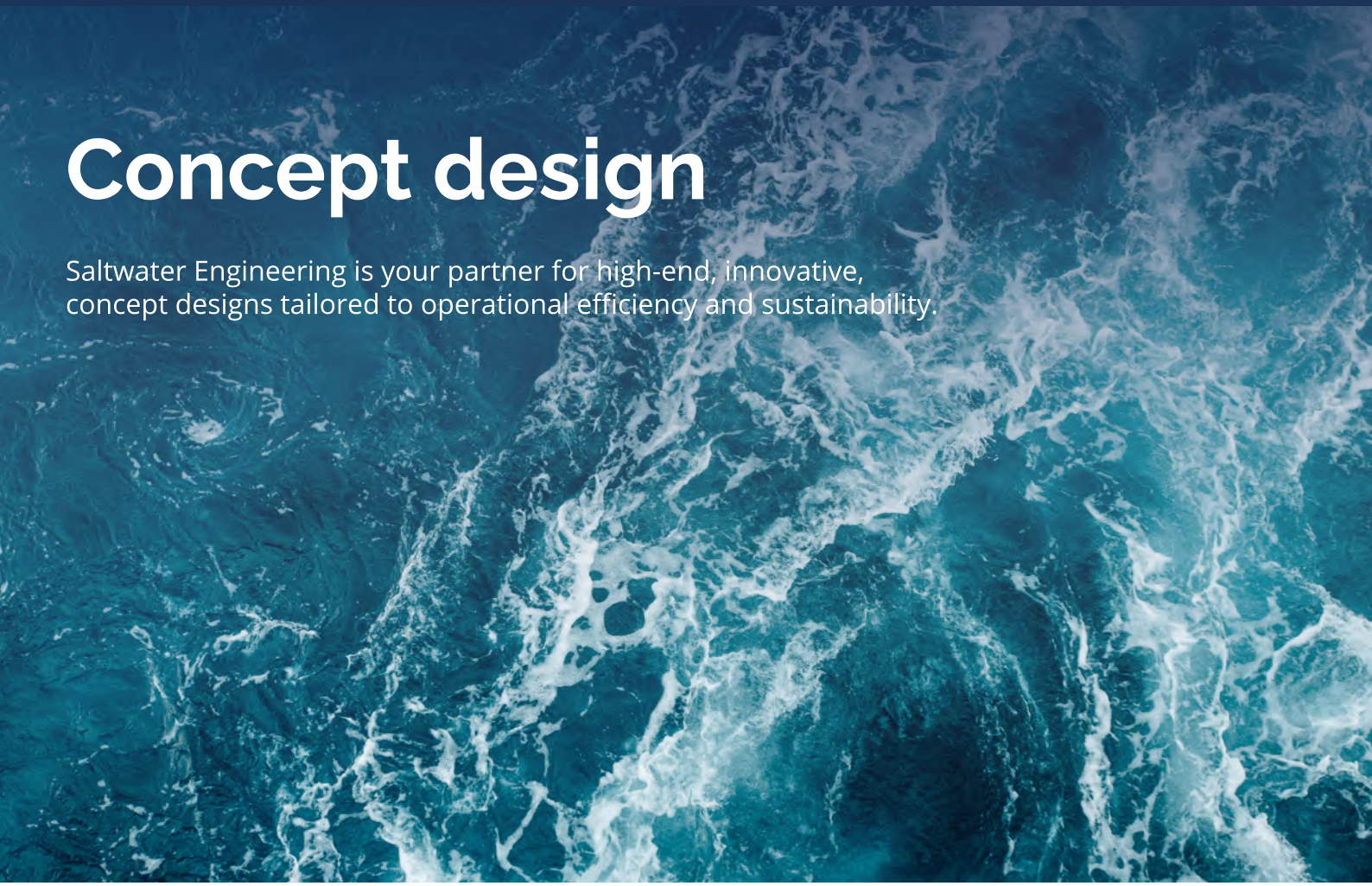
SALTWATER
Custom naval engineering solutions

