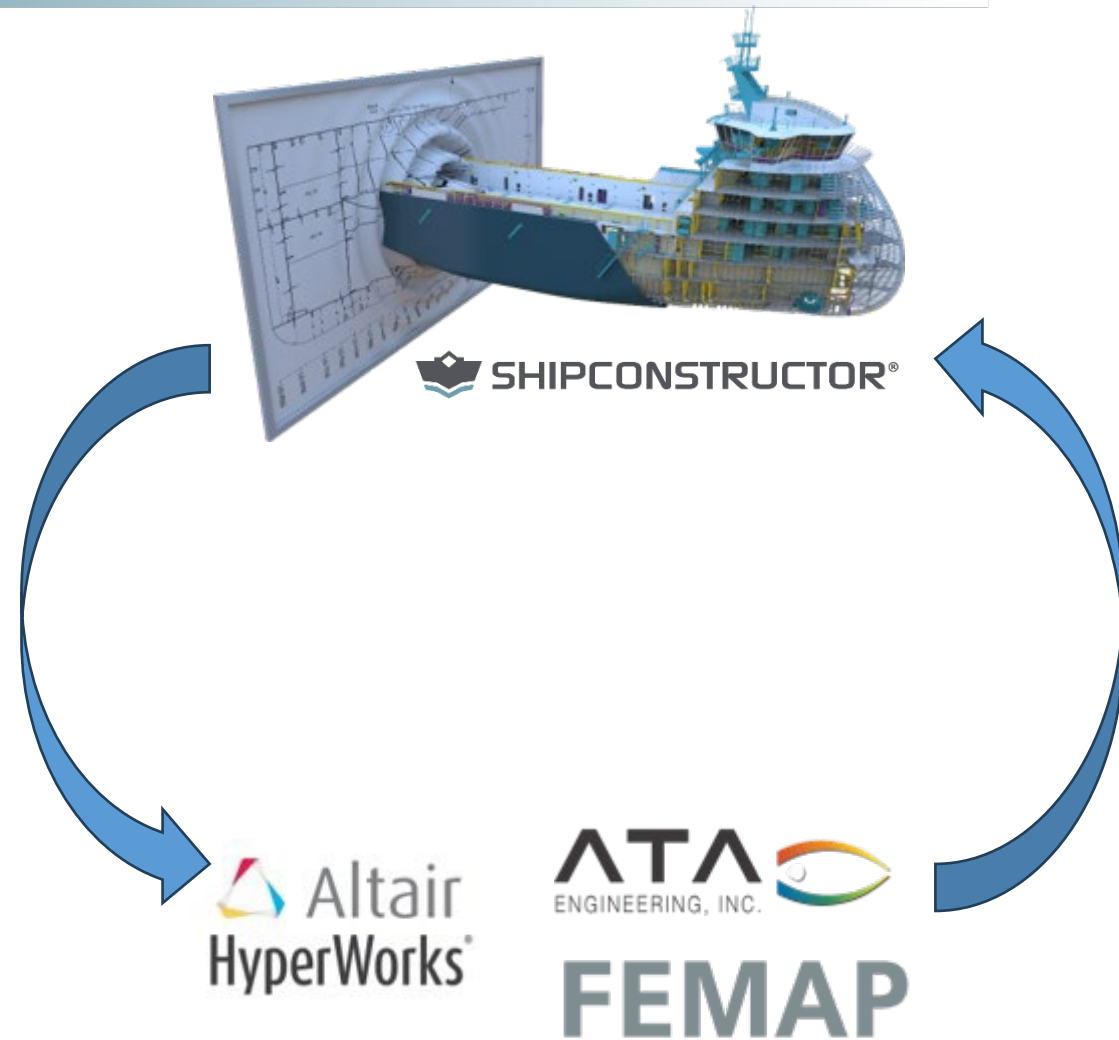
Project Background

- Liftship 2
 - Project Number 2019-451-003
 - Analyzing Complex lifts and turns
 - Selecting which components are to be considered in the FEA
 - Completed Successfully



Project Overview

- Liftship 3
 - FEA structural changes back to ShipConstructor
 - Allow model changes made do to lifting arrangements to be incorporated early in the 3D detail design production model.
 - FEA Software to collaborate with SSI to define common data model.
 - Building communication mechanism.



