









COST-EFFECTIVE AND SUSTAINABLE DESIGN & ENGINEERING FOR THE MARINE INDUSTRY WORLDWIDE







Founded on British ship design and shipbuilding know-how, International Contract Engineering ("ICE") is one of the world's largest independent ship design consultancies.

Clients include energy industry contractors, naval shipbuilders, ship owners and commercial shipyards building or converting a wide range of ships and offshore platforms.

ICE ensures quality and cost-effectiveness through experienced project teams, state-of-the-art software, modern IT technology and advanced project management skills. Most ICE employees have degrees in naval architecture or in engineering disciplines such as structural analysis, mechanical engineering, E&I, HVAC, IT, etc. As owner of one of Europe's largest ITTC-

recognised hydrodynamic test facilities, ICE has a wealth of experience in optimising ships' hulls and propellers to ensure a high degree of energy efficiency.

We welcome any opportunity to make ICE's expertise available to former and new clients. We have the capacity and experience to do even very large projects competitively and on time. Our many repeat clients are the best proof of the quality of our services.

WE DELIVER ENGINEERING CERTAINTY.

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OFFSHORE ENERGY

ICE's experience includes 50+ FSO/FPSO projects (new construction, conversions and various studies), jack-up drilling platforms, drill ships, semi-submersible drilling rigs, self-elevating vessels for wind turbine installation, well intervention vessels, converter platforms, etc. We are familiar with global regulations including Brazilian, UK and Norwegian (NORSOK and PSA) regulations.









Experience from numerous floater projects (FPSO, FSO, FPU, FLNG, FSRU, MDU) worldwide.

Proprietary FPSO/FSO hull designs available for licensing.

COMMERCIAL MARINE

ICE has extensive experience ranging from conceptual design through basic and Class design to detail design and preparation of production information, for a wide range of ships for Owners and yards worldwide. ICE is familiar with the rules of most IACS Classification societies. ICE's senior management has hands-on shipyard experience.











Construction-friendly, cost-effective vessel designs.

NAVY AND COAST GUARD

ICE has provided basic and/or detail design for ships for several NATO and other navies and coast guards, including basic design of a missile corvette, detail design for air defence destroyers and aircraft carriers for the UK, OPVs for the Middle East and the Americas and basic design assistance for vessels for the US Navy.







Export-licensed defence design experience.
<u>Trusted subcontractor to major defence contractors.</u>

























CRUISE VESSELS, YACHTS & FERRIES

ICE has participated in a number of passenger ship design projects ranging from the world's largest cruise vessels to fast ferries, RoPax ferries and luxury yachts. ICE has been awarded contracts for structural analyses, HVAC design, design of accommodation and public spaces, EIT design, etc., for leading shipyards in France, Germany, Finland and Japan.













CONSULTING, SUPERVISION & PROJECT MANAGEMENT

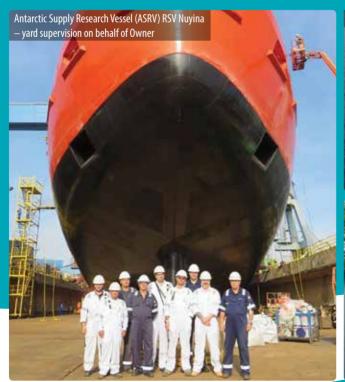


ICE is independent, with no ties to any shipyard, equipment supplier, classification society or EPC contractor. We are therefore ideally suited to give unbiased expert advice and assistance.

In addition to design and engineering assignments on a lump sum or reimbursable basis, we support clients with a broad range of management, supervision and consultancy expertise and resources. These include project management, interface management, document control, technical translation, planning, progress monitoring and cost control. We have also provided expert witness services to major international arbitration and litigation cases, and plan approval and yard supervision on behalf of Owners.

Calling on substantial experience in managing complex projects, ICE assists clients with bid evaluations, contract negotiations, technical verification, risk analyses, and procurement support.

From early concept through to production-ready detail design and delivery support.





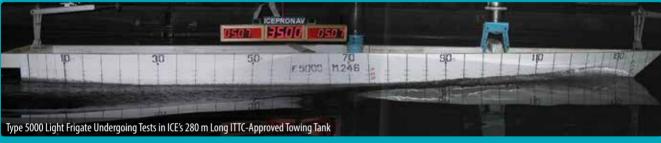


PROTECTING THE ENVIRONMENT

From designing vessels and platforms for offshore wind farms, optimising hull forms and incorporating fuel saving and low-emission fuel solutions, ICE's naval architects help its clients reduce pollution and save costs. Cost-effective selection and installation of scrubbers and ballast water treatment (BWT) systems also help to protect the environment and meet the newest IMO regulations for ECA and worldwide trading.













