

SEASPEED HYDRODYNAMICS

**Performance Dynamics - Assessment and Verification
through Computer Simulation, Model Testing & Sea Trials**

Seaspeed Marine Consulting Ltd is a fully independent company specialising in the assessment of marine system performance.

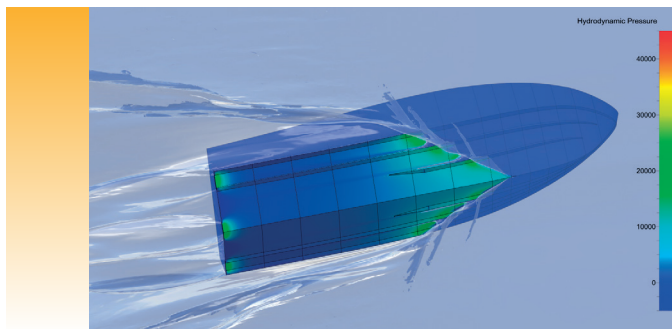
Covering a broad spectrum of vessels and projects, our focus is on prediction and monitoring of the powering, manoeuvring and seakeeping performance of ships, including mooring dynamics, station-keeping, active motion control, ship evacuation and small craft launch and recovery.

Successfully combining naval architecture, monitoring and control instrumentation, simulation technology and sophisticated data analysis – we look forward to assisting you with your demanding projects. Please see over for details of our experience.



Virtu Ferries 'Saint John Paul II' – For client due diligence, Seaspeed provided comprehensive performance assessments using CFD, computer simulation and free-running scale model powering, manoeuvring and seakeeping tests. We continue to track the vessel's operational speed, motion, payload and fuel economy using our remote vessel monitoring system (Seaspeed VMS).

Computational Fluid Dynamics



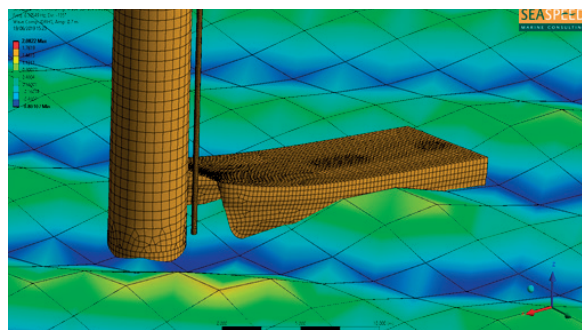
Calm Water Hydrodynamic Analysis

Seaspeed provides rapid and reliable hydrodynamic calm water performance analysis using CFD, covering all aspects of vessel powering (hull and propulsor performance including dynamic stability, hull factors and aerodynamic interactions for very high-speed craft) and vessel manoeuvring (turning circles, rudder and appendage forces, including directional stability assessments). Hull and performance optimisation form important components of our work. Recent contracts for the development of new hull forms using hybrid propulsion systems have benefited significantly from our use of CFD analysis.

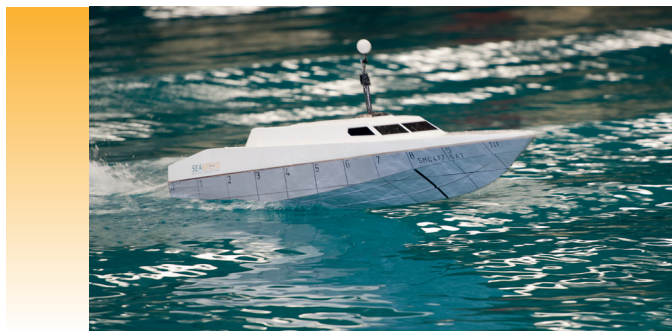
Computer Simulation

Mooring Dynamics and Station-Keeping

Seaspeed provides a range of computer simulations in addition to CFD to investigate the performance of marine systems experiencing the effect of wind, waves, current and interactions with other structures. Studies involving mooring dynamics (motions, rope tension, fender forces and vessel interactions with quays, pontoons and wind turbines), through vessel station-keeping and dynamic positioning, to ship stabilisation and motion control, have formed the basis of recent work. Correlation with our scale model test results has proven particularly useful, giving clients additional confidence in their chosen design or modification.



Instrumented Scale Model Tests



Comprehensive Performance Assessment

There is clear demand to gain as comprehensive an understanding of vessel performance and handling as possible, both prior to build and subsequent to experiencing full scale performance issues. Seaspeed addresses this demand by building and instrumenting free-running scale models and methodically testing them in calm sea and wave environments to establish their powering, manoeuvring and seakeeping performance. Studies relating to dynamic issues have proven particularly important for many high-speed craft. Seaspeed has recently undertaken such tests for vessel designers, builders and operators of fast ferries, SAR vessels, patrol craft, landing craft, crew boats and superyachts.

Instrumented Sea Trials

Contract Sea Trials and Long-Term Monitoring

Recent analyses of operational profiles and long-term monitoring programmes of ship performance have provided Seaspeed clients with the necessary data and insight to significantly improve operational efficiency across a spectrum of different craft types. Our stand-alone vessel monitoring system (Seaspeed VMS) is able to provide both short and long-term performance statistics covering a wide range of parameters including vessel motion, speed, position, comfort, slamming and impact forces, fender forces, fuel and electrical consumption, wave height, wind speed and direction and noise and vibration.

