

L A T E R A L

NAVAL ARCHITECTS

08

CONSULTANCY SERVICES

**In addition** to new build design and engineering

- Lateral provides a wide range of **consultancy services.**



- ## Owner's Representative

Utilising our multi disciplined experience **we represent the client at every stage** of a project helping to protect the interests of the owner.

- ## Plan Approval

With experience of all major classification societies and flag authorities, we offer a complete plan approval service ensuring that **projects are effectively managed** through the classification process and every engineering detail is appropriately scrutinised.



- **Structural Analysis and Audits**

Our extensive skill in the design of marine structures enables us to offer a complete structural analysis, design and auditing service. From load prediction and structural analysis to fatigue assessments; we work in steel, aluminium and advanced composites.

- **Motion Predictions and Stabilisation Studies**

With a strong background in the design of hull forms that offer good seakeeping ability, we have the tools and knowledge to make accurate motion predictions and assess the impact of proposed motion control systems from roll fins to stabilisation tanks and T-Foils.

# Machinery Retrofit Feasibility Studies

Lateral can act on behalf of our clients who wish to extend the capability of their existing vessel. Whether improving motions through the retro fitting of fin stabilisers or improving manoeuvrability through fitting additional thrusters, we have the practical experience to ensure the correct machinery is selected and installed appropriately.

# Weight Verification Studies and Monitoring

Members of our team have extensive background and experience in the design of lightweight high speed craft enabling us to lead in the design of lightweight vessels, which coupled with our comprehensive database of as-built weights, gives us the capability to engineer and verify minimum weight solutions.



# Performance Predictions and Model Testing

Utilising our comprehensive model test database we are able to conduct performance predictions utilising proven data. Results can be further verified by algorithms developed in house whilst Computational Fluid Dynamics (CFD) analysis is available for optimisation studies.

Additionally, we offer a full range of model test support services covering resistance and propulsion, wake surveys, seakeeping and manoeuvring tests.

# Proof of Concept Studies

Working from initial concept sketches, we have the ability to provide solid engineering foundations to any designer's concepts, allowing more accurate shipyard quotations and workable solutions from the early concept stage.



# Energy Efficiency Studies

With soaring bunker prices, environmental legislation and social pressure, there is an increasing need to save energy and **strive for efficiency**. Employing skills from all engineering disciplines Lateral can evaluate every aspect of a yacht's design and operation to identify energy use and **set strategies for improvement**.

# Factory Acceptance Trials

**Accepting ownership** of complex items of equipment can be a daunting task. Lateral can act on behalf of the yard, owners or suppliers to ensure that equipment meets its specification before leaving the factory.



# Manoeuvring Simulations and Onboard Simulator

Lateral has been involved in developing the world's **leading state of the art** PC based ship manoeuvring simulator 'BMT PC Rembrandt' which is utilised to assess and optimise the manoeuvring and DP characteristics of new and existing designs.

Additionally, the tool is installed on board for real time manoeuvring simulation training by the yacht's crew.

# Inclining Experiments and Stability Books

Lateral provides a **comprehensive stability analysis** service, from preliminary intact/damaged analysis and optimisation of compartmentation, to the undertaking of inclining experiments and preparation of final onboard stability information.

