

Unveiled: the clean queen of the sea

By David Harrison

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It is the ship of the future - powered by the sun, wind and waves. The futuristic vessel has no conventional engines, uses no fossil fuels and releases no harmful emissions into the atmosphere or pollution into the sea.

The first ship to use the technology will be a cargo vessel that will transport up to 10,000 cars from Britain to Australia, New Zealand and other countries. If successful, it will be used on passenger ferries and cruise ships.

The wave energy is harnessed by 12 dolphin-like fins on the ship's hull, while sun and wind energy is collected by three giant, rigid, fin-like sails covered in solar panels.

The sails and fins will also help the ship to cruise at a speed of 15 knots and stability will be provided by the pentamaran hull - a slim monohull that will have two smaller support hulls, known as sponsons, on each side.

Once harnessed the sun, wind and wave energy will be combined with hydrogen and stored in fuel cells.

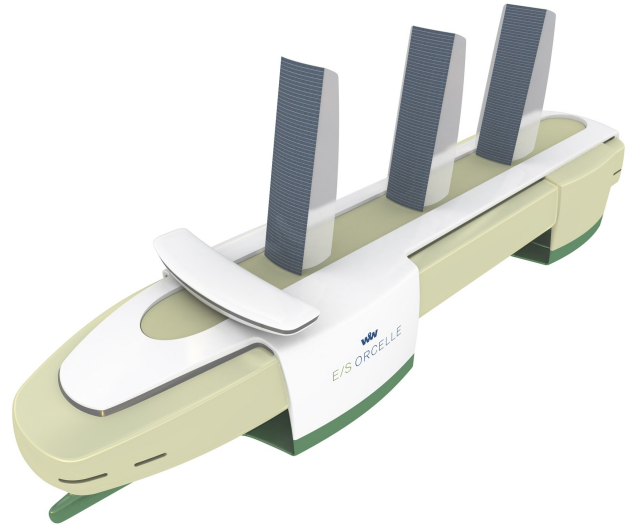
A spokesman for Wallenius Wilhelmson, the ship's Scandinavian designers who have a British headquarters in Southampton, said: "This will be the first truly environmentally friendly ship, protecting the atmosphere and marine species. It will transform ocean transport."

The international shipping company transports 160,000 cars a year, including Jaguars, Land Rovers and BMWs, from Southampton to Australia, New Zealand and other countries.

The vessel will include a cargo deck the size of 14 football pitches. It will be able to carry up 10,000 cars in emission-free conditions.

At 820ft long it will be shorter than the Queen Mary 2 (1,132ft) and the QE2 (963ft), but more than three times the length of a Boeing 747 jumbo jet (232ft).

The ship is called the E/S Orcelle after the orcelle dolphin - the French word for the Irrawaddy dolphin, one of the world's most critically endangered species. The E/S stands for "environmentally sound ship".



The ship's design means that it will not need to carry ballast water, used to stabilise traditional vessels. The collection and disposal of ballast water has worried marine conservationists for years.

Many fragile species are collected inadvertently when a ship takes thousands of tons of water from the sea for ballast.

When the water is emptied back into the ocean, often thousands of miles away, many species are dumped in alien environments that threaten their survival. The company, which has about 60 modern vessels that carry 17 million vehicles a year by sea, will unveil a model of the E/S Orcelle at Expo, the world trade fair, in Aichi, Japan, next month.

Nils Dyvik, the company's chief executive, said that a ship with some of the Orcelle's "environmentally friendly characteristics" could be launched within five years, but said that the "complete version" might not be crossing the oceans until 2025.

The cost of the futuristic vessel is not known, but Mr Dyvik said that he expected that it would be more expensive than a conventional cargo ship, which costs up to £46 million. "The cost is likely to come down, however, as the technology gets cheaper," he added.

Mr Dyvik said that the E/S Orcelle was the future of ocean transport. "It represents the achievable goal of building a zero-emission cargo ship," he said. "The shipping industry has to play its part in protecting the environment and we are determined to be at the forefront of efforts to help to protect marine life on the high seas."

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