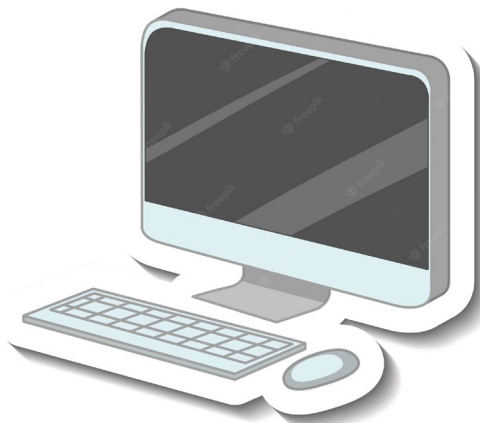
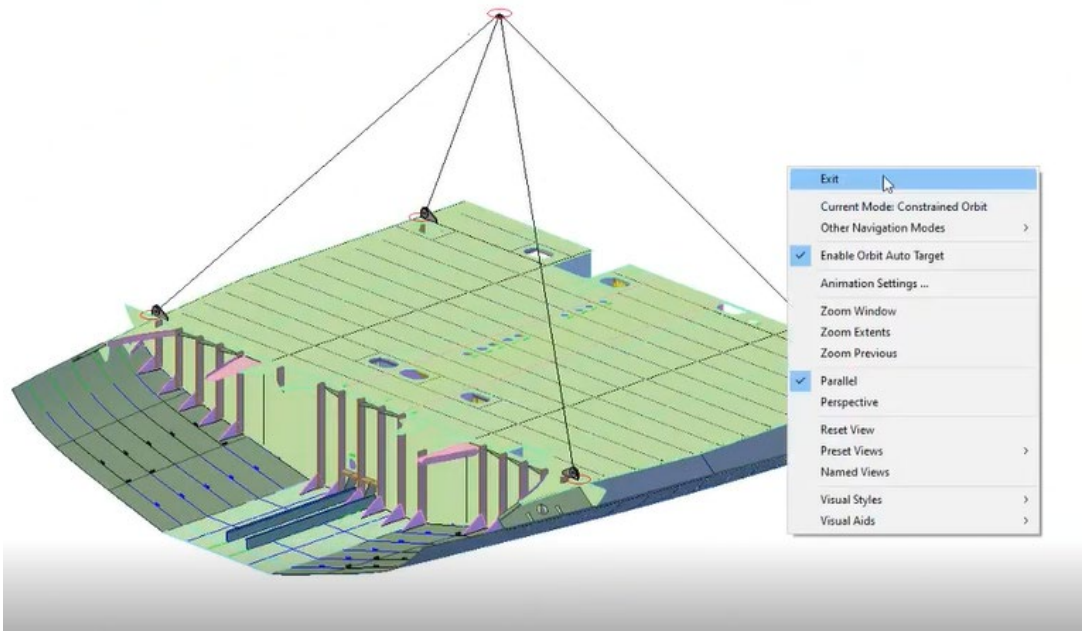
Project Goals

- Ability to synchronize changes in FEA back to production model to support output drawings.

Project Benefits

- Shorter Design times.
- Ease of use.
- Further streamlining the design and evaluation process.
- Allow designers to find innovative uses for lifting structure.