Our field of expertise

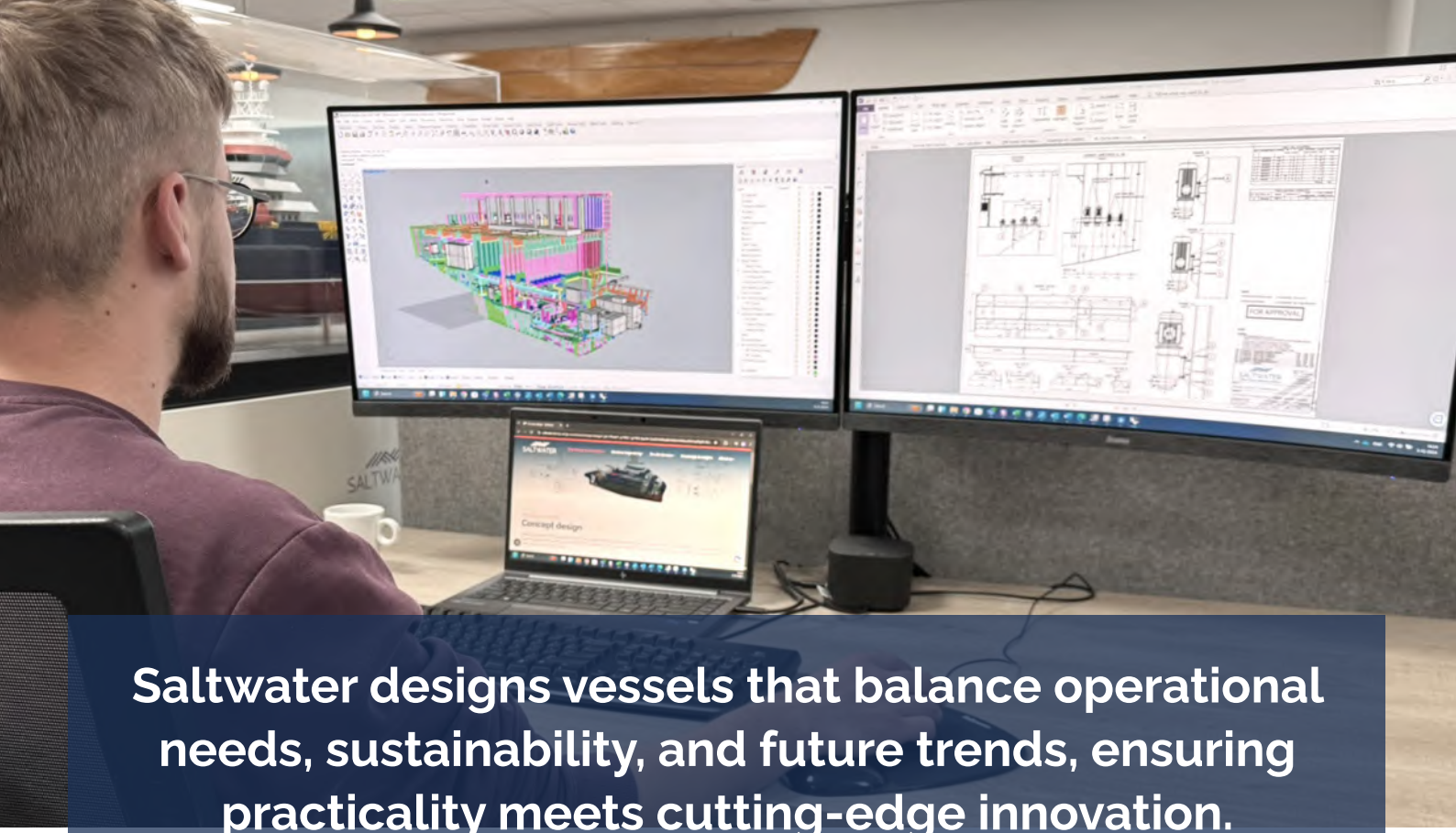


Concept design

Saltwater Engineering is your partner for high-end, innovative, concept designs tailored to operational efficiency and sustainability.

What sets us apart?

