

Zero-speed stabilisers boost comfort when the ship is stationary or at dock



First Chinese-built cruise ship: paving the way for the industry

SunStone Ships' chief executive Niels-Erik Lund explains the benefits of building the company's first newbuild in China, and how challenges were overcome

Greg Mortimer stands out as the first cruise ship built in China – and on the eve of its delivery, its owner SunStone Ships says the yard has been “very successful”.

The ship – the first of seven being built for SunStone Ships by China Merchants Heavy Industry, with three additional options – underwent sea trials on 10 July and will have a naming ceremony in September, when it will be delivered to its charterer Aurora Expeditions.

“We are very pleased with it,” says SunStone Ships chief executive Niels-Erik Lund of the shipowner’s decision to build the ship in China. And there are certainly financial benefits attached to building the ship in China. “You can get a longer financing period than in Europe, where laws say the maximum time [to repay the loan] is 12 years. In China there are no laws like that so the company can negotiate for a longer period,” says Mr Lund.

SunStone Ships tried to contract a European yard to build its new expedition ships but found all the major yards were fully booked.

China versus Europe

Mr Lund comments “We were dealing with European yards for a long time and trying to build in Europe, but all the cruise shipyards were fully booked. So, we could either go to a European shipyard that had never built a cruise ship before or to China. Many of these smaller European shipyards have now started building cruise ships. But we have seen that these smaller shipyards have limited resources, and some have been late in their deliveries of cruise ships. We therefore decided to go to China where the shipyards are large with thousands and thousands of employees. If delays happen, they can simply allocate more people to the project.

“Our position was that it was more beneficial to have a very large shipyard that did not have the experience, but which had the resources, rather than a European yard where they do not have the experience either but also do not have the resources. If they are late, they are late, there is nothing they can do about it. Lots of people warned us that we would be late if building in China, but this

Greg Mortimer, ready for launching at China Merchants Heavy Industry



ship is on time.”

A crucial part of the building process was that the equipment and design came from Europe. Furthermore, the suppliers had to have worked with the cruise industry for 15 years to be chosen by SunStone Ships. Norway’s Ulstein Group was selected for the technical design, and the company was also responsible for sourcing the equipment.

Mr Lund says “What we say is we built a European ship assembled in China. It is European designed, European managed and uses European equipment.”

Finland’s Makinen was selected to manage the interiors contracting and Tomas Tillberg was chosen for the interior design.

Mr Lund said he expected the Chinese yard to take on more of the shipbuilding project management in the next few years. But as it has not built passenger ships before, Mr Lund says that SunStone Ships has 22 people at the shipyard supervising the process. This number will be boosted to 40 now the yard is building more Infinity-class vessels.

Mr Lund said the main challenge of building ships in China is communication, due to the lack of English spoken. “That’s our main challenge but we knew that before we started and in our team

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What we say is that we built a European ship that was assembled in China”

Niels-Erik Lund
(SunStone Ships)

of 22 people, we have some Chinese speakers that understand technical language.”

SunStone had originally hoped to use Ulstein to both design and build the ship, but the ship operator was not able to get satisfactory financing in place due to a high interest rate and limited time to pay back the loan. Therefore, they decided to use the design and build the ship in China.

This is Ulstein’s first cruise ship. But its X-Bow design – used on *Greg Mortimer* – has been deployed in 115 ships and the company has built more than 50 ships in China. Mr Lund comments “This means they are very knowledgeable about supervision in China, they have a big company based there and are supervising their part at the shipyard.”

Enter X-Bow

The X-Bow design was very appealing to SunStone Ships. Mr Lund says “In bad weather the ship has a lot less pitching, less slamming, less noise, less fuel consumption and a much more comfortable ride. And we encounter a lot of bad weather as an expedition cruise operator. The X-Bow can also go much faster in bad weather, compared to a normal bow.”

He explains why. “A normal bow is very

narrow in the waterline and has almost no air in the hull, so in heavy waves, the ship will dive down and pitch until the bow hits the wave. Then you get the slamming and you see thousands of tonnes of water constantly being thrown up in the air, and that is energy and fuel consumption.

