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International Maritime Review

Amazing Grace

The first LNG-powered cruise ferry is taking shape in Turku

LNG surges in popularity

LNG-fuelled ships are the rave of the new, greener marine industry

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AIDAmar dazzle record crowds in Hamburg

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editorial

BETTER EFFICIENCY CONNECTS ENERGY AND MARINE CLUSTER

The need for energy efficiency is large in the maritime industry right now. Energy efficiency has already been a key question for several years in the energy industry and that is why the Finnish industry has focused on developing advanced technology to promote it for a long time.

The key issue is to decrease emissions through decreasing overall energy use. This means, in practice, more efficiency. The issue is the same in shipping and maritime operations as it is in power production and energy transmission and distribution.

Today, the energy cluster and the marine cluster are technically very near to each other. They include corporate and organisational networks, which offer a good base for the European Energy Efficiency Platform. The platform should take a broad approach and cover the entire chain of marine cluster, operation for transporting cargo or other maritime operations. The platform should focus on reducing energy consumption in the most cost-effective way possible.

The energy & marine cluster together should enhance the knowledge and competence in the industry by addressing joint issues and letting people, who are working with energy efficiency and related matters, discuss these issues in a structured manner with people working on similar issues in other companies.

Around the European Union, common projects that benefit the industry as a whole should be funded in order to strengthen both energy and maritime industry.

Energy efficiency is already a business itself. The co-operation of these clusters increases the energy efficiency business of European companies and makes the enterprises more competitive in the international market.

Energy efficiency is realised through practical projects, conducted by companies, either by themselves or in co-operation with other companies. This has been clearly visible in power plant projects. It has also been witnessed, for example, in municipal combined heat and power projects in which district heating and cooling are products which directly benefit taxpayers.

A large cruise vessel and a small city are quite similar: both need lighting, warming and water treatment. This is a very important practical viewpoint considering the energy & marine cluster combination.

They are subject to many uncertainties, due to lack of relevant information, lack of knowledge, or due to unclear financing possibilities and/or lack of satisfactory return on investment. In order to increase knowledge about energy efficiency measures, a platform for sharing information and discussing relevant industry specific issues should be established.

Energy efficiency is the most cost-effective method to conduct good business at any one time. By increasing knowledge between two important industry clusters, the European Union can find small but important elements to promote economical growth and competitiveness on the global markets.

RISTO VALKEAPÄÄ
EDITOR-IN-CHIEF

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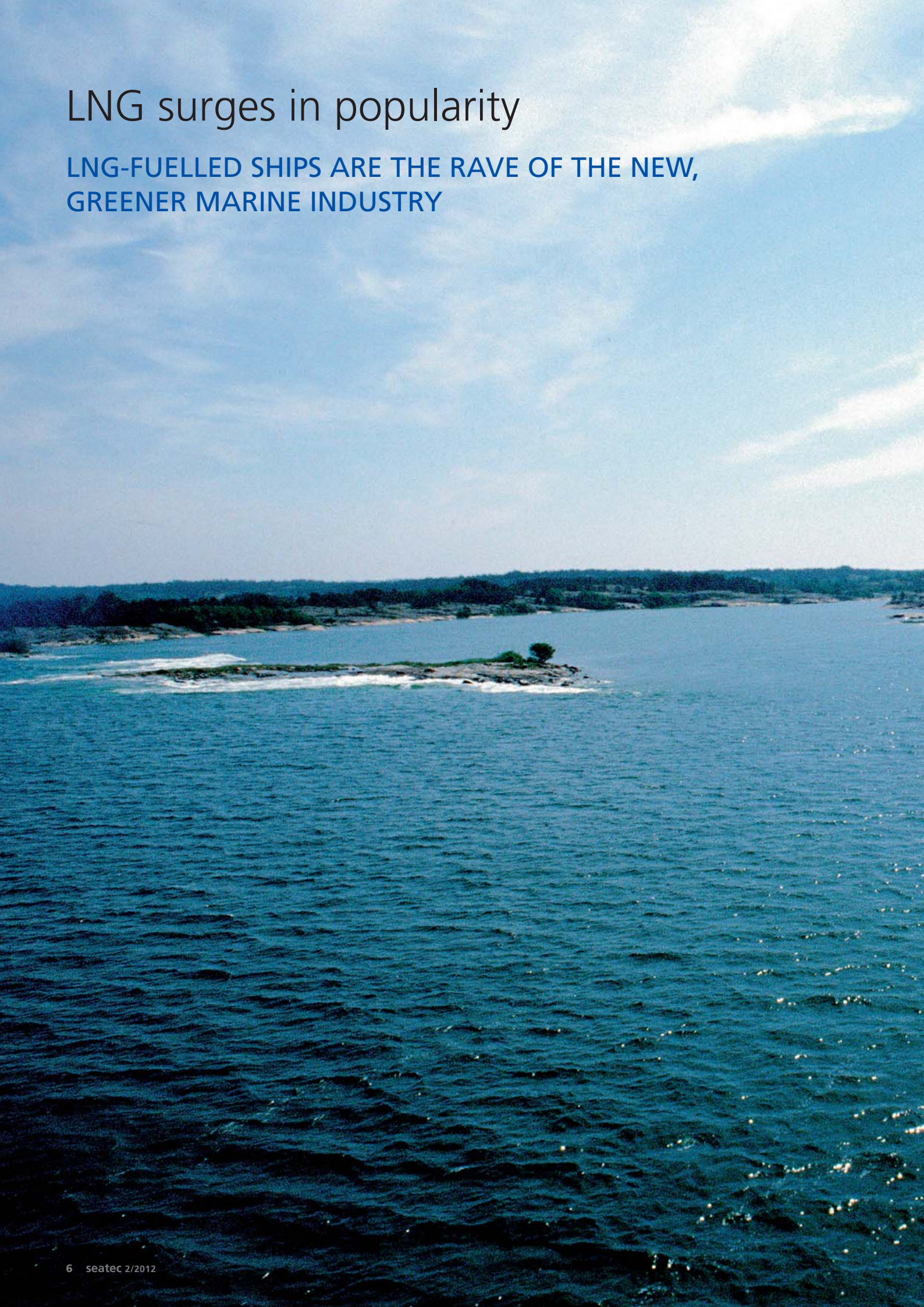
LNG surges in popularity