- Our designs balance needs & trends, creating efficient and practical solutions
- Every design includes detailed documentation ensuring safety and compliance
- Delivering solutions tailored to diverse operational needs and evolving markets
- Close client collaboration, making sure the design provides long-term value
- Proven track record of newbuild vessels, concept designs and conversions



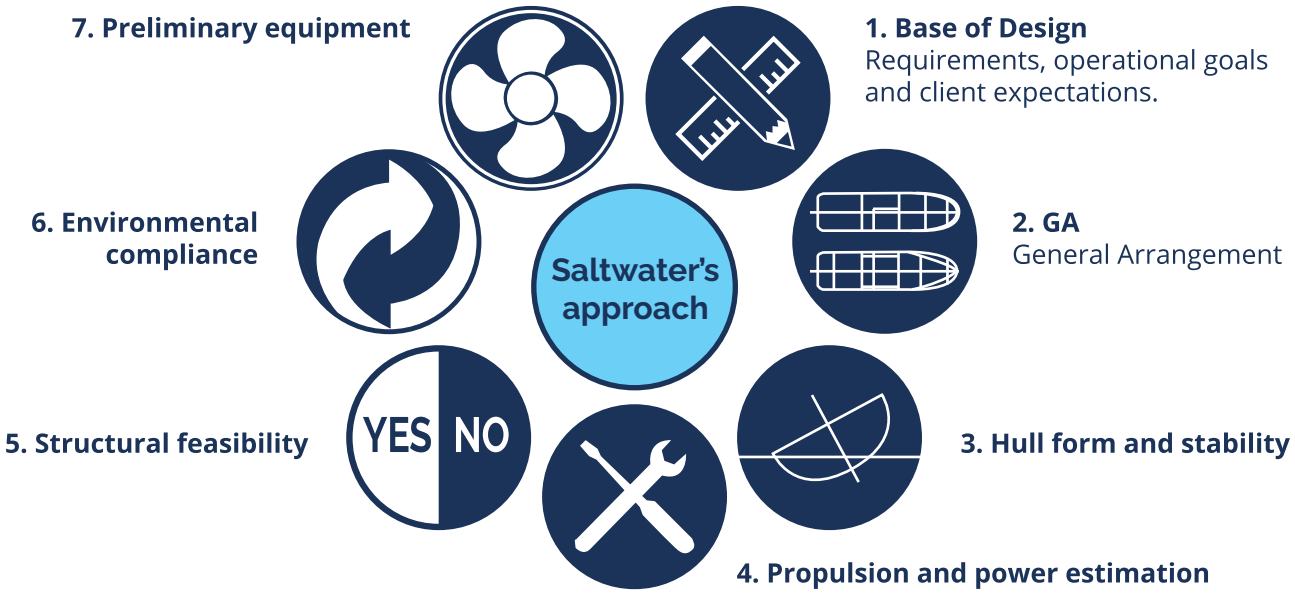
Saltwater designs vessels that balance operational needs, sustainability, and future trends, ensuring practicality meets cutting-edge innovation.

Saltwater's concept design process starts with a dive into the client's needs, including operational demands, environmental considerations, and future trends in maritime technology. We analyze every aspect of the vessel's intended purpose, considering structural integrity, energy efficiency, and adaptability to upcoming industry developments. By fostering open collaboration, we ensure that each concept is not only innovative but also practical and feasible.

EFFICIENT AND INNOVATIVE DESIGN

During the design phase, Saltwater Engineering prepares essential documents to outline the functional requirements, safety standards and regulatory requirements for the new vessel. Saltwater's concept design services cover a range of applications, including newbuilds, vessel conversions, and transforming ships for entirely new functions.

This flexibility allows clients to adapt to changing market demands and evolving industry needs. Whether it's developing a new vessel from scratch, upgrading an existing vessel, or converting a ship for a specialized purpose, Saltwater's expertise ensures a custom design that delivers operational efficiencies, safety and long-term value.



NEWBUILDS

For newbuild projects, Saltwater works together with the client to bring their vision to life. The concept design phase establishes the vessels purpose, structure, and capabilities, covering everything from the hull form and layout to propulsion systems and cargo handling equipment. Each newbuild concept is designed to maximize performance and comply with modern standards.

Our track record

Blue Quest; the next generation offshore survey and inspection vessels

Saltwater Engineering presents the Blue Quest, a purpose-built vessel designed specifically for the offshore survey market. Drawing from years of experience in vessel conversions, we created Blue Quest to address the unique challenges of survey operations, ensuring adequate deck space, sensor integration and minimizing operational noise.

The blue quest is tailored for geophysical surveys, minor geotechnical tasks and UXO identification and removal, offering a versatile platform that adapts seamlessly to various offshore needs. This design exemplifies Saltwater Engineering commitment to efficiency, sustainability and industry leading functionality.

CONVERSIONS

Vessel conversions allow operators to repurpose existing assets, extending their lifespan and adapting them to new markets. Saltwater's concept design for conversions addresses technical adjustments, such as reinforcing hull structures, or retrofitting equipment, to make an existing vessel suitable for new functions.