Smarter design choices for a lower-impact maritime future.

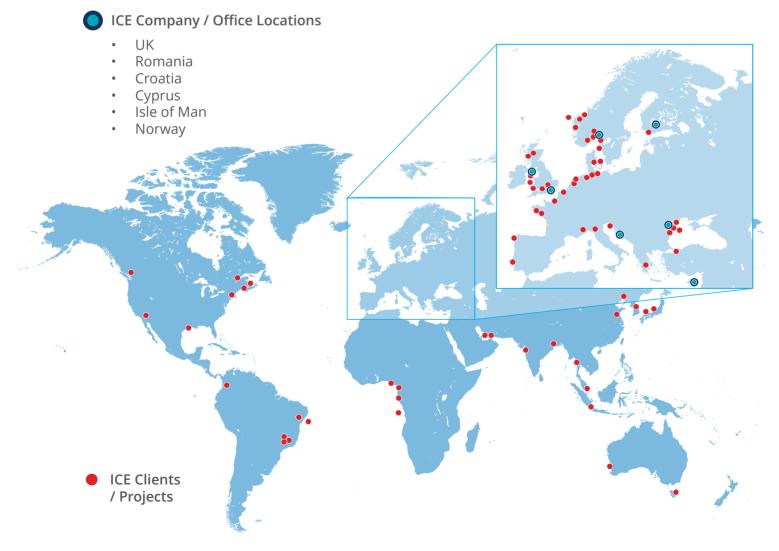
WORLDWIDE SERVICES – PROVEN CAPABILITIES

ICE has clients in most shipbuilding and offshore oil & gas regions, including Asia, the Americas, the Middle East and throughout Europe. ICE is a Corporate Partner of the Royal Institution of Naval Architects (RINA). ICE's ISO 9001 Quality Management System is certified by DNV and has been successfully audited by several international energy companies and major EPC contractors.











THE SCOPE OF OUR EXPERIENCE

- Drill ships
- Offshore wind turbine installation vessels
- SOV and CSOV vessels
- Plan approval & yard supervision
- Passenger cruise ships, ROPAX ferries and mega yachts
- · Oil and chemical tankers
- Gas Carriers (LNG and LPG)
- FSRU & FLNG Vessels
- Floating Dry Docks
- Oceanographic and seismic research vessels
- Other commercial vessels ranging from fishing vessels to VLCCs
- Frigates, corvettes, OPVs and other Navy and Coast Guard vessels
- FPSO, FSO and FPU vessels
- Semi-submersible and jack-up drilling platforms
- Offshore production platforms
- Retrofits for scrubbers, BWTS, dual fuel, air lubrication
- 3D Laser Scanning

SERVICES

DESIGN AND ENGINEERING

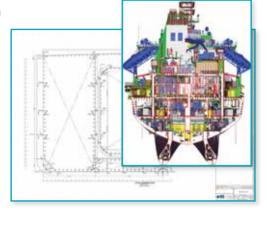
- Preliminary ship design
- Hydrostatic calculations
- · Hydrodynamic calculations
- Layout design
- Hull design and 3D modelling
- Structural design
- Weight calculations
- Mechanical systems design
- Stress analysis
- · HVAC systems design
- Power balance and short-circuit calculation
- · Classification drawings
- · Detailed designs
- · Material take-off
- Bills of materials
- · Pipe isometrics and sketches
- N/C nesting and plate cutting details

CONSULTANCY AND PROJECT MANAGEMENT

- Conceptual design development
- Project management
- Cost analysis
- Procurement assistance
- Production methods advice and analysis
- Test and test trials measurement
- · Development of trim and stability books
- Commissioning assistance
- Shipyard layout planning
- · Build strategy development
- · Expert witness services
- Risk analyses

RESEARCH AND DEVELOPMENT

- Resistance and power prediction
- · Lines development
- Hull optimisation
- Seakeeping prediction
- Manoeuvrability analysis
- Cavitation analysis
- Vibration analysis
- Noise prediction
- Sea trials assistance
- Commissioning assistance





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ALSO OFFICES/COMPANIES IN CYPRUS AND NORWAY.

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