LNG-FUELLED SHIPS ARE THE RAVE OF THE NEW, GREENER MARINE INDUSTRY



At present, there are 63 LNG-fueled (Liquefied Natural Gas) ships in operation or under development – in comparison to 48 units which was the case in December 2011. These are the findings from a worldwide industry survey by Zeus Development Corporation.

Photos: PhotoAlto

Tom Campbell, LNG-fuel analyst at Zeus, commented that accelerating growth is what you would expect under these circumstances, but what surprised the experts was the rate:

"High oil prices, impending emissions regulations and technical advancements are propelling the market faster than we expected," Campbell admitted.

A key factor in all of this is International Maritime Organization (IMO) Tier III emissions standards – which are to take effect in 2015–2016 – requiring operators to reduce sulphur and nitrogen oxide emissions. For existing ships, after-exhaust treatment is proving more popular, but for newbuilds, operators are taking advantage of the unique properties provided by LNG.

Campbell believes that as LNG is better understood, architects are able to design ships specifically for LNG storage and propulsion.

"Firms such as Wärtsilä now offer integrated onboard fuel delivery systems and power units for shipbuilders."

Photo: STX Europe

LNG CONQUERS NEW SEAS

Zeus' survey finds that LNG usage is growing beyond coastal ferries in Europe and offshore service vessels for the oil and gas industry, to large cruise ferries and container vessels while expanding geographically from Europe to North America and Asia. Currently projects underway in e.g. Finland, Belgium, Sweden, South Korea, Singapore and Japan have made efforts

to offer LNG bunkering and incentives to support LNG-fueled marine technology.

Also classification societies expect that the LNG boom will continue. In fact, DNV's LNG Segment director Lars Petter Blikom has predicted that the majority of ships ordered in 2020 will be LNG fuelled.

At its core, this is very much a numbers game: in the coming 30 years, crude oil is predicted to reach a price three times higher than natural gas (NG). The heavy fuel oil (HFO) price is correlated with crude oil prices while LNG price is rather nicely correlated with price of natural gas. The difference between prices of diesel oils and NG is even more noticeable.

NO MORE SULPHUR WOES

And then there's the regulator's reach. Due to IMO's desire to reduce the emissions of sulphur oxides, the required sulphur maximum content in fuel will need to drop from the current 4.5 % to

0.5 % by 2020, and, in the environmentally sensitive areas, so-called Emission

Control Areas (ECAs) from1 % down to 0.1% by 2015. The latter limit is already required for ships at berth in EU ports and inland waters.

