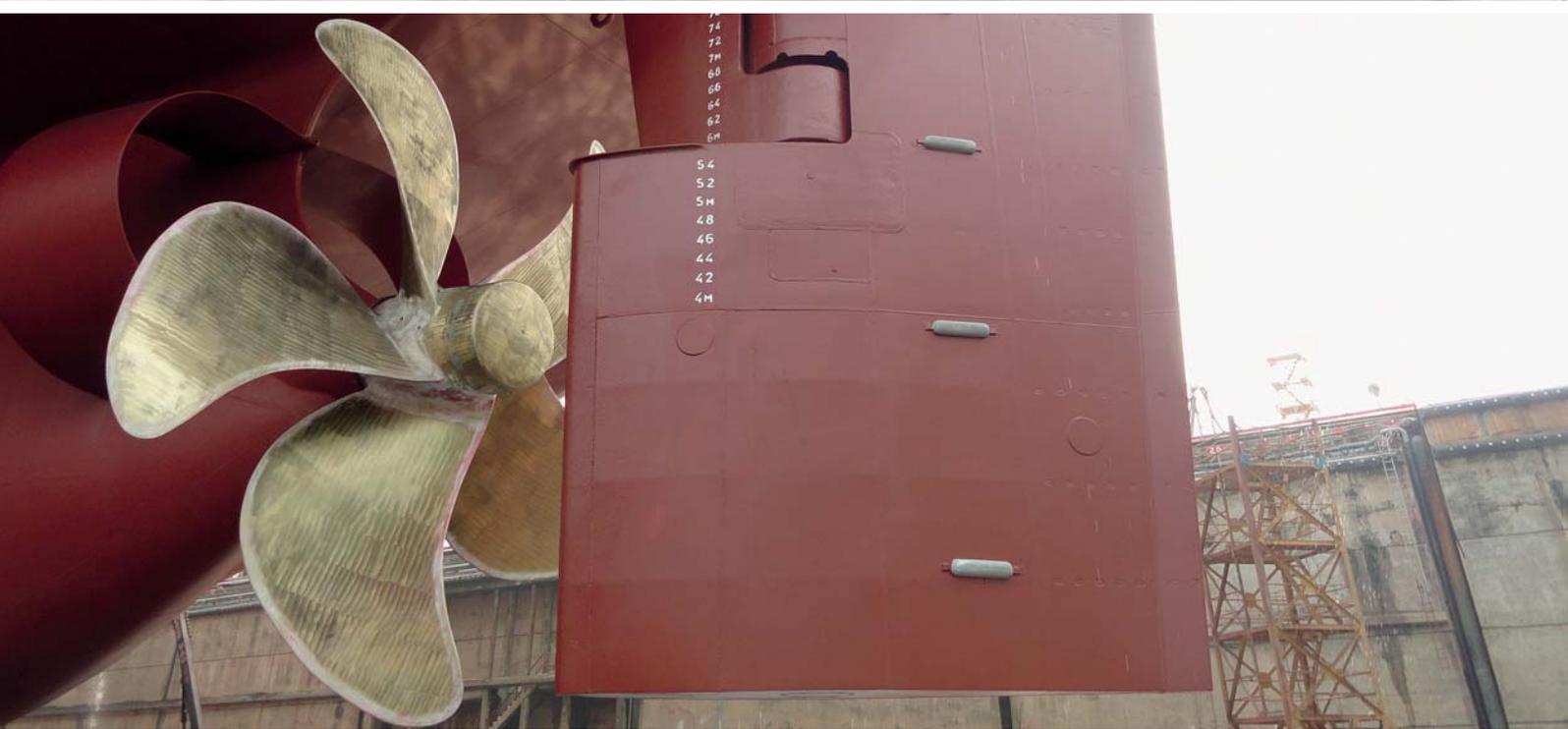


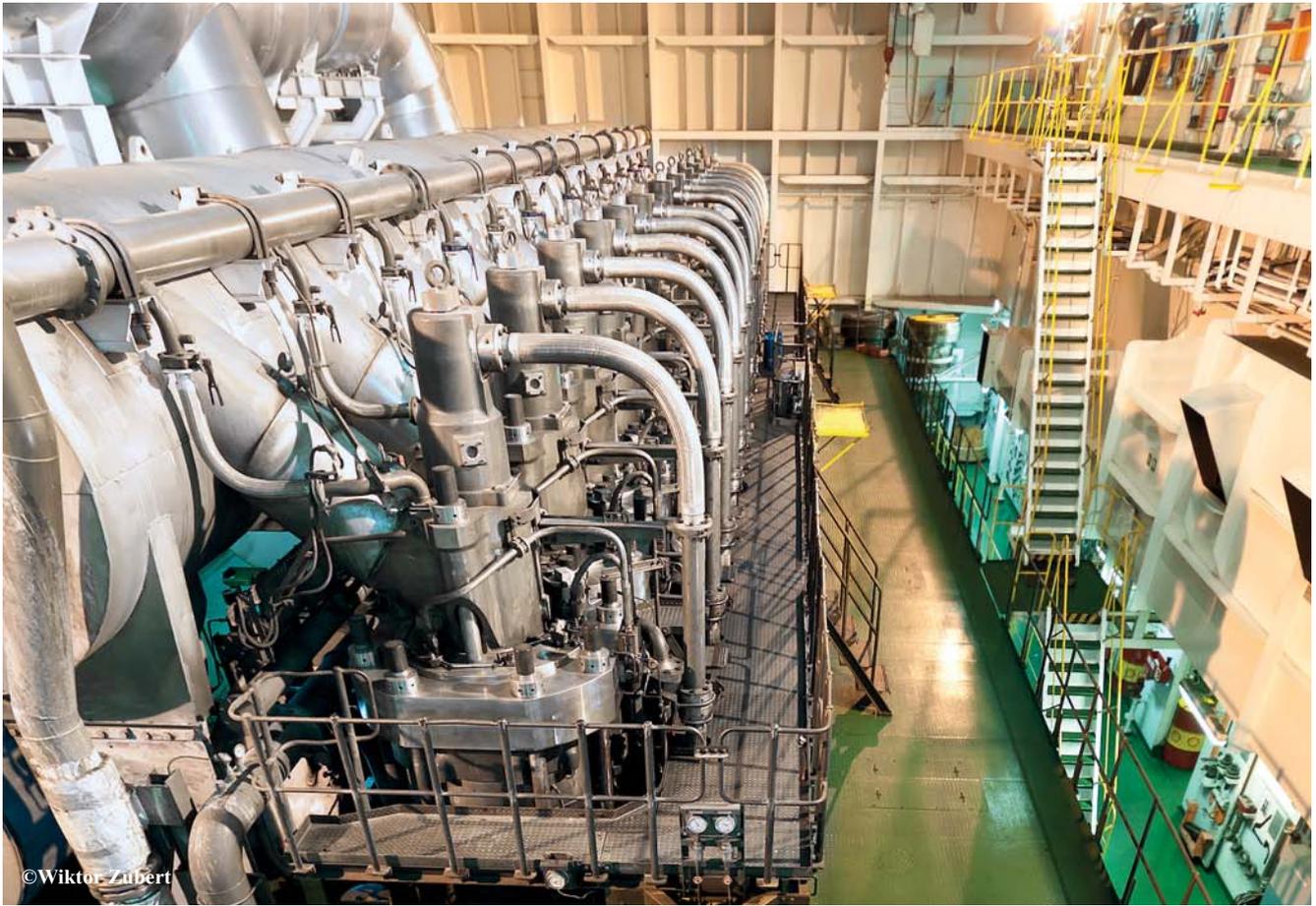
# SUBSEA

PROTECTION AND PERFORMANCE

Magazine



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## The only hull performance system that gives your engine a break

**E**cospeed provides your vessel with long-term protection and dramatically improves the ship's performance.

An impermeable and extremely tough coating is combined with an underwater cleaning system. This keeps the hull roughness at an optimum level and results

in a major saving in fuel.

Ecospeed gives a very thorough and lasting defense against cavitation and corrosion damage for a ship hull's entire service life. The coating comes with a ten year guarantee. No repaint will be needed during future drydockings.

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## Editorial



**I**n this new issue of Subsea Magazine you can read about the application of Ecospeed on a newbuild dry cargo vessel that was designed to be exceptionally energy efficient.

