# SHIPMO 3D

3D PANEL METHOD HYDRODYNAMIC SOFTWARE FOR MARINE, OFFSHORE, DEFENCE, SUBSEA, AND MARINE RENEWABLE APPLICATIONS

Software Overview

ShipMo3D is a cutting edge software application used to model the interactions of ships and offshore structures with waves and the marine environment.

Using advanced time and frequency domain options, ShipMo3D can be used to analyze freely maneuvering ships and other floating structures in a variety of sea states. Containing a wealth of features and models, ShipMo3D is capable of enhancing in-house analysis, design, and system optimization capabilities.

ShipMo3D is produced, supported, and developed by Dynamic Systems Analysis Ltd under license from Defence R&D Canada, an agency of the Canadian Department of National Defence. Having been validated against full and scale models, it is well-suited to assist with marine analysis projects.
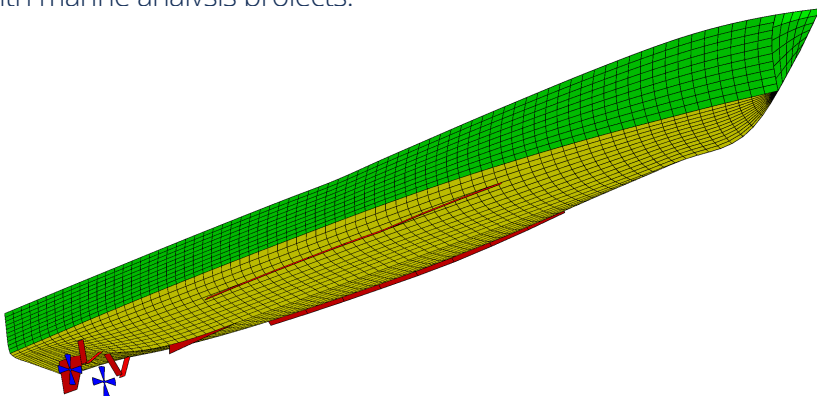
Key Features & Benefits

Time and frequency domain analysis options

Accurately predicts hydrodynamics coefficients for nonslender ships and structures using 3D panel method

Graphical user interface for effective and efficient problem setup and to reduce input errors in project work

Built-in meshing utility that takes inputs based on hull lines and generates high quality meshes without the need for 3rd party software

Library of standard hull components and models such as bilge keels, rudders, and propellers

Validated against full scale trial data and industry accepted software packages

Robust documentation and professional support from DSA

SHIPMO 3D
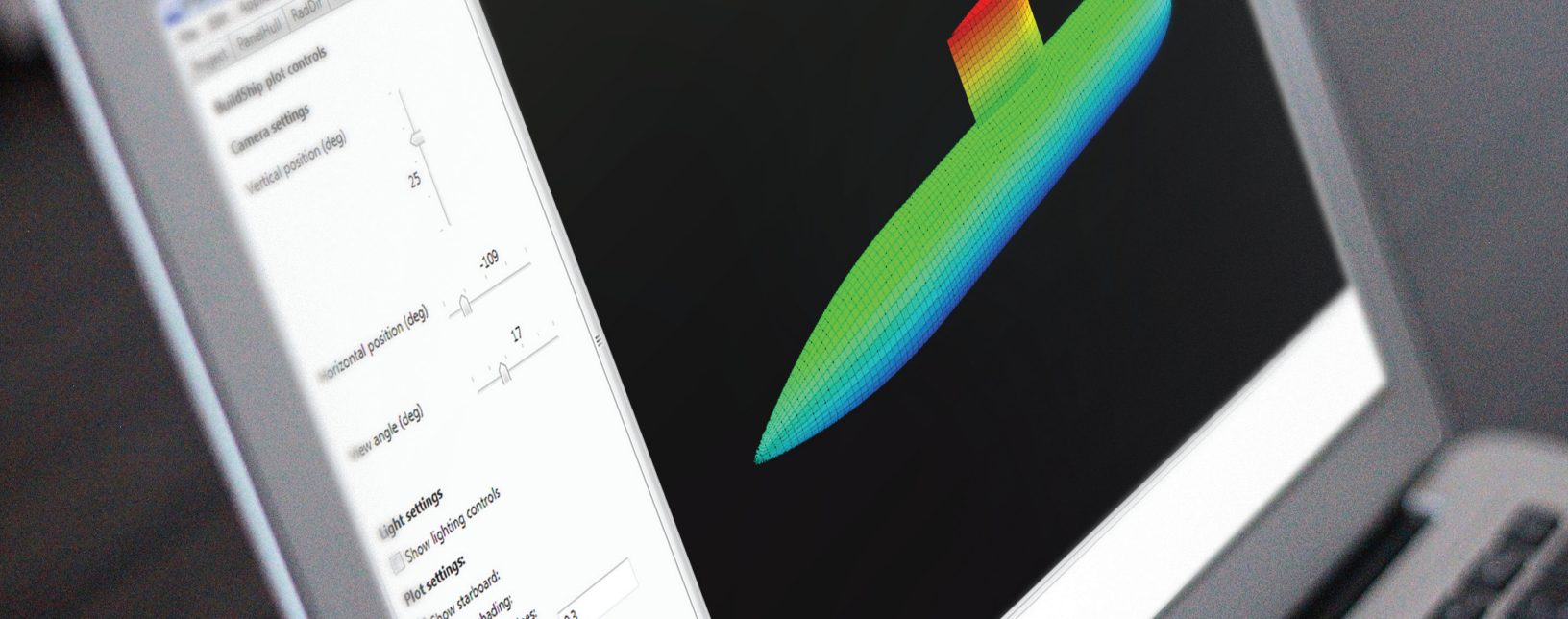
Pre-Processing Features

Graphical user interface for fast and easy data input

Built-in mesh generation based on specification of hull lines

Import hull geometry and externally generated meshes

Post-Processing and Analysis Features

Command line options for optimization

Nonlinear buoyancy option

Forward-speed effects

Built-in plotting and mesh visualization

ASCI I data output

Regular waves

Irregular waves (JONSWAP, Ochi-Hubble, Bretschneider, custom)

Bi-directional wave spectrum

Maneuvering coefficients input

Maneuvering and seakeeping simulation

Easy batch-processing (RAOs for ranges of speed, heading)

RAO output for use in 3rd party software

Ship Modeling Options

Bilge keels

Foils

Rudders

Propellers

Azimuthing propellers

UTube tanks

Slosh tanks

Non-slender hull shapes

Holtrop Mennen or custom resistance

ProteusDS Integration

ShipMo3D exports a hydrodynamic database that can be imported into ProteusDS to enable analysis of applications that include nonlinear elements such as mooring lines, tow lines, winches, or mechanisms.

Applications include:

Mooring

Cable lay

Towing

Wave energy converters

Floating or submerged tidal energy converters