

# Stricter demands drives development

TEXT: BJÖRN CARLSSON

Designers of new ships can no longer afford to disregard the environmental consequences. Quite the reverse, the environmental aspect is an important competitive weapon. Ecoship Engineering AB has taken this to heart in developing of new vessel designs for Short Sea Shipping and Expedition vessels with high environmental and safety demands.

The ship's low emissions value and high cargo capacity will enable the shipping trade to position itself as an advantageous alternative to other types of transport. The Ecoship technology is adapted in ship designs for Short-Sea tankers, RoRo and Expedition/Research vessels.

Ecoship Engineering AB represents a network comprised of leading marine technology companies, giving it considerable breadth of skills within ship designs. In a unique cooperative venture it has been possible to combine strong environmental safety awareness, high cargo capacity and energy economy in the same vessel. This leads to enhanced total economy while ensuring compliance with the strict environmental and operational safety requirements.

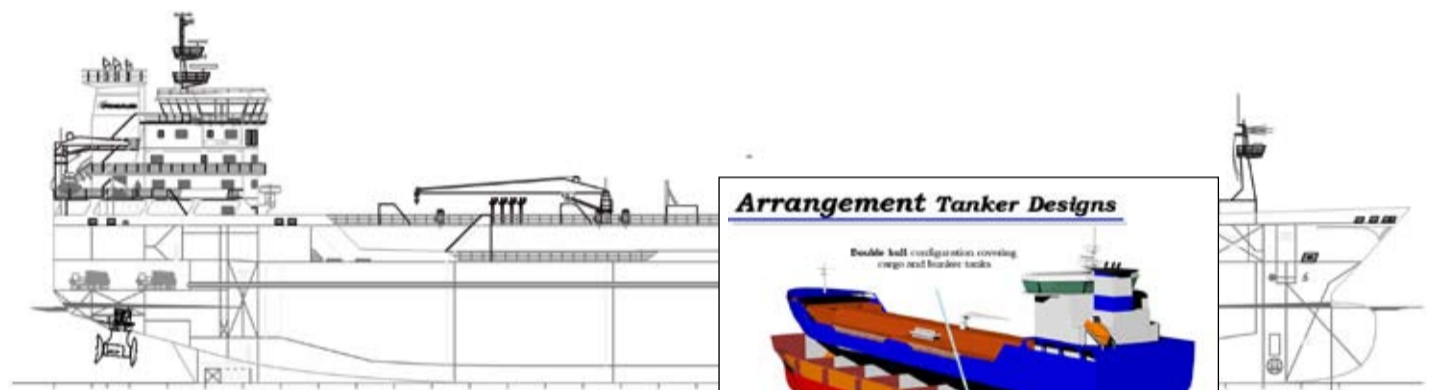
The rising demands for better environmental and navigational safety from both the market and the authorities were the starting point for development work. The systematic development of modern ship design and a new diesel-electric drive technology led to the patenting of a new simplified hull shape, developed by our partner Ocke Mannerfelt Design AB. This reduces water resistance while maintaining cargo capacity, thus leading to better total economy.

## Partner in European Research & Development Projects

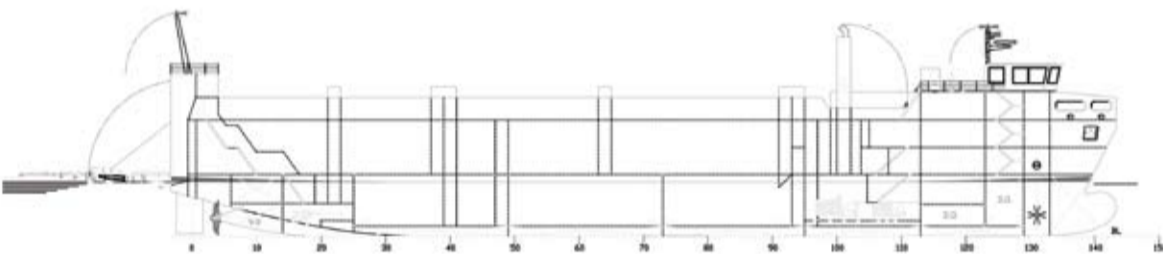
Our company have taken an active role in recent R&D projects for modern and specialised ship designs in participating with our technology of Design for the Environment.

In designing a series of modern Short Sea Chemicals & Oil Tanker designs, in range of 6 000 to 16 000 dead weight tons is developed within EUREKA, Vinnova project.

Partner in European project for specialised high capacity RoRo ships designs for River Sea and European Inland waters operations developed in the "Intermodeship", a novel waterborne transport concept for inland/short-sea operations. Project funded by the European Community.



*Ecoship 14700 dwt. Chemical & Oil Tanker Ship designs. Twin propeller 6,4 MWe diesel-electric Redundant Propulsion System with SCR exhaust emission control system.*



*Intermodeship River-Sea RoRo ship conceptual design. Twin propeller 3,6 MWe diesel-electric Redundant Propulsion System with SCR exhaust emission control system.*

## Diesel-electric propulsion system

The Ecoship design includes a new diesel-electric drive technology developed by our partner EMC, Europe Marine Control B.V. The Concept of diesel-electric drive technology is designed for multiple installations of diesel-engine generating sets and propulsion drive systems. The system gives increased robustness in the redundancy by higher availability of propeller operations at occurrence of a single failure, as well as fuel savings with reduction of environment

pollution by reduction of losses in diesel electric system.

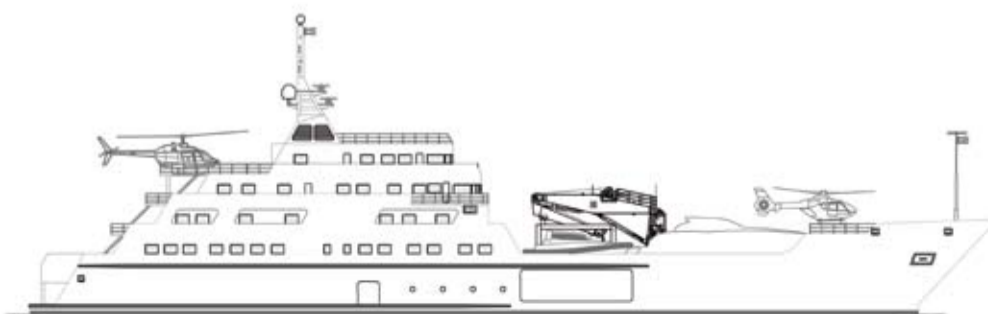
Being originally developed for offshore supply vessels with high demands for redundancy, the system makes an excellent technology for our design of Expedition / Research vessels with requirements for dynamic positioning system and for operations in sensitive water areas.

## Reduction of harmful exhaust emissions

Providing several high-revolution diesel engines

with SCR & Oxidation Catalyst reduction helps to keep environmentally damaging exhaust emissions down by more than 90 percent.

The shape of the ship and the position of the engines permit bigger cargoes, further improving profitability calculations. Taken together, the increased hold space and lower environmental impact make the Ecoship designs a strong alternative to conventional ship types.



*Ecoship Expedition / Research vessel conceptual design. Twin propeller 8 MWe diesel-electric Redundant Propulsion System with SCR exhaust emission control system. High speed, shallow draught design and arranged with "green" dynamical positioning system.*

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**ECOSHIP**

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