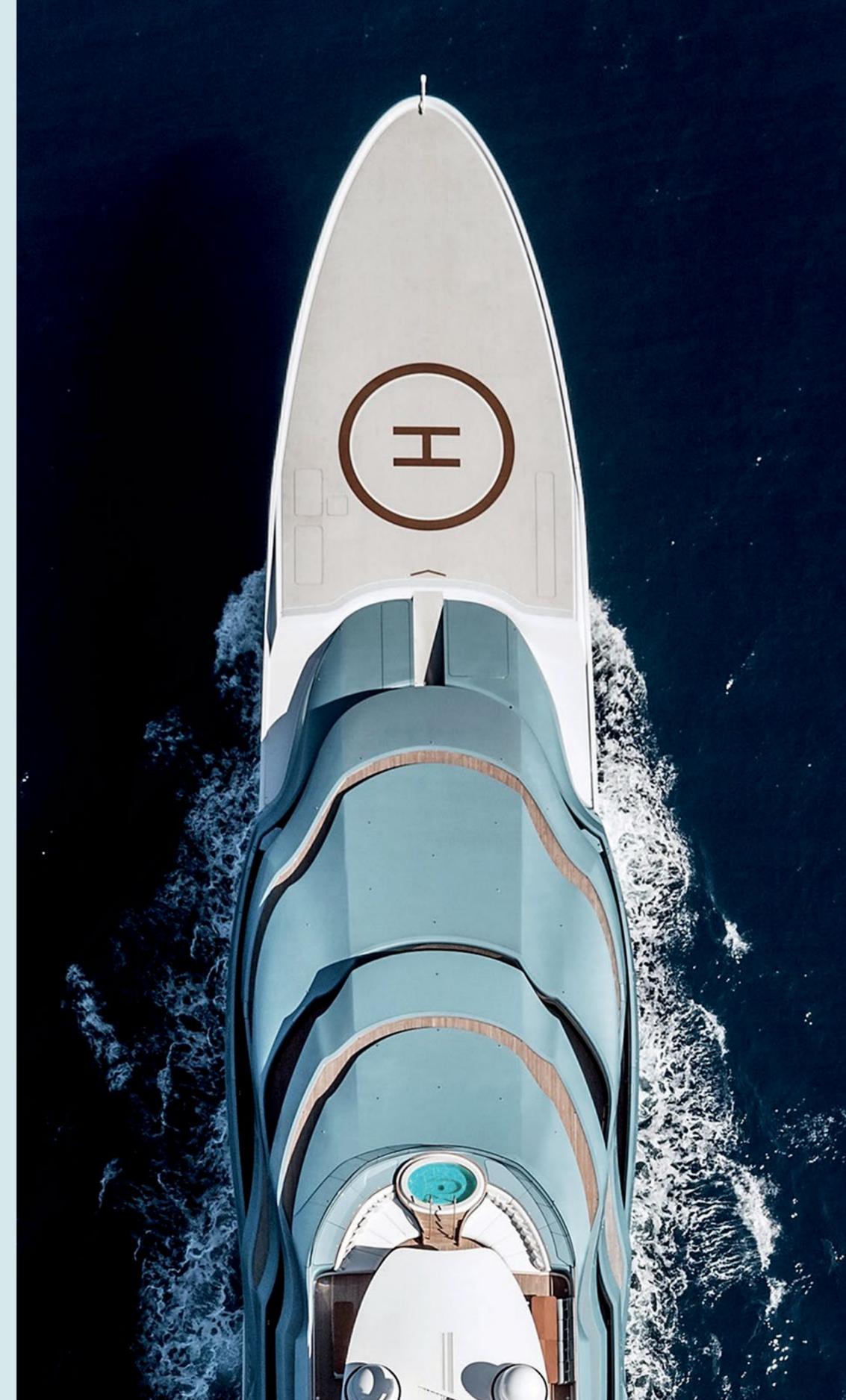


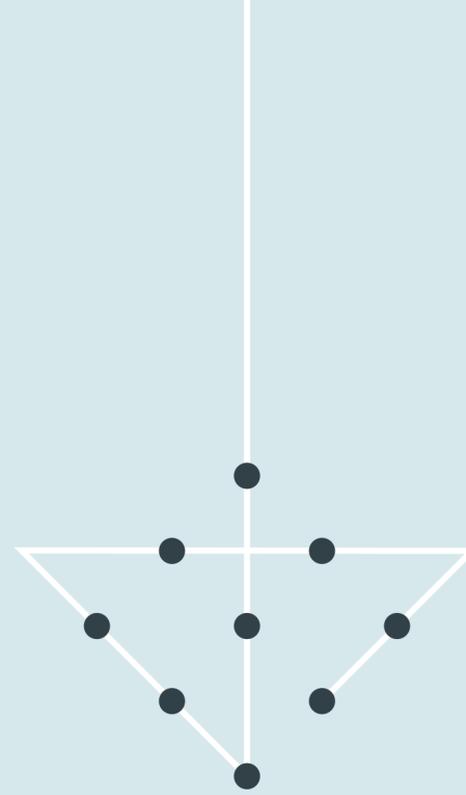
# Wind Tunnel Testing

Lateral has direct access to three large wind tunnels undertaking a broad spectrum of **aerodynamic studies**.

# Sea Trials

Conducting sea trials is a critical part of any project and Lateral can ensure these are conducted under the right conditions representing the interests of the yard, owner or machinery suppliers.





**Ask new questions**

**WWW.LATERAL.ENGINEERING**