

# PROTEUS DS

## A FLEXIBLE DYNAMIC ANALYSIS TOOL FOR OCEAN INDUSTRIES

### Software Overview

ProteusDS is a full featured dynamic analysis software capable of simulating vessels, flexible structures, lines and technologies in harsh marine environments. It is modern, customizable, validated, and is continually improved based on the needs of our growing user base. It combines a robust solver with advanced 3D graphics and a modern user interface.

Employed by naval architects, marine engineers, offshore engineers, oceanographers and many other users, ProteusDS uses advanced hydrodynamic, finite-element, current, wind, wave and mechanism models to achieve accurate results.

Whether driven by certification or the desire to create elegant solutions, assessing system dynamics is all about reducing risk. ProteusDS has become an invaluable tool in the marine industry. It is uniquely suited to test technologies to understand how they will react under various, wind, wave and current conditions.

To request a demo visit [www.proteusds.com](http://www.proteusds.com)

### Key Features



#### Finite Element

cubic finite-element line & net models



#### Mechanisms

constrain body motions with hinges and joints



#### Waves

regular, irregular and custom wave spectra



#### Current

time and spatially varying current including turbulence



#### Wind

explore wind loading



#### Hydrodynamics

flexible hydrodynamic modeling



#### Control

PID and custom control systems



#### Seabed

seabed interaction and bathymetry



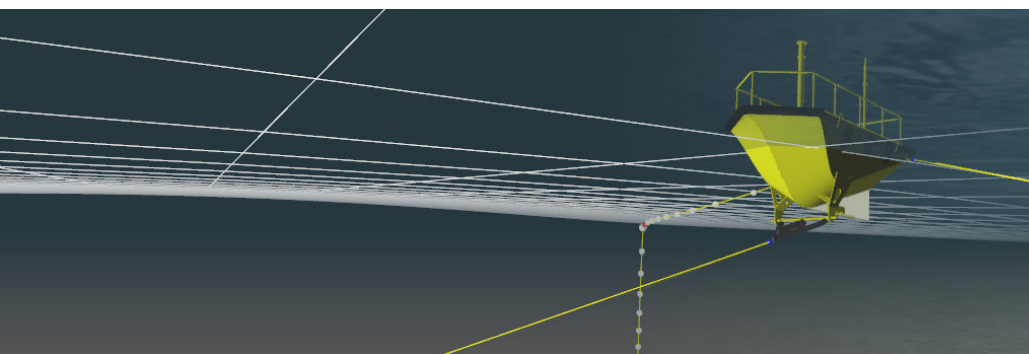
#### Contact

contact and impact between bodies



#### Customize

application programmer interface



# PROTEUS DS

**AQUACULTURE & FISHERIES**  
NET CAGE ANALYSIS, MOORINGS

## DEFENCE

LAUNCH & RECOVERY, TOWED ARRAYS, SUBMARINES

## MARINE RENEWABLE ENERGY

WAVE & TIDAL ENERGY, FLOATING WIND,  
MARINE OPERATIONS

## NAVAL ARCHITECTURE

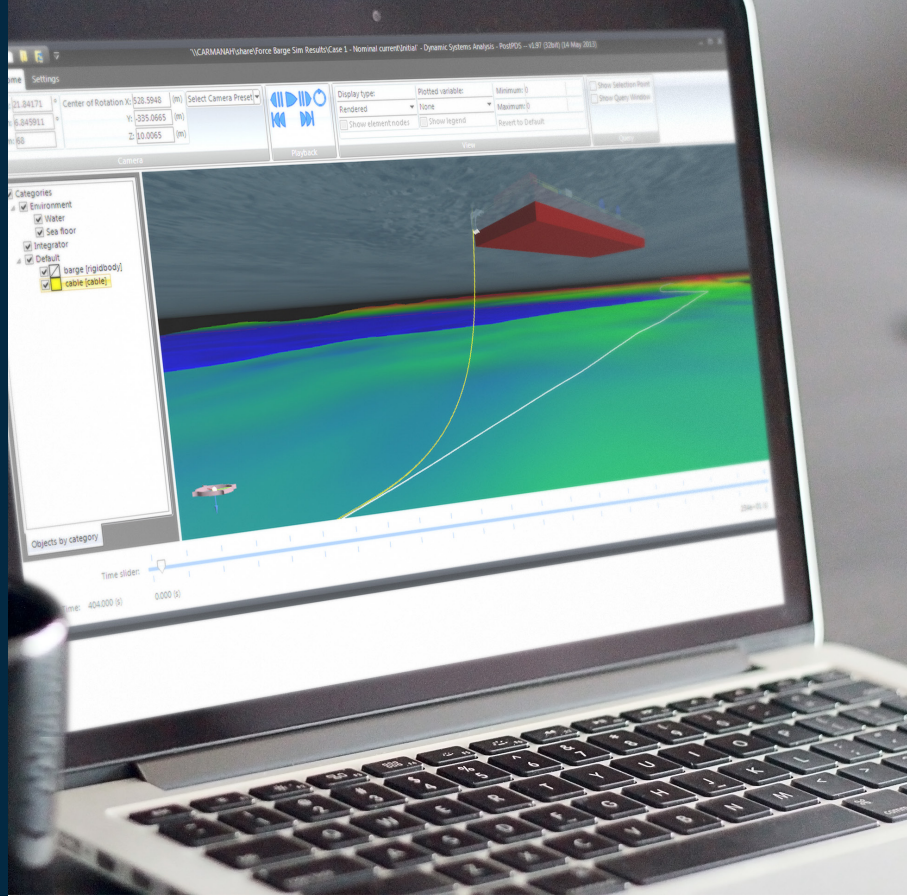
SEAKEEPING, TOWING, MANEUVERING,  
WINCHES, PILES

## OCEAN TECHNOLOGY

BUOYS, MOORINGS, OCEANOGRAPHY, TOWED BODIES,  
ROVs, AUVs

## OFFSHORE & SUBSEA

MOORINGS, PIPELINES, RISERS,  
FLOATING STRUCTURES, INSTALLATION ANALYSIS



Why you should choose ProteusDS.

### Intuitive Interface

An easy to use interface allows for rapid model development and handles both complex and simple models equally.

### Powerful 3D Graphics

Leading 3D visualization capabilities and a wealth of viewing options gives insight into numerical modeling results.

### Technically Advanced

Advanced algorithms from mechanisms, to cubic finite-element line models, to hydrodynamics and so much more.

### Validated

Rigorously tested against hundreds of benchmark cases to ensure new and existing feature work as expected.

### Supported

Supported by a committed group of developers and power users that are actively adding new capabilities.

### Documented

Extensive documentation and easy to follow tutorials make training straight-forward.

### Value

A flexible and economical annual subscription license makes it easy to try for your next project.

## Technical features

- Irregular and regular wave models
- Spectral wind models
- Advanced mechanism modeling (cranes, WECs)
- Finite-element cable model (bending, torsional, axial)
- Finite-element net models and net shielding (fish farms)
- 6 DOF rigid body model (towed bodies, ships, buoys)
- 3 DOF point mass model (floats, anchors)
- Nonlinear and linear seabed contact model
- Custom bathymetry import
- Spatially and temporally varying current

## Users

- Naval architects & marine engineers
- Oceanographers
- Ocean engineers
- Mechanical engineers
- University researchers