"If you see the X-Bow it is much wider and like a balloon in that you cannot press down on the water very much, so you do not have the pitching. It does not go as deep as the normal bow due to the volume of air, which means that when a wave comes up, the water goes up over the bow and falls off, so you do not have slamming, meaning you have less fuel consumption and the ship can go faster in bad weather."

He estimates the X-Bow will save 6-10% in fuel consumption annually. But he explains "In perfect weather there is no difference between the two bows, but in bad weather it is much more comfortable and saves fuel."

Comfort was a top priority when it came to *Greg Mortimer*. Mr Lund says, "We have a very comfortable ship as we have zero-speed stabilisers."

These were supplied by Rolls-Royce and are the first to be installed on a cruise ship newbuild. SunStone Ships has also just retrofitted these on to its current ship *Sea Spirit*.

Mr Lund explains "The difference is that a normal stabiliser only starts working when the ship gets up to 6 knots and they work better when the ship moves faster." In contrast, zero-speed stabilisers work equally well when the ship is sitting still or at anchor. They are active stabilisers and so move due to a gyro electronic system rather than the waves.

"Very often an expedition cruise ship sits at anchor or floats, for example in Antarctica. With normal stabilisers, the ship moves constantly which is a little uncomfortable for passengers. But with zero-speed the ship will be stable when anchoring or floating."

SunStone Ships also decided to use dynamic positioning. Mr Lund says, "This makes it more comfortable for passengers, and it keeps the ship in a certain position so that all our zodiacs sit in the right place and direction."

SRTP: a priority

The aspect of the newbuild that Mr Lund considers the most important is safe return to port. "Legally, only passenger ships that are 125 m in length upwards have to do this and so

at 105 m we are not obliged to carry this out. This is a lot more costly, but we decided to do it for safety reasons – we think that because we operate in such remote areas of the world it is the right thing to do and we do not understand why SOLAS did not make this legislation apply to cruise ships under 125 m."

Four Wärtsilä engines have been used, with two that are large and two smaller in size. Each of the engine rooms contains one large engine and one small one. Mr Lund says "It means we have full flexibility as the engines are exactly the same, there are just a different number of cylinders (six on one model and eight on the other) and a different engine length, so this is beneficial from a spare parts point of view."

They also help fuel efficiency as they can be mixed and matched. The diesel-electric engines are built to IMO Tier III, meaning they are the least polluting diesel engines in the world.

Mr Lund adds "We decided that the ship can only run on marine gas oil (MGO), we cannot switch. That is on purpose, so that we can be as green as can be."

Brunvoll thrusters and pitch propellers are used, with an arrangement of two shafts and two propellers. The ship will also deploy a heat recovery system.

The ship has an area in the back for up to 20 zodiacs and two garages for kayaks and other water toys.

The seven Infinity-class ships have all been chartered by different cruise operators. "Each charterer designs its passenger areas of the ship, some have swimming pools some are without, they have differing numbers of restaurants as they operate in different places, with different demographics and passengers," says Mr Lund.

The vessels range in size between 65 to 93 cabins and from 130 to 200 passengers.

Aurora Cruises, which is chartering *Greg Mortimer*, is "very expedition-minded", says Mr Lund, and so has a helicopter deck instead of a pool. It has two restaurants and 80 cabins with 160 passengers.

Mock-up cabins have been created at the shipyard for charterers to view and decide upon décor.

SunStone Ships has certainly set a precedent for the cruise ship sector by being the first to build a cruise ship in China. Now that it has successfully completed its first ship to be built there, other operators will no doubt follow. *PST*



Snapshot CV

Niels-Erik Lund

(SunStone Ships)

Niels-Erik Lund has over 40 years of experience in the passenger ship industry. His main responsibilities include applying his insight towards acquiring secondhand cruise ship tonnage for existing clients and new investor groups and managing newbuild initiatives. Prior to founding SunStone Ships, Mr Lund was one of the founders of International Shipping Partners and until 2012, was the company's largest shareholder in addition to serving as its president and chief executive. He also previously served as president and chief executive of Scandinavian World Cruises/SeaEscape and worked with DFDS in Copenhagen, Denmark.