Current Development



Operations

Grouped by: Output Type ▲

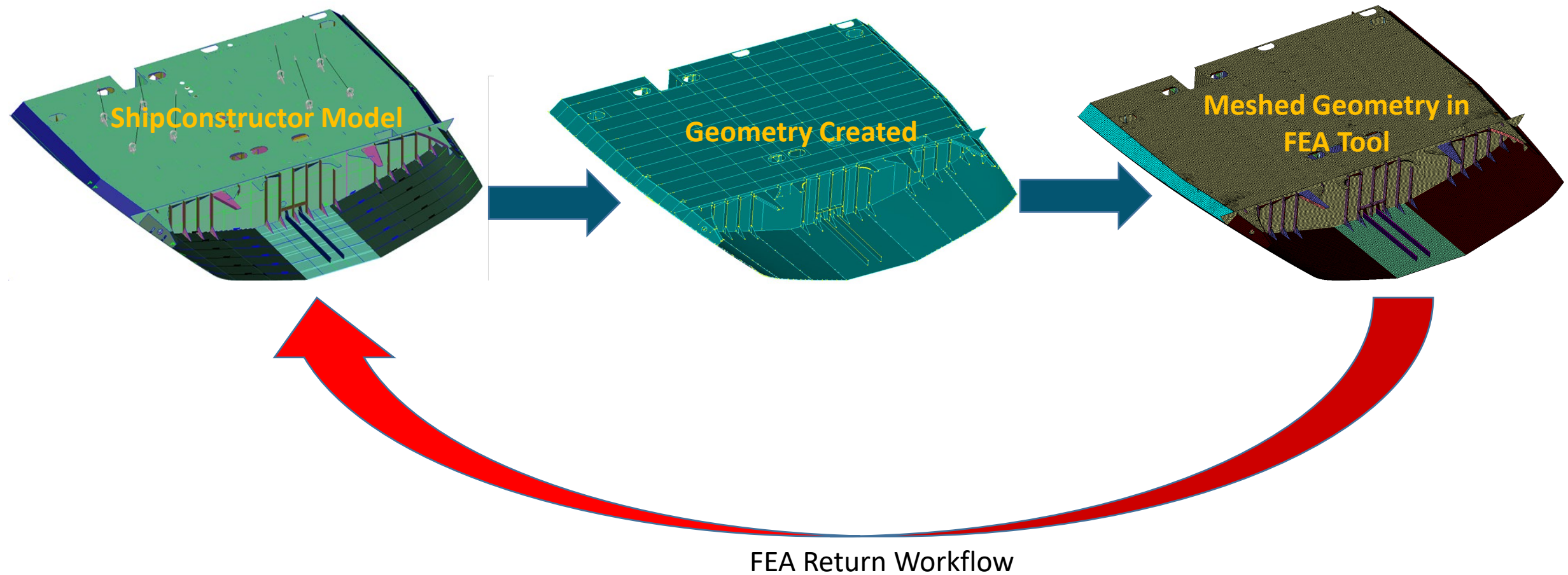
Operation ▼	Applies To ▼	Output Type ▼
BMP (1)		
<input type="checkbox"/> BMP of Drawing	Drawing	BMP
DSD (1)		
<input type="checkbox"/> Publish Assembly Dwg Layouts to DSD Top Down	Drawing	DSD
DWF (1)		
<input type="checkbox"/> Publish Assembly Dwg Layouts to DWF Top Down	Drawing	DWF
DWFX (1)		
<input type="checkbox"/> Publish Assembly Dwg Layouts to DWFX Bottom Up	Drawing	DWFX
DWG (4)		
<input type="checkbox"/> CopyDwg (flat)	Drawing	DWG
<input type="checkbox"/> CopyDwg (use project path)	Drawing	DWG
<input type="checkbox"/> Export of Drawing	Drawing	DWG
<input type="checkbox"/> Simplified Structure Part Drawing From Drawing	Drawing	DWG
DXF (1)		
<input type="checkbox"/> NC-Pyros DXFs of Plate Nests	Drawing	DXF
JPG (1)		
<input type="checkbox"/> JPG of Drawing	Drawing	JPG
None (4)		
<input type="checkbox"/> Clash Check Global	Drawing	None
<input type="checkbox"/> Clean Model Drawings	Drawing	None
<input type="checkbox"/> ForceModelDrawingUpdate	Drawing	None
<input type="checkbox"/> UpdateDrawing	Drawing	None
NWC (1)		
<input type="checkbox"/> NWC of Drawing	Drawing	NWC
NWC, NWF (1)		
<input type="checkbox"/> NWC files + NWF file	Drawing	NWC, NWF
NWD (2)		
<input type="checkbox"/> NWD file from Dwgs	Drawing	NWD
<input type="checkbox"/> NWD of Drawing	Drawing	NWD
NWF (1)		
<input type="checkbox"/> NWF file from Dwgs	Drawing	NWF
PDF (6)		
<input type="checkbox"/> Multi-Sheet PDF of Drawing Layouts	Drawing	PDF
<input type="checkbox"/> PDF of Drawing	Drawing	PDF
<input type="checkbox"/> PDFs of Plate Nests	Drawing	PDF
<input type="checkbox"/> PDFs of Profile Plot Sheets	Drawing	PDF
<input type="checkbox"/> PDFs of Profile Plots	Drawing	PDF
<input type="checkbox"/> Publish Assembly Drawing Layouts to PDF Bottom Up	Drawing	PDF

☐ Update drawings before performing operations

413 of 413 Selected. Please Choose Operation(s) to continue.

