

NEWSLETTER



An ICEPRONAV Alumnus Promoting Safer Ships

Graduating from Galati University in 1980, Dragos Rauta worked for a local shipyard before joining Icepronav in 1983. There, he became part of the team that started up its new towing tank in cooperation with Mitsui Shipbuilding & Heavy Industries from Japan.

Difficult living conditions under the former communist regime and the Chernobyl nuclear accident compelled Dragos and his wife to relocate to Norway with their newborn child. In 1990, Dragos was hired by INTERTANKO, an Oslo-based international trade organisation representing independent owners of oil, chemical and gas carriers. INTERTANKO required naval architecture expertise to support the development and implementation of double-hull requirements following the Exxon Valdez oil spill in 1989.

Dragos stayed with INTERTANKO for 33 years, serving as its Technical Director from 2000. Except for three years establishing INTERTANKO's US office in Washington, D.C., he remained in Norway, where he was actively involved in fundamental changes to how ships are designed and operated for increased safety and environmental protection. These included enhanced survey rules, stricter coating requirements, Common Structural Rules and more recent initiatives known in the industry as EEDI, EEOI, EEXI and CII. The tanker sector, formerly regarded as the black sheep of the international shipping industry, is now one of its safest.

Dragos has been an active member of several prominent committees dealing with ship safety, including with DNV,

the Korean Registry, SNAME, NACE and IACS, and he has been a visiting professor at the Dalian Maritime University in China. Now retired, he is retained by INTERTANKO as a part-time consultant.



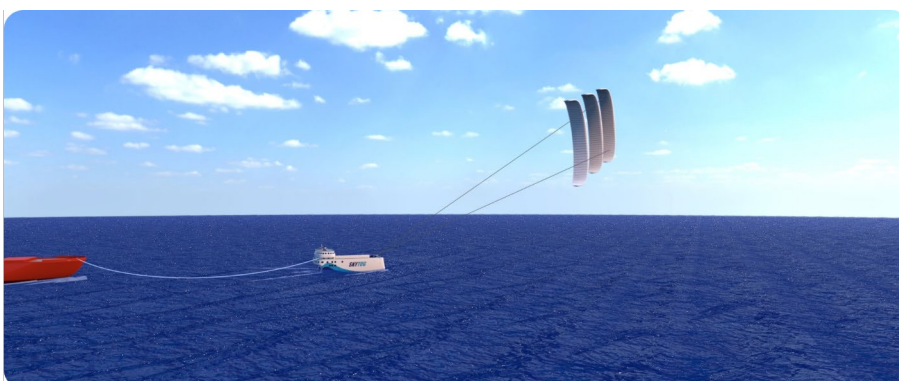
SKYTUG – Wind-Assisted Propulsion Development Update

ICE is pleased to provide an update on SKYTUG, the innovative kite-propelled propulsion concept for which ICE has provided naval architecture and design services. SKYTUG

utilises powerful wind-powered kite arrays to deliver efficient, zero-carbon auxiliary or primary propulsion for ocean-going vessels.

In 2025, Bluewater Engineering, SKYTUG's owner, successfully demonstrated the ability to hoist an additional kite into a kite array during flight. Further trials planned for 2026 will demonstrate the full process of hoisting, unfurling and flying a multi-kite array, proving overall system performance and scalability.

The European Patent Office has recently indicated its intention to grant a patent for the core SKYTUG concept, complementing the UK patent already awarded.



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SKYTUG – Wind-Assisted Propulsion Development Update (cont.)

Development is also progressing on an interim version of SKYTUG in which the kite array is integrated directly on board the ship rather than deployed from a separate tug vessel. Either way, SKYTUG's business case is compelling: it can comfortably outcompete conventional propulsion on a pure cost basis, even before considering green incentives or emissions-related penalties.

The ARGO Class Offshore Patrol Vessel

ICE has completed the concept design of the new ARGO Class Offshore Patrol Vessel (OPV), a 90-metre multi-mission platform developed to meet the operational requirements of modern navies and coast guards.

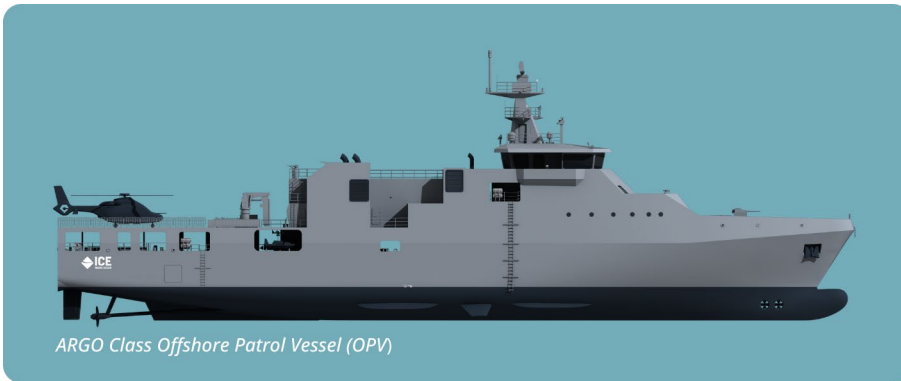
The design draws on ICE's experience in the design of patrol vessels and other naval ships currently in service worldwide. The ARGO Class OPV is intended to operate across a wide range of missions, including maritime patrol, search and rescue, disaster response and

security operations, while retaining flexibility for future role adaptation.

The hull form has been optimised to deliver good seakeeping and endurance, supporting extended deployments in demanding operating environments. Internal arrangements reflect the practical realities of long missions, with emphasis on efficient workflows, maintainability and crew accommodation.

A key feature of the design is its modular mission concept, which allows mission equipment and systems to be reconfigured with limited impact on the vessel's core layout. This approach enables operators to tailor the vessel to specific operational needs while retaining a common platform.

The ARGO Class OPV is designed to be built to proven commercial standards with military features only as necessary, offering a cost-effective and maintainable solution without compromising operational capability.



ARGO Class Offshore Patrol Vessel (OPV)

FROM OUR PROJECT PORTFOLIO: FPSO VESSEL CONVERSION



Image Courtesy: Saipem

Conversion of a VLCC to an FPSO for service offshore Angola

ICE Scope of Work:

- Conversion Engineering
- Basic design including structural analyses and Class approvals
- Detail engineering
- Shipyard troubleshooting assistance

Client: Saipem / Moss Maritime

Shipyard: Drydocks World Dubai

Year: 2006 - 07 **Class:** ABS



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With a 60-year track record and an annual output having exceeded 700,000 professional engineering man-hours, the International Contract Engineering (ICE) Group is one of Europe's largest independent ship design consultancies. We provide high-calibre multi-discipline design services to yards and owners in the commercial shipping, defence and offshore energy industries, ranging from conceptual studies and Class drawings to detail design and production information. We cover a full range of naval architecture and marine engineering disciplines such as hydrodynamics, structural, mechanical, piping, electrical, instrumentation, outfit and HVAC. Our experience includes gas carriers, passenger vessels, navy and coast guard ships, chemical tankers, drill ships, FSO/FPSOs and a range of other vessels. We also have available proprietary designs that can be adapted to clients' requirements.

With our head office in the Isle of Man and engineering facilities in Romania and Croatia, we provide high quality design and engineering at competitive prices.