The availability of low sulphur fuel is limited and rising demand is expected to increase its price uncertainty. IMO's scheme for reduction of NOx emissions in ECAs specifies the limits for marine engine emissions. The current requirement for 20% reduction will be increased by another 75 % NOx reduction after the end of 2015.

The use of LNG will cut emission of solid particles and sulphur oxides by almost 100%, nitrogen oxides by 85% and carbon emissions by about 25%. Thus, no additional exhaust cleaning installations are required. Reduction of CO_2 emission is possible due to the most favorable proportion of number of carbon and hydrogen atoms in methane particles (CH4) compared with other hydrocarbons.

10–20% EXTRA COST FOR LNG

Typically, the new ships with LNG propulsion have an added investment cost of 10–20%.

This additional expenditure is expected to decrease in the future, depending on the number of LNG fuelled ships being constructed.

According to DNV, the main problem with using LNG in ships is the large amount of space required for the LNG tanks. Compared with marine diesel oil (MDO), an equal energy content of LNG

Photo: STX Europe

requires about 1.8 times more volume than MDO. When adding the tank insulation, noting the maximum filling ratio of 95 %, the required volume is increased to about 2.3 times.

The practical space required in the ship becomes about four times higher when taking into account the squared space around the cylindrical LNG tank. If compared with an MDO tank located above a double bottom, the total volume difference is smaller, about 3.0.

VIKING GRACE LEADS THE WAY

In Finland, the most high-profile LNG project at the moment is M/S Viking Grace. It was announced in February 2012 that AGA Gas AB will supply LNG for Viking Line's new passenger ferry, whose environmental profile symbolises a new era in the shipping industry.

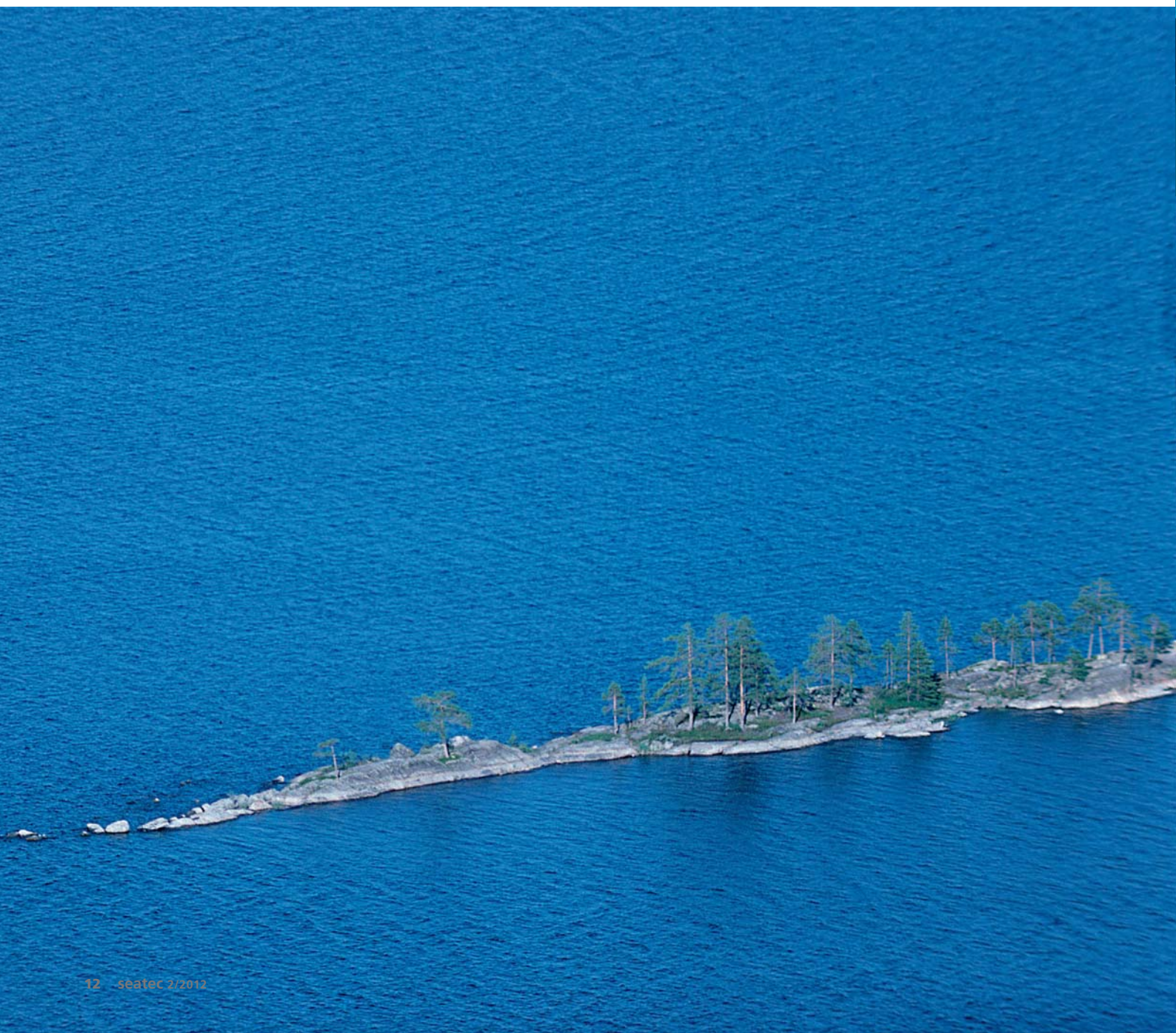
"Viking Line's and AGA's investment in LNG represents major environmental advantages compared to traditional maritime fuel," says Mikael Backman, President and CEO of Viking Line.