Our track record

Connecting the world; PSV Skandi Sotra conversion to a cable laying vessel

For a platform supply vessel being converted to support cable laying operations, Saltwater's design would address stability modifications, deck layout changes, and the addition of cable management equipment. This often involves structural modifications to accommodate cable reels, laying systems and enhanced dynamic positioning systems. Saltwater ensures that all systems are seamlessly integrated into the existing structure for safe and efficient offshore operations.

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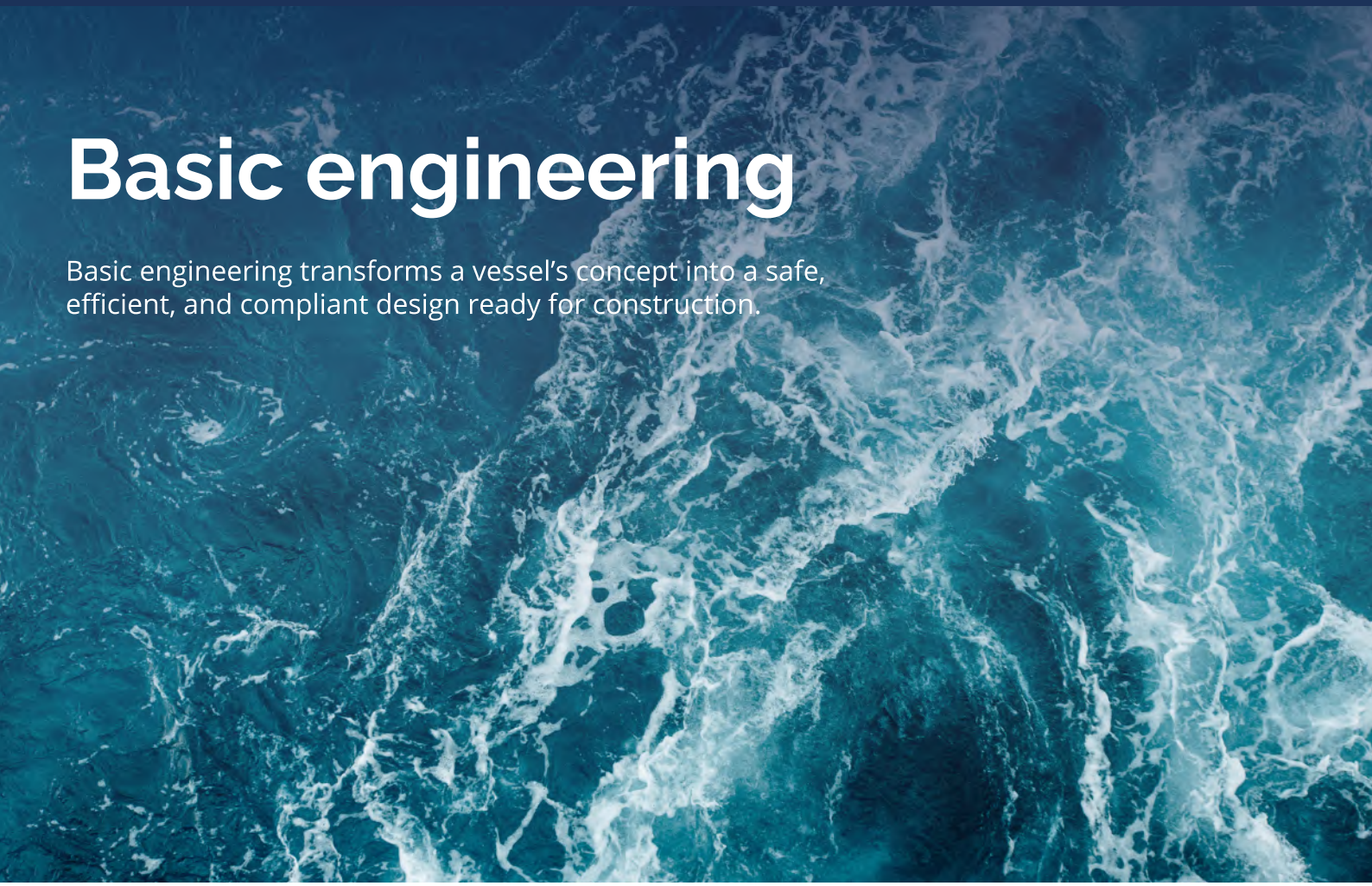
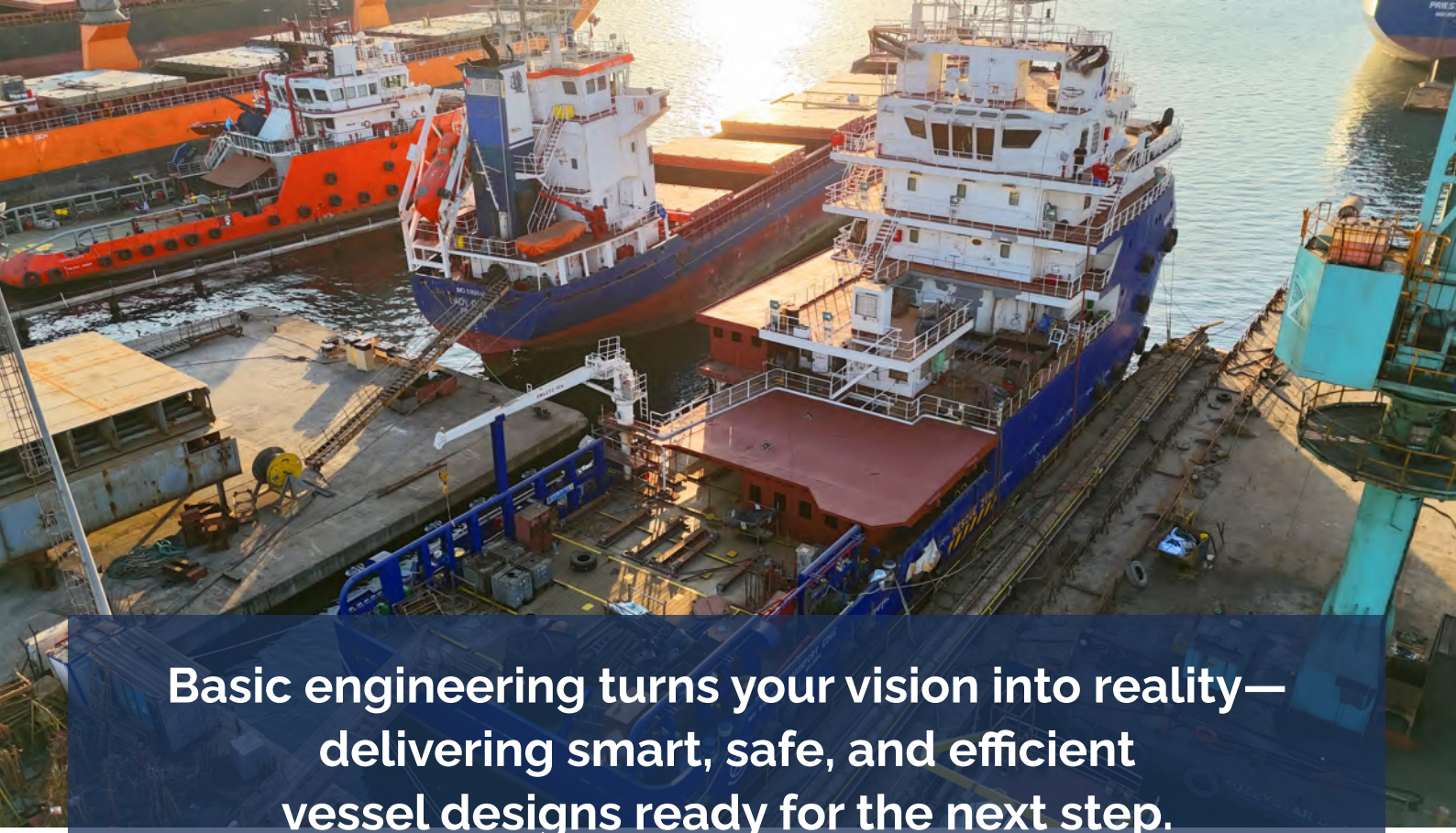


Basic engineering

Basic engineering transforms a vessel's concept into a safe, efficient, and compliant design ready for construction.

What sets us apart?