The vessel is the first of two VG EcoCoasters. They were designed by their owners, the *Meriaura Group*, to use only half as much fuel as conventional dry cargo vessels. Application of the second vessel has already started. For those who know Subsea Industries and our ecological goals it will be no surprise that this was a very nice project for us to be a part of.

While Ecospeed was used on both the topside and the underwater hull of the vessel, Eco-shield was used on the thruster tunnel and the rudder of the vessel. In the second article in this magazine you will find more examples of recent applications with EcoShield. This award winning coating system was designed to offer lasting protection against cavitation and corrosion damage for all running gear.



Founder Subsea Industries NV  
Boud Van Rompay

# First of two energy efficient dry cargo vessels coated with Ecospeed



*Newbuild M/s Eeva VG prior to Ecospeed application.*

**A**t the end of January the Application of newbuild m/s *Eeva VG* with Ecospeed was finalized. The vessel is the first of two very energy efficient dry cargo carriers managed by *VG-Shipping*. They will operate in the Baltic region.

Both ships are VG EcoCoasters. They are owned by *Meriaura Group* of which *VG-shipping* is a part. The vessels were designed as a new ship concept by *Meriaura* together with its partners *Foreship Ltd* and *Aker Arctic Technology Inc*.

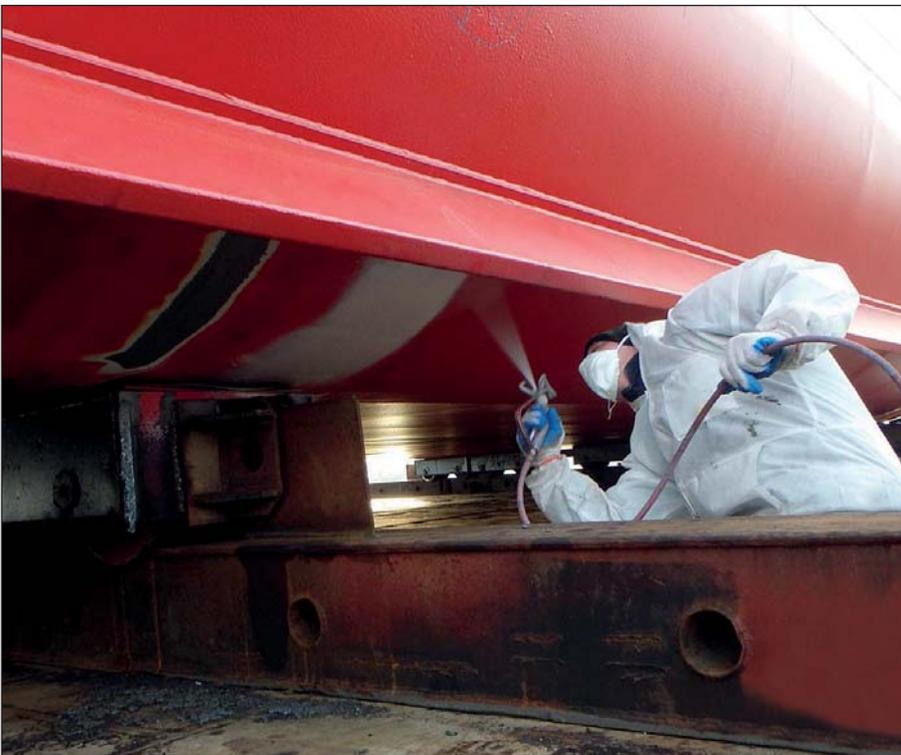
VG EcoCoasters are designed to cause considerably less environmental impact than conventional

dry cargo vessels. The hull and machinery of the newbuildings are optimized to the speed of 10,5 knots in open water conditions. Power required for Ice Class 1A is achieved by a diesel electric driven booster unit. The aim is to almost halve the fuel consumption compared to conventional dry cargo vessels of similar type and size, and therefore also cut emissions remarkably. The ships are capable of using alternative biofuels produced in *VG-Shipping's* own refinery located in Uusikaupunki, Finland. The new vessels will meet all the maritime environmental regulations coming into force in the next few years and in many cases will even exceed them.<sup>1</sup>