The liquefied gas will be stored in specially built tanks at the rear of the vessel and will have a temperature of about –150 degrees Celsius when it is bunkered and stored on board.

Backman comments that the investment is an important "flagship" for the shipping industry and a cleaner Baltic Sea.

The first-ever LNG fuel ferry, however, is to be found in Norway. Already in January 2000, Glutra, the first roro/passenger ferry in the world to be powered by LNG entered into service. Still, Glutra's range is rather limited since it operates across a small fjord with each crossing taking about 15 minutes. Nevertheless, the introduction of Glutra proved to be an important milestone for the development of LNG powered ships. ■

SAMI J. ANTEROINEN



Amazing Grace

THE FIRST LNG-POWERED CRUISE FERRY IS TAKING SHAPE IN TURKU

STX Turku shipyard is hard at work building the next generation of green-edge cruise ferries. The vessel in question is M/S Viking Grace which will be, upon completion, the most environmentally friendly large cruise ferry ever. It is fuelled by liquefied natural gas (LNG), emissions into the sea have been totally eliminated, and emissions into the air are remarkably lower than those of any other ships.

Photos: STX Europe


VIKING LINE
stx
NB-1376
KEEL LAYING

The 218-metre long cruise ferry, ordered by Viking Line, is scheduled for delivery at the beginning of 2013. Viking Grace will serve the Turku – Åland Islands (Finland) – Stockholm (Sweden) route.

The keel-laying of the ship took place in March 2012 and at the end of June, the Project Manager Vesa Airaksinen confirms the project is proceeding according to the plans at the shipyard.

"We are putting the final blocks together at the end of June and will float out the vessel in early August," Airaksinen provides an update.

He acknowledges that the project is an unusual one because of LNG fuel, but the actual routines of ship-building remain quite unchanged:

"We are doing some new things with this vessel for the first time, but for the most part, it's business as usual." For the Turku shipyard, the project brings approximately 2 600 man-years of labour in total.

CENTRE OF ATTENTION

Airaksinen is aware of the waves the newbuild is already causing around the industry: the ship has attracted a lot of interest both nationally and internationally due to its environmental innovations. The buzz is assessed to be a positive thing for STX Finland and also the Finnish shipbuilding industry as a whole – it shows the world that the cruise business can, indeed, go green.

In February it was announced that AGA Gas AB will supply the liquefied natural gas for Viking Grace. At the time, Mikael Backman, President and CEO of Viking Line, remarked that Viking Line's and AGA's investment in LNG represents "major environmental advantages" compared to traditional maritime fuel. Viking Grace will also be Viking Line's largest passenger ferry to date.

But how does LNG work in practice? – The liquefied gas will be stored in specially built tanks at the rear of the vessel and will have a temperature of about – 160 degrees Celsius when it is bunkered and stored on board.

It is noteworthy that LNG contains neither sulphur nor heavy metals. By using

this fuel, a vessel reduces its carbon dioxide emissions by 20–30 per cent compared to oil. LNG meets the emission standards of the International Maritime Organization (IMO) directive, which states that the sulphur content of vessel fuel may not exceed 0.1 per cent by weight starting on January 1, 2015.