- We translate your concept into a construction-ready design
- Our engineering ensures top performance and full compliance for every vessel
- We design for seamless integration and long-term reliability from day one
- From structure to systems, we cover every detail with technical precision
- We ensure alignment with maritime standards from the very first blueprint



Basic engineering turns your vision into reality—delivering smart, safe, and efficient vessel designs ready for the next step.

Basic engineering is an essential foundation for turning a project concept into a practical, workable design. It involves developing the technical solutions needed to ensure a vessel or offshore structure is safe, efficient, and ready for detailed engineering and construction.

ENGINEERING THE ESSENTIALS

The basic engineering phase primarily focuses on translating client requirements and operational needs into a workable design, solving technical challenges, and system layouts.

It covers **key elements** such as:

General arrangement

Defining the vessel's layout, including space allocation and functionality.

Structural design

Ensuring the ship's hull can handle operational loads and stresses.

Stability and hydrodynamics

Analyzing how the vessel behaves in water, ensuring safety and efficiency.

Machinery and system integration

Planning the integration of propulsion systems, electrical networks, and other systems onboard.

Regulatory compliance

Ensuring the design meets international maritime standards and safety regulations.

PROPULSION OVERHAUL: FROM CONVENTIONAL TO HYBRID

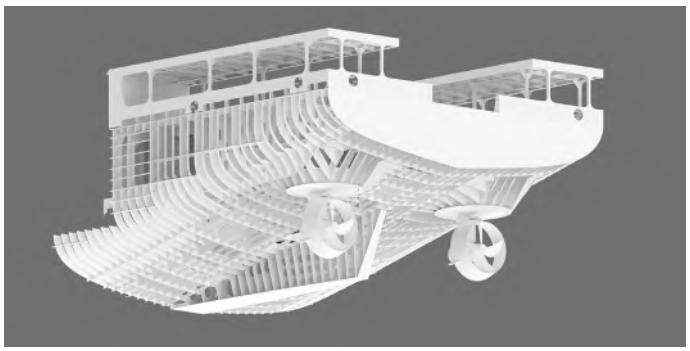
Saltwater was commissioned to carry out the basic engineering for the conversion of two geotechnical survey vessels. The project focused on modernizing the vessels' propulsion systems by replacing the conventional propellor shafts and stern tunnel thrusters with Azimuth thrusters. Additionally, a battery system was integrated to enable hybrid diesel-electric propulsion, enhancing operational efficiency and sustainability. The engineering work was based on an existing concept design, which Saltwater further developed and refined.

Through this conversion project, Saltwater successfully delivered a comprehensive engineering solution, supporting their client in the modernization of its fleet with an advanced and efficient hybrid propulsion system.

Naval architecture considerations

The conversion resulted in modifications to the hull shape, necessitating various naval architecture assessments, including:

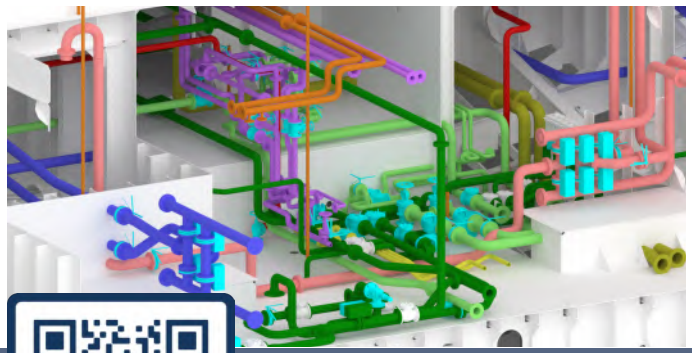
- Updates to the vessel's lines plan to accommodate the new propulsion system.
- Intact and damage stability analyses.
- Dynamic Positioning Analysis.
- Resistance and Propulsion predictions.



Engineering

Detailed engineering and construction plans were developed, covering:

- 3D modeling and detailed design using Ship Constructor software for construction, piping, and electrical systems.
- Development of routing for the piping and elaborate them into spool pieces
- Development electrical routing layouts.



Structural modifications

To accommodate the new Azimuth thrusters, modifications to the vessel's structural hull were required. The scope of work included:

- Designing and integrating new foundations for the propulsion units.
- Evaluating optimal installation methods within the vessel's structural layout.
- Conducting structural assessments to verify the feasibility of the design.

System integration

The mechanical engineering scope included:

- Determining cable and piping routes to support the overall engineering process.
- Using 3D scans of the vessel to ensure accurate placement of piping and mechanical components.