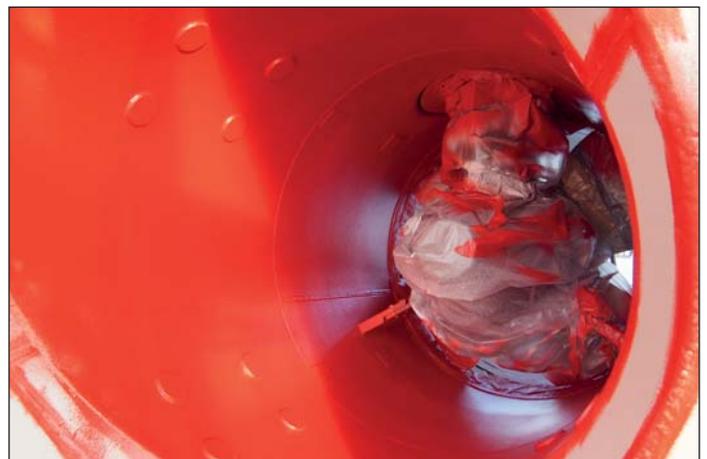
<sup>1</sup> Source: [www.meriaura.fi/en/company/news/first\\_vg\\_ecocoaster\\_launched.742.news](http://www.meriaura.fi/en/company/news/first_vg_ecocoaster_launched.742.news)



*Application of Ecospeed on topside of the vessel.*



*Application of Ecospeed on flat bottom of m/s Eeva VG.*



*The thruster tunnel was coated with Ecoshield which is specifically designed to protect running gear.*

*Meriaura Group* has entered into a contract with Dutch shipyard *Royal Bodewes* for the building of the vessels. *M/s Eeva VG* was launched on February 5th and has a planned delivery at the end of July. The second vessel is expected to follow in the autumn of 2016. Application of Ecospeed on this vessel is already well in progress.

### **An energy efficient coating for an energy efficient vessel**

These vessels were designed with a substantial reduction of fuel consumption as well as emissions in mind. It was therefore essential that they were protected with a lasting coating system that would help the owners achieve their ecological goals instead of working against them.

Ecospeed is an 100% environmentally safe ship hull coating system which in itself is already a very important benefit for a company like the *Meriaura Group* that clearly take their ecological responsibilities seriously and try to make a difference.

However, Ecospeed ties in even better with the design of the VG EcoCoasters. The coating system improves a ship's performance while at the same time providing



*Both the top side and the underwater hull of the vessel were coated with Ecospeed.*



*The bow of m/s Eeva VG prior to the final touches.*

lasting protection. It consists of a unique, entirely original and thoroughly proven system that combines the advantages of an easy-to-apply superior coating, a surface treatment for hydrodynamic optimization and a long term underwater maintenance service system.

One of the many unique factors of this underwater hull coating system is that with repeated underwater hull cleaning, the coating's surface aspect does not degrade but gradually improves. This procedure is



*Ecospeed inspector checking the layer thickness of the coating.*



*The rudder of the vessel was protected with Ecoshield.*



*The newbuild VG EcoCoaster ready to be launched.*

made easy by the coating's technical properties. Cleaning can be carried out whenever needed, at any point in its lifespan, without causing damage.

One major cruise line has been quoted as saying that they are saving 20% on fuel costs with Ecospeed compared to the earlier TBT coating which they replaced. Another owner found that they gained 3 knots over sea trials speed when they replaced their hull coating with Ecospeed.

## Conclusion

With both innovative vessels expected to be ready for operation before the end of the year, the *Meriaura Group* will very soon start to make a difference on the shipping industry. We at Subsea Industries have been pursuing a similar goal since 2000 and are proud to be a part of this project. ■

**ECOSPEED®**  
SHIP HULL PERFORMANCE TECHNOLOGY

# Underwater Cleaning Equipment

**I**n harsh underwater environments it is essential to have sturdy and reliable equipment. The unique design of our underwater cleaning machines provides the efficiency and durability required in such conditions. All our systems are carefully designed with operational safety as a prime consideration. A range of systems is available for various applications. All our cleaning units are offered separately or supplied with a complete support system including umbilical, tools and hydraulic power unit.



## MC 111

The MC111 is our smallest model specially designed for cleaning and polishing ship hulls, propellers and thrusters. The MC111 is very handy and can be easily taken into difficult corners and niches while still obtaining the desired results.



## MC 131

The MC131 is a compact unit designed for cleaning all kinds of marine fouling from yachts and smaller ships to offshore oil & gas platforms. The brush rotation speed is adjustable by the diver so as to achieve an optimum hourly cleaning rate.



