



NavCad™

“The scope of NAVCAD is enormous, and should be a required acquisition of all design offices...” THE NAVAL ARCHITECT

What is NavCad?

NavCad is a software tool for the prediction and analysis of vessel speed and power performance. It also provides for the selection of suitable propulsion system components – engines, gears and propellers. NavCad’s capabilities can be summarized as:

- Bare-hull resistance
- Steady-state propulsion analysis
- Added resistances
- Propeller selection
- Hull-propulsor interaction
- Vessel acceleration
- Supplemental analyses

Who should use NavCad?

Naval architects, marine engineers, hydrodynamicists and researchers in shipyards, design consultancies, equipment manufacturers, navies and research institutions all rely on NavCad.

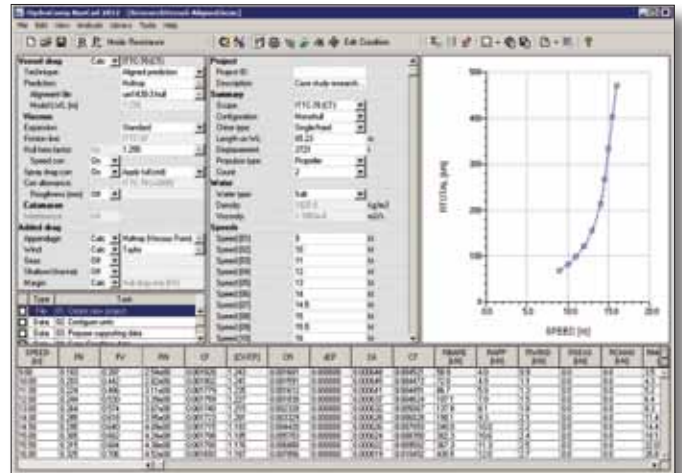
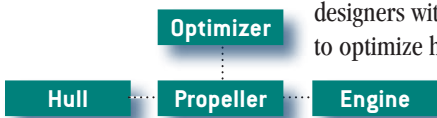
What vessels can I evaluate with NavCad?

NavCad can be used for virtually every type of displacement, semi-displacement and planing craft, sailboat or catamaran. Towing and free-running analyses are supported, as are open and ducted propellers, waterjets and advanced propulsors (such as contra-rotating propellers).

What makes NavCad different?

NavCad is unlike any other resistance and propulsion software. Not limited to a few routines for the prediction of one or two aspects of performance, NavCad provides a complete platform for the steady-state equilibrium analysis of performance from hull to engine. Features such as the Minimum Hull Drag analysis provide

designers with powerful tools to optimize hull forms.



How accurate is NavCad?

Prediction accuracy is insured by offering **A**] the largest available suite of prediction methods (over three dozen for bare-hull resistance alone), **B**] compatible components between methods, **C**] calculations built from contemporary state-of-the-art methodologies, **D**] a complete analysis environment where critical components (like shallow water resistance, for example) cannot be forgotten and **E**] dedicated evaluation, testing and internal R&D [see MacPherson, D.M., “The Ten Commandments of Reliable Performance Prediction”, *International Symposium on Power, Performance and Operability of Small Craft*, Royal Institution of Naval Architects, 1997].

In addition, NavCad contains HydroComp’s *Method Expert* prediction method ranking system. This feature takes your vessel data and ranks all monohull prediction methods based on speed regime, ranges of hull parameters and the availability of hull details (i.e., if bulb or immersed transom data, for example, has been entered and is used in the method). It also takes into account HydroComp’s extensive knowledge about prediction method behavior and reliability. Warnings are raised if a method has shown poor results for the given vessel information.