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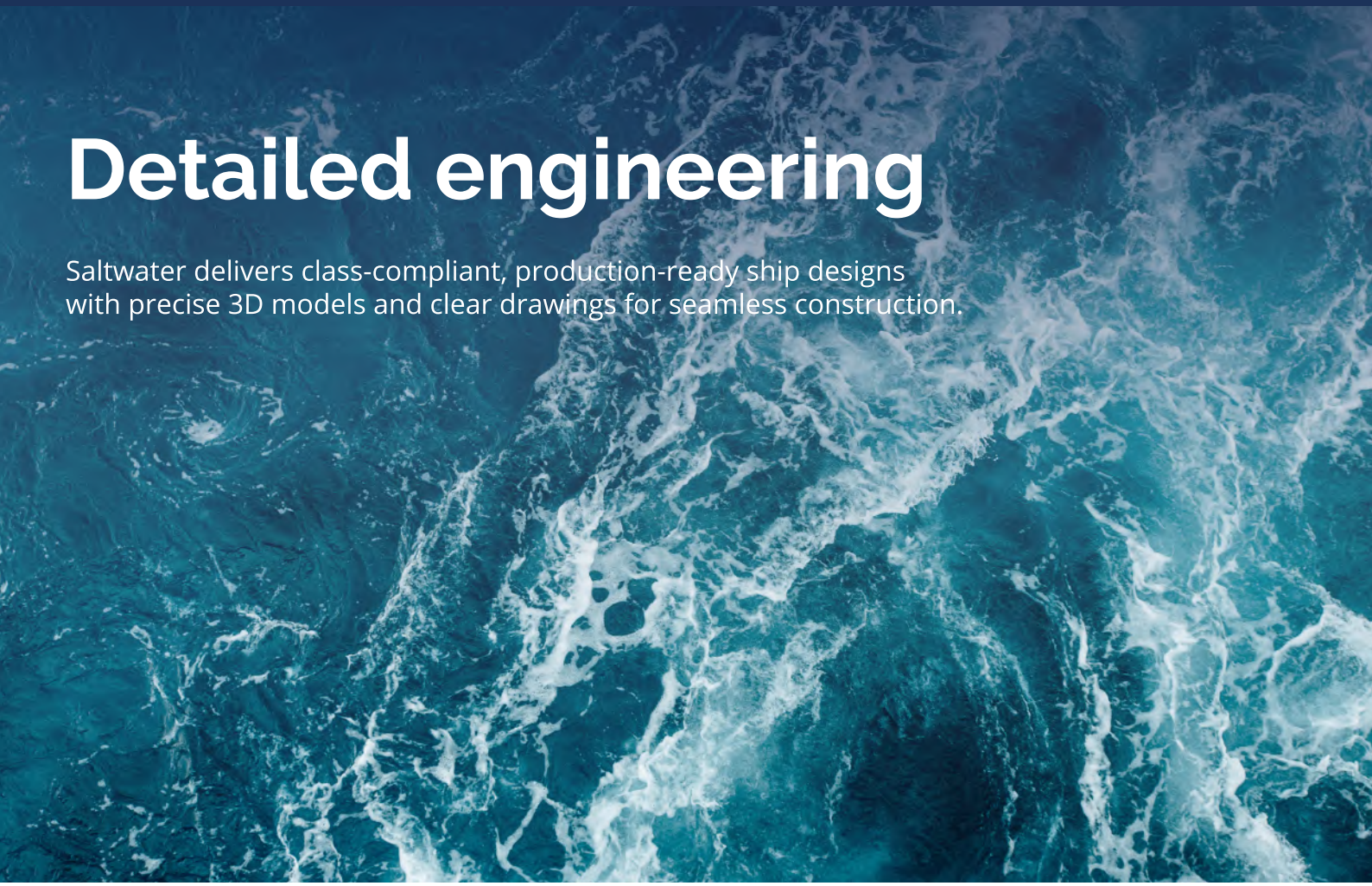


Detailed engineering

Saltwater delivers class-compliant, production-ready ship designs with precise 3D models and clear drawings for seamless construction.

What sets us apart?

- Saltwater turns ship designs into production-ready engineering packages.
- We create high-precision 3D models of structures, systems, and outfitting elements.
- We deliver clear workshop drawings, detailed isometrics, and optimized material lists.
- All designs meet class standards and support digital workflows.
- We collaborate with shipyards to prevent issues and ensure smooth construction.