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# The end of cavitation damage on your ship's running gear

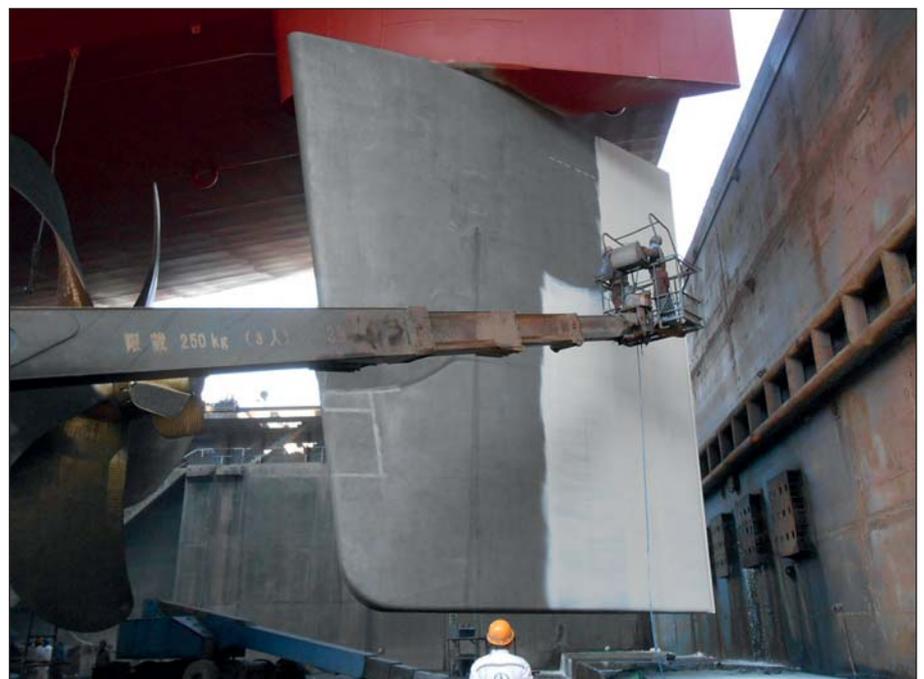
**O**ver the last few months a number of vessels have had their rudders coated with Eco-shield at shipyards in China, Singapore, Malaysia, Dubai, Poland and Portugal. These include several container vessels, gas tankers and bulkers. The applications will protect the rudders against cavitation and corrosion damage for the remainder of the vessels' service lives.

The vessels belong to different owners. Some of the owners are returning customers, some are new ones, but all of them experienced the same problem: severe cavitation damage on the rudders of their vessels coated with conventional coatings. The returning customers had seen firsthand that Ecoshield solved the problem on their other rudders and wanted the same protection for the rest of their fleet. The new ones saw the excellent result obtained by other owners.

Cavitation tests in a flow channel, carried out in Grenoble, have confirmed that Ecoshield performs extremely well even under severe cavitation. The coating will prevent corrosion damage from reoccurring on an existing ship or can protect the rudder(s) of a newbuild vessel against cavitation and corrosion damage for the life of the vessel. Ecoshield is guaranteed for ten years. As a result of the application no repainting is needed during future dockings.



*Surface preparation prior to Ecoshield application.*



*Application of first of only two required layers of Ecoshield.*

## Groundbreaking protection

Besides offering rudder protection, Ecoshield is also suitable for thrusters, azimuth thrusters, azipods, thruster nozzles, Kort nozzles, thruster tunnels and other underwater ship gear which needs special protection from corrosion. The extra strength coating protects these areas for the service life of the ship. There is no need for recoating or major repair.

The coating can be applied at the newbuild stage or in drydock for ships already in service. Overcoating time can be as short as three hours, which means that the two coats required can usually be applied in one single day.

Evidence of the success of the product is the number of companies which began by coating a rudder on one ship experimentally and went on to coat other running gear on the same ship and the rudders and running gear of other ships.

Most are converting their entire fleet as a result of seeing the pristine condition of the coated areas after sailing for several years (some up to ten years and counting).