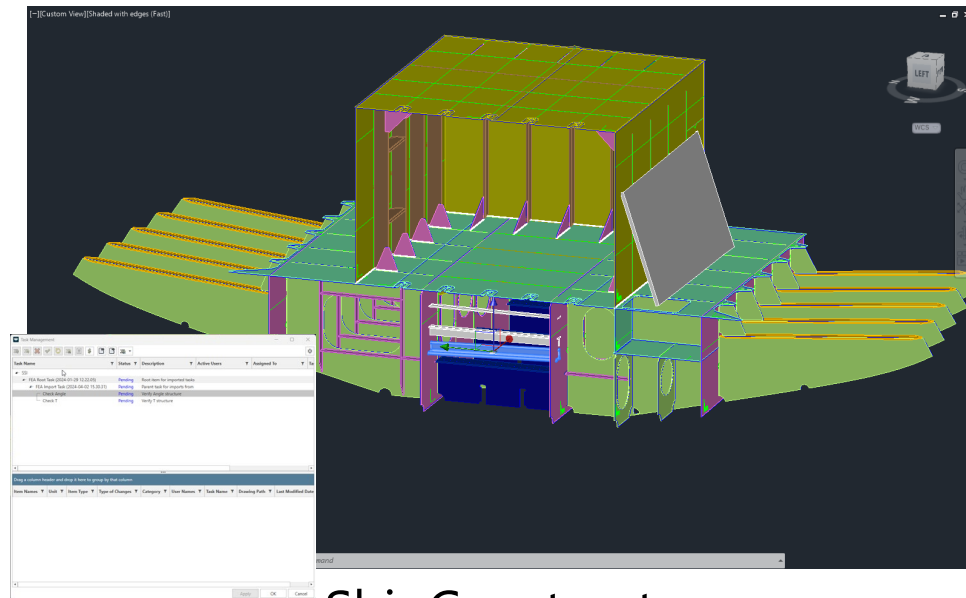
Project: SSI

Current Development

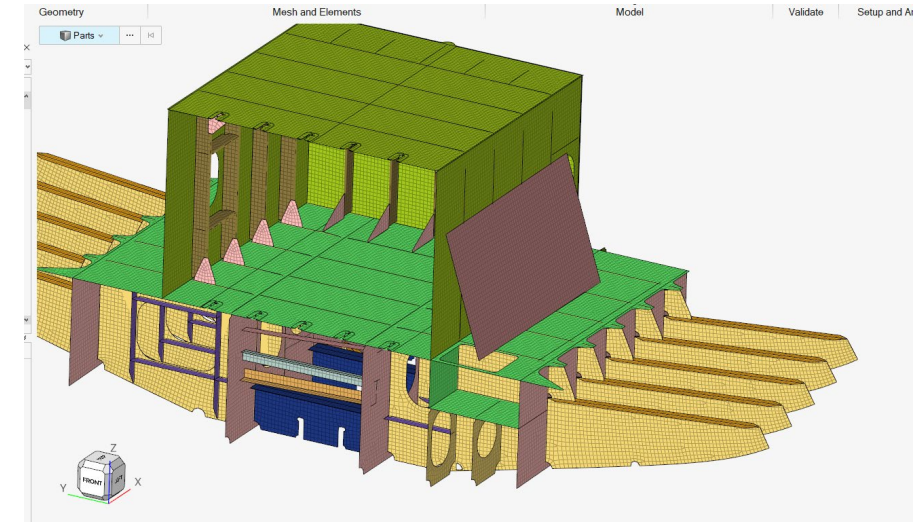


Current Development

- Post Analysis
 - Plate Parts
 - Stiffeners
 - Generated Tasks



ShipConstructor



FEA Analysis

Questions

