

Global. Agile. Digital.

RLE INTERNATIONAL Group



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System Development and Integration in Shipbuilding

Innovation Aligned with Maritime Demands

The maritime industry is undergoing a fundamental transformation. New emission regulations, rising efficiency standards, and rapid technological advancements are redefining the requirements for modern vessels. Electrical system architectures, sustainable propulsion solutions, and robust structural optimizations are playing an increasingly vital role.

As an engineering partner, RLE supports companies in the shipbuilding sector with tailored solutions – from optimizing conventional ship systems and integrating alternative propulsion technologies to implementing digital onboard power architectures. We accompany projects with deep engineering expertise, strong process knowledge, and a flexible workforce of specialists.

Together with our clients, we shape the maritime technologies of tomorrow – efficient, economically viable, and future-ready.

 Fuel efficiency & emission reduction We optimize propulsion systems, integrate alternative fuels such as hydrogen, and apply hydrodynamic measures to reduce energy consumption – enabling low-emission and cost-effective maritime transport.	 Corrosion protection & material durability We develop corrosion-resistant components and long-lasting material solutions that withstand extreme marine conditions while reducing long-term maintenance needs.
 Ship structure & lightweight design By using advanced lightweight materials and structural optimization techniques, we reduce overall weight and enhance efficiency, stability, and manoeuvrability.	 Longevity & maintainability We design ship components for durability, accessibility, and ease of maintenance – resulting in longer service intervals, reduced downtimes, and greater operational reliability under continuous use.

System Solutions for the Maritime Industry – Focused on Efficiency and Integration

Modern ship systems require close coordination between electrical architectures, energy management, and propulsion technology. RLE delivers holistic solutions for shipbuilding – based on simulation-driven development, modular integration, and thorough system design.

Our engineering teams develop electrical on-board networks that support both conventional and alternative propulsion systems while optimizing energy distribution. By combining digital modelling, mechanical integration, and material-specific design, we create systems that meet both technical specifications and commercial constraints.

This lays the foundation for maritime system architectures that are future-ready, low in emissions, and easy to maintain.



„Shipbuilding engineering is about aligning systems in function, structure, and energy. From electrical architecture to propulsion and energy management, we view each subsystem in the context of the entire ship. Using simulation, model-based design, and integration, we ensure efficient, maintainable, and regulatory-compliant solutions, enabling sustainable technology integration.“

Volker Piel
Head of Business Unit Vehicle
Engineering – RLE International

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gem. § 27a Umsatzsteuergesetz: DE 122803511



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