SMART SYSTEMS ONBOARD

In addition to LNG, the ship will also feature a new type of energy management system. Viking Line chose ABB's energy management system for marine applications software – EMMA – to help manage energy-related processes, practices and decisions on the new ferry and to make sure that fuel would be used efficiently from the very first day of operation.

Project Manager Kari Granberg at Viking Line comments that one of the top priorities at Viking Line is to lower the emissions and fuel consumption of the fleet:

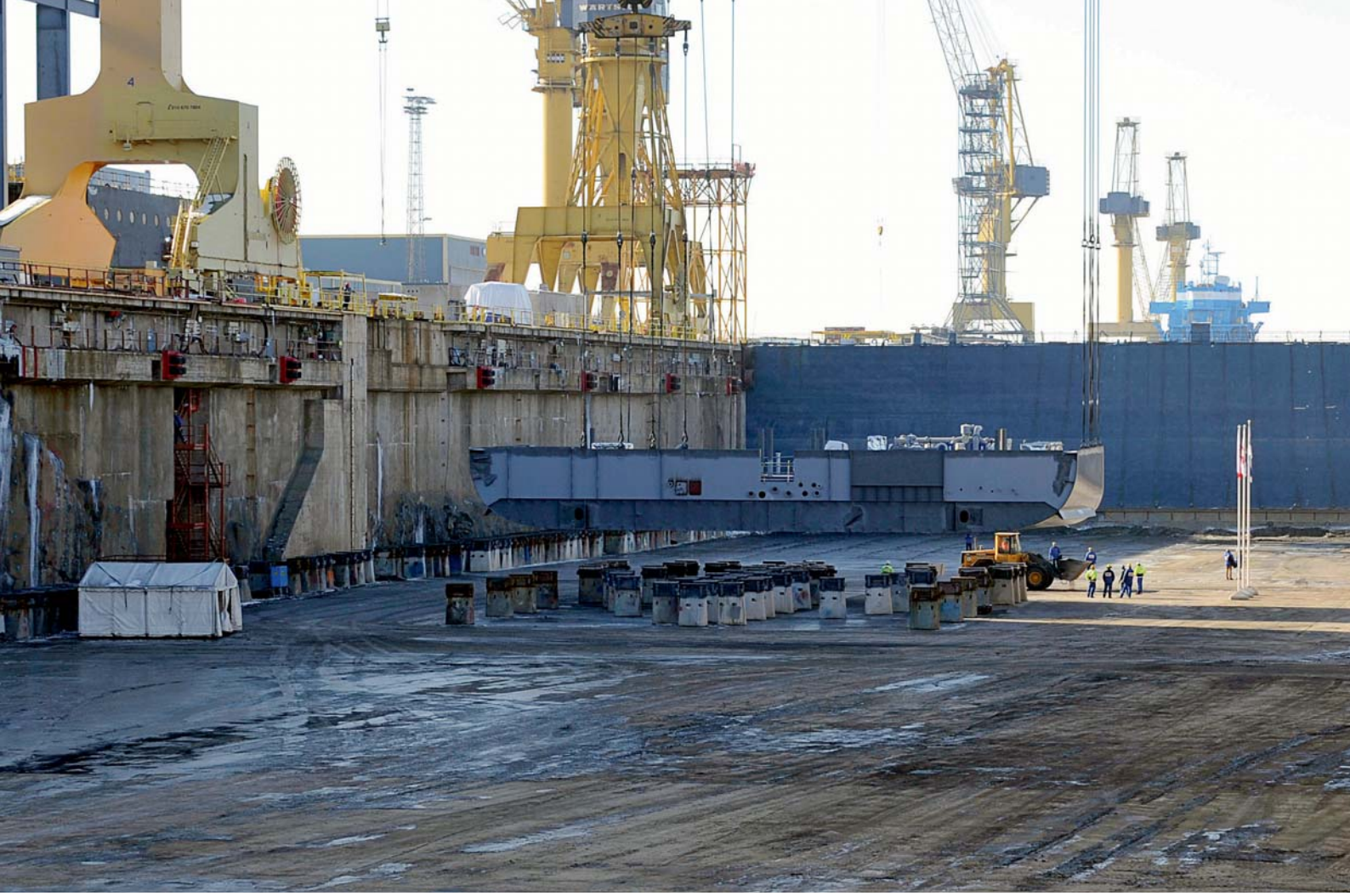
"We were looking for a good monitoring tool that automatically regulated power consumption and was as easy to operate as a traffic light. As a result, ABB's EMMA became our first choice," says Granberg.