*An Ecoshield application is very flexible and can be adapted to the yard's schedule.*



*Overcoating time in between layers is as short as three hours.*



*Application of second layer of Ecoshield.*

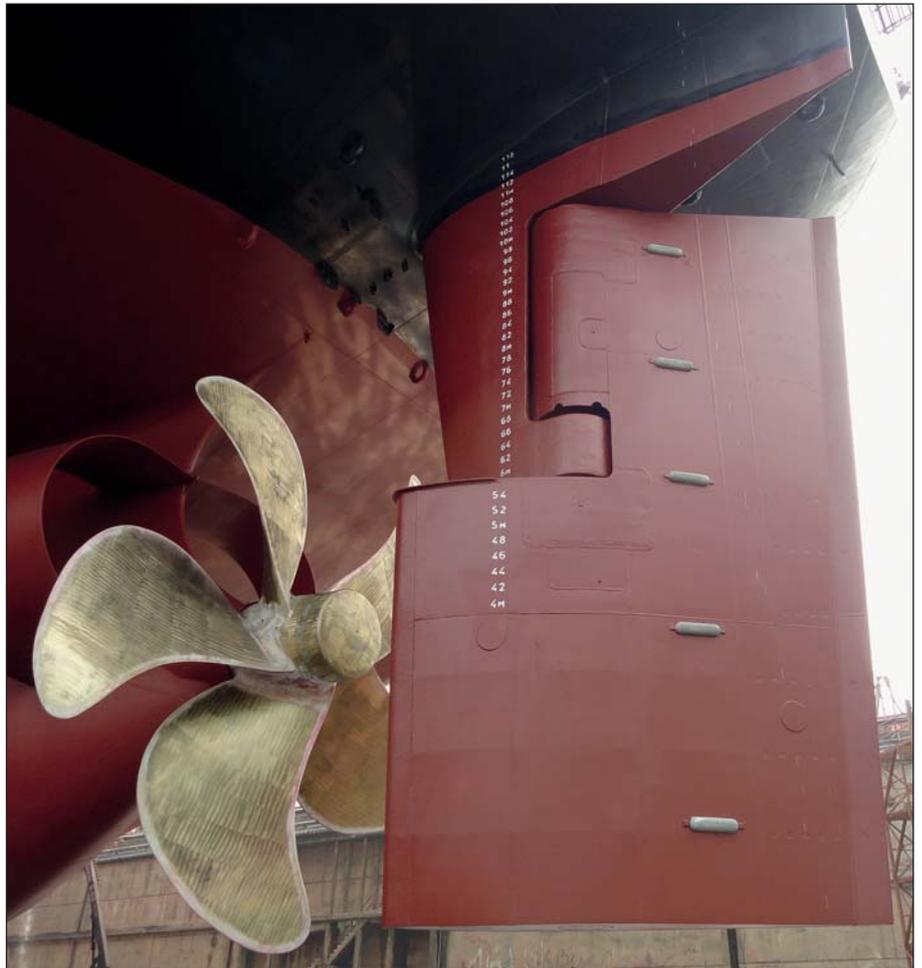


*No recoating will be required during future dockings.*



*No cavitation or corrosion damage will occur on rudders coated with Ecoshield.*

You too can give the rudders and running gear of your vessels the same lifelong protection. Contact us for more information. ■



*Ecoshield is applied in two identical layers.*



*Overcoating time in between layers is as short as three hours.*

# Save millions in drydock expenses and off-hire time



*Hull of cruise ship after 5 years with Ecospeed coating with no replacement or major repair. This is the state of the hull when the ship came out of the water, without any cleaning or touch-up in drydock.*

**W**hen your hull coating never needs replacing or major repair, you can save a lot of money in drydock fees, off-hire time, materials and labor.

Most hull topcoats are designed to be replaced once or twice every five years. The full hull coating scheme has to be fully replaced every 10 - 15 years down to bare steel. Over that time period, the coating degrades and

becomes rougher until it's no longer worth trying to patch it up. And it costs you a fortune in fuel to compensate for the additional hull friction.

Imagine a coating that's guaranteed for 10 years and is expected to last 25 without replacement or major repair. A coating that gets smoother over time, not rougher.

Imagine coming into drydock after 3 or 5 years and finding that your hull coating only requires a few minor touch-ups and doesn't even need to be washed off.

Just think how much money you will save.

Call us today for a quote to convert your hull to Ecospeed or start off right, with Ecospeed, on a new build.

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