From concept to construction, Saltwater turns digital designs into precise, production-ready solutions. Seamless, efficient, and built for reality.

SALTWATER: PRECISION FROM START TO FINISH

Detailed engineering is the final design stage before construction begins. It translates the basic engineering into a complete, production-ready package with exact specifications, cutting files, welding preparations, and all necessary documentation to support efficient manufacturing, installation, and integration.

Saltwater's detailed engineering ensures every component fits, functions, and is ready for fabrication.
We focus on buildability, compliance, and smooth production by delivering:

High detailed 3D modeling
Including hull structure, outfitting, piping, space allocation for HVAC and cable trays, all coordinated for clash-free integration

BOMs and procurement support
Optimized material lists aligned with the build strategy for smooth logistics and planning.

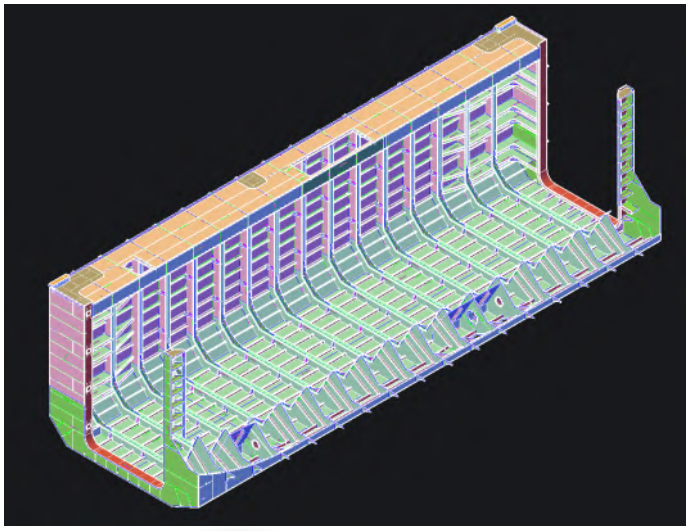
Production documentation
Clear and yard-ready workshop drawings, isometrics, cutting files, and installation guides

Close collaboration
Continuous coordination with shipyards, suppliers, and class societies to reduce risks and ensure flawless execution

Class and digital integration
Designs fully aligned with classification requirements and compatible with digital tools like PLM and ERP

TURNING COMPLEX IDEAS INTO BUILDABLE REALITY

Saltwater is actively contributing to the Fehmarnbelt Tunnel, the world's longest immersed tunnel currently under construction between Denmark and Germany. Opening in 2029, this 18 km rail and road connection will significantly enhance Europe's cross-border mobility. For the contractor FLC, Saltwater provided detailed engineering for the maintenance barge, a key vessel supporting the placement and servicing of tunnel elements. Our scope included the design and engineering of the limpet dam and its watertight door, drydock-like structures on both sides of the barge, and various topside outfitting elements such as walkways, railings, container grillages, lashing points, and crane support systems.



We transforms complexity into precision-built solutions, combining structural expertise and innovation on projects like the Fehmarnbelt Tunnel.

Beyond structural outfitting, Saltwater also engineered several critical mechanical systems for the barge, including large hydraulically operated drydock doors and precision hoisting frames. Both were designed for strength, watertight reliability, and accurate movement under demanding conditions. Using 3D modeling and detailed engineering software, all welds, tolerances, fits, and fabrication data were defined to ensure seamless production and installation. This combination of structural and mechanical expertise enabled a safe, functional, and user-friendly work platform, demonstrating Saltwater's capability to deliver complex marine engineering solutions from concept to fabrication-ready design.

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Partner up with Saltwater

Everything Is Possible

Saltwater provides customized engineering solutions for the naval and offshore industry. Understanding your challenges enables us to deliver practical, quality products and clever solutions.

Mission

Our mission at Saltwater is to engineer and develop maritime solutions that reduce the environmental impact and support a low carbon footprint. We are committed to provide innovative and efficient engineering services that meet the needs of our clients while guaranteeing safety and quality.

Vision

At Saltwater, our vision is to be a leading force in the maritime engineering industry, striving for positive change through socially responsible practices. We envision a future where our engineering solutions help to create a healthier and more sustainable world. We are committed to ship conversions and new vessel designs, encouraging a culture of young innovators and collaborating with our partners and clients to achieve our shared goals.

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