According to ABB, EMMA is a tool that draws on the successes of energy management systems in the process industries and applies them to the specific challenges faced by ship operators.

ABB's scope of supply to Viking Line includes EMMA software, which compares and analyses the historical and current operational data of the vessel, then calculates and advises on areas for improvement with easy-to-understand displays. It also includes an extended energy management tool that models energy consumption and calculates optimal operating conditions, so that ships can perform at the highest possible fuel and energy efficiency.

REDEFINING THE CRUISE EXPERIENCE

Setting the technical aspects aside for a moment, Viking Line is determined to make sure that the ship provides value for the passengers by creating a memorable sea voyage. With this in mind, inte-




VIKING LINE

riors wizard Vertti Kivi was brought in to work his magic on the ship. Kivi set out to redefine the sea-borne experience and, according to snippets of information here and there, he may well succeed in his task.

The design vision for Viking Grace calls for the ship to change with passage of time every day – in the morning the ship will look as fresh as the sunrise, daytime reflects regular daylight and when the night comes, the vessel dresses up for the night time.

"I don't know if there is another ship in the world that changes with the time of day," comments Vertti Kivi.

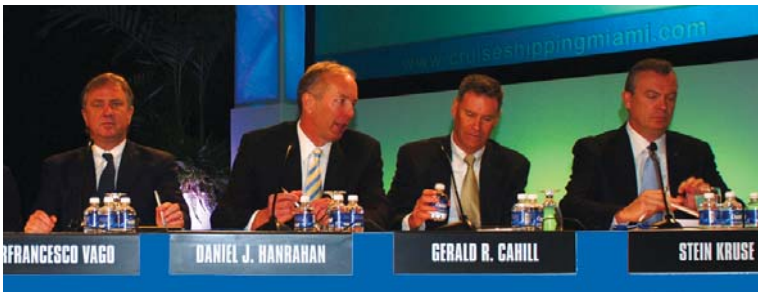
The ship will go into service in January 2013. There is already heavy interest in the new vessel among the public, and many people have booked voyages on the ship. ■

SAMI J. ANTEROINEN

M/S Viking Grace Fast Facts

Length:	214 + 4 m
Width:	31.8 m
Speed:	22 knots
Gross tonnage:	57 000
Route:	Turku-Mariehamn/Långnäs-Stockholm
Classification:	Lloyd's Register
Flag state:	Finland
Passenger capacity:	2 800
Lane metres:	Cargo 1 275 m, cars 500 m on Deck 4 plus 500 m
on Deck 5	
Planned delivery date:	January 10, 2013

The ferry will begin scheduled service on January 15, 2013. A maiden voyage, which will also be sold to the public, is planned for January 13.



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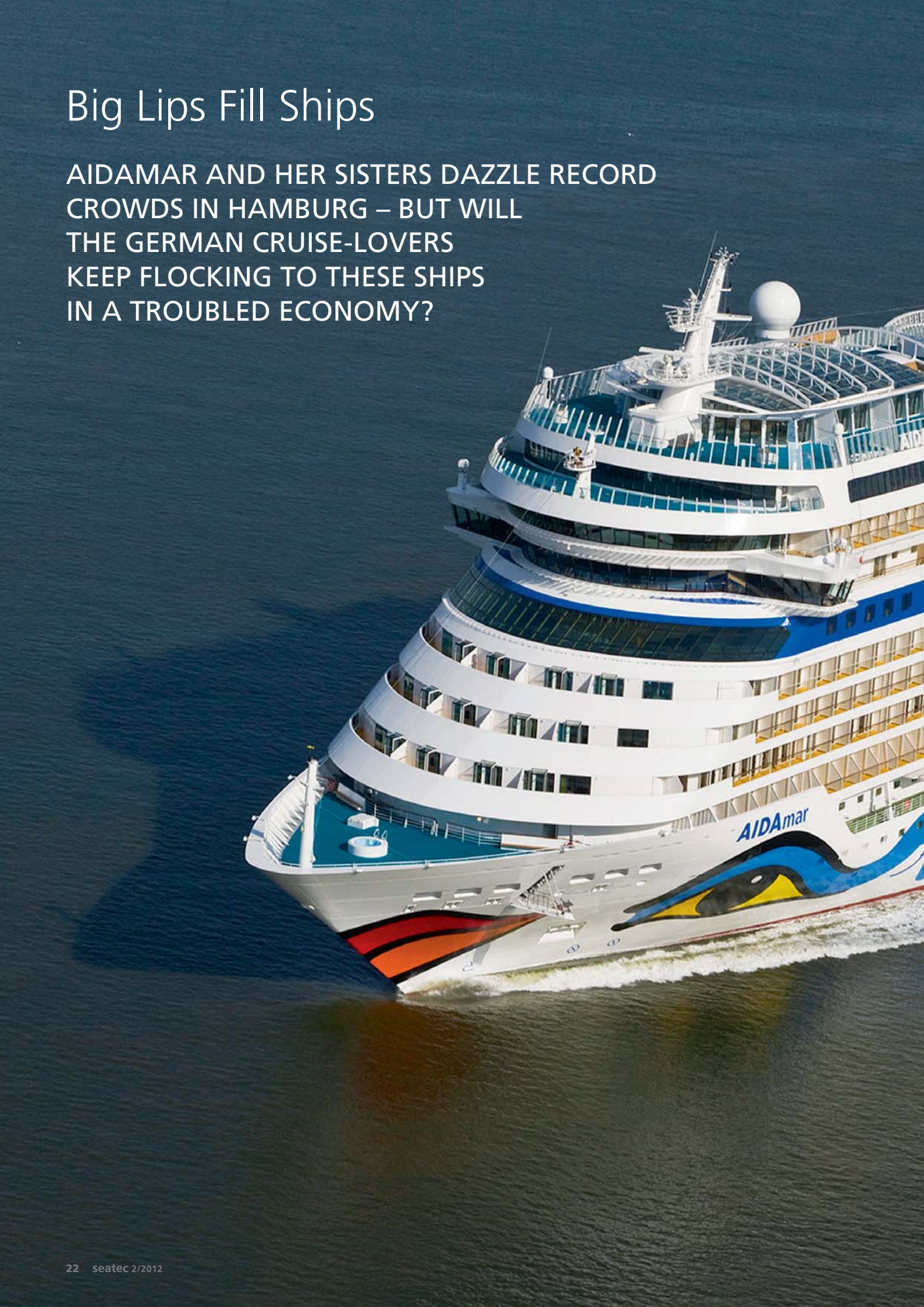
Big Lips Fill Ships

AIDAMAR AND HER SISTERS DAZZLE RECORD CROWDS IN HAMBURG – BUT WILL THE GERMAN CRUISE-LOVERS KEEP FLOCKING TO THESE SHIPS IN A TROUBLED ECONOMY?



Photos: Meyer Werft

It was a dance to be remembered. AIDAmar, the newest addition to the AIDA Cruises fleet, was inaugurated in Hamburg with three of her sisters there to witness the occasion. The inauguration on 12 May coincided with the Port of Hamburg's 823rd anniversary celebrations and it was a grand old occasion: the cruise ships AIDAluna, AIDAblu and AIDAsol were maneuvering deftly in the harbour, with numerous smaller vessels courting them.

As the night fell, fireworks exploded into the sky, turning the Hamburg skyline into a majestic garden of fire.

The inauguration of the sixth vessel in AIDA's Project Sphinx series attracted a huge crowd of 1.4 million people. Dietrich von Albedyll, Chairman of the Board at Hamburg Tourism, claimed that the Port of Hamburg's anniversary celebrations set new standards with the world's largest ship inauguration ceremony for AIDAmar. Von Albedyll commented that in terms of visitor numbers, the day also marked one of the busiest days ever in the history of the Port of Hamburg anniversary celebrations.

Michael Thamm, CEO-designate of the Costa Group, remarked that the hundreds of thousands of people watching the inauguration of AIDAmar in Hamburg experienced first-hand, how fascinating and attractive cruise holidays can be.

"The huge public interest underlines the excellent prospects for the future of our growth sector," Thamm said.

LONG TIME COMING

More than 10 000 passengers reserved cabins on board the four AIDA ships to experience the event live on the River Elbe – and the festivities did not disappoint. Also, the celebration was broadcast live on the Internet and via two larger-than-life LED screens in Hamburg.

At the same time, the AIDA executives – and those of the parent company, Carnival Corporation, must have let out a sigh of relief. After all, AIDAmar is the latter instalment in a deal that was put to motion almost five years earlier. In December 2007, Carnival announced that it had ordered two 71 000 ton cruise ships for its AIDA Cruises brand which caters exclusively to the German-speaking market. The two newbuilds – AIDAsol and AIDAmar – made it six new ships that the German cruise operator has ordered in just three years.

As the move linked with a significant capacity increase for a previously ordered vessel, the announcement meant that AIDA would, in fact, triple AIDA's total fleet capacity to 16 384 berths by May 2012. This was a gutsy move to begin with, but the years that followed, burdened with economic woes all around, made sceptics asks if the schedule would hold.

FROM KIEL TO HAMBURG

But hold it did. On April 9, 2011, the entire population of Kiel, Germany, was in-

AIDAmar Fast Facts

Owner:	AIDA Cruises
Operator:	AIDA Cruises
Port of registry:	Genoa, Italy
Builder:	Meyer Werft
Completed:	12 May 2012
Class and type:	Sphinx series cruise ship
Tonnage:	71 300 GT
Length:	252 m (826.77 ft)
Beam:	32.2 m (105.64 ft)


Brauhaus


DESTILLE

vited to attend the christening of AIDAsol – and a year later it was AIDAmar's turn to break some bottles.

The 2 174 passenger vessels were built at Meyer Werft shipyard at an all-in cost of €380 million and €385 million. These vessels are operating under AIDA Cruises' informal Club Resort cruise concept which is marketed exclusively to German-speaking clientele and offers a product aimed at younger, more active guests who enjoy a host of on-board amenities and facilities.

Micky Arison, Carnival Corporation & plc Chairman and CEO, has commented that with the interest in cruise vacations among Europeans continuing to grow significantly, the company is committed to investing in its European brands. The addition of these newbuilds will help to ensure that Carnival has adequate capacity to meet the growing demand, while further reinforcing AIDA's position as the leader in the German cruise industry.

Also, in hindsight the tight focus on

AIDA: Smiling all the Way

- Combining cruising, wellness holiday, city tours and experiencing nature
- Excellent service and modern comfort level
- Culinary delights of the world in different restaurants
- With one of the largest spa and sports areas in the industry
- Breathtaking entertainment, arranged specially for AIDA
- Lots of fun in the Kids Club and great programmes for teens
- Large variety of onshore tours, from the very relaxed to the active sporting variety
- One of the most modern and eco-friendly fleets in the world
- German as the onboard language

Germany seems like a brilliant move, since Germany is the country least affected by the economic uncertainties plaguing the continent. Nevertheless, AIDA Cruises has a lot to prove since Carnival has made an €2 billion investment in these six ships – and it will be interesting to see, if Germans will continue to embrace their cruises or will they start saving their pennies.

JOIN THE CLUB

Still, one has to keep in mind that AIDA Cruises revolutionised the German cruise market with the introduction of its first club ships in 1996. The contract for the building of the club ship AIDA (now AIDAcara) with the Kvaerner Masa Yards in Turku, Finland, was signed in August 1994.

AIDA Cruises was acquired by P&O Princess Cruises in 2000, which, in turn, merged with Carnival Corporation, to form Carnival Corporation & plc, the world's largest cruise holiday company in 2003. Presently, AIDA Cruises is one of eleven brands operated by the Carnival Group, accounting for less than 10 percent of the Group's revenue. AIDA's strategy is to attract younger, more active vacationers with a style that is more youthful and casual.

Presently, a total of nine club ships are in service, operating voyages to the Mediterranean, the Canaries, the North Sea, the Baltic, the Caribbean, the Arabian Gulf, Asia and Central America. By 2016, the AIDA fleet will feature a full dozen, if everything goes according to plans.

HANDLING THE LOAD

Meyer Werft is happy to note that big orders keep coming in from AIDA Cruises, filling the shipyard's order books for 2013 and beyond. The last ship of the Sphinx class, the AIDAstella, is due in late 2013.

Building the club ships for the AIDA fleet has contributed to a high utilisation rate at the shipyard. Bernard Meyer, managing partner of Meyer Werft, has admitted that the AIDA contracts are crucial for the company: it took the German yard almost two years to win them, and there was fierce competition along the way. ■

SAMI J. ANTEROINEN

New cooperation for the building of arctic ships

For maritime traffic on the Northeast Passage, a variety of accessories will be needed: ice-breakers, satellite monitors, devices for weather and ice observations, plus equipment for maritime safety services – to begin with. Of these, Finnish manufacturers have plenty of experience.

Finnish and Russian maritime industry clusters have already undertaken quite a few joint projects.

Photos: Arctech Helsinki Shipyard

The Northeast Passage is being opened for maritime traffic at a swifter pace than was anticipated. However, shipping remains a challenge since the Northeast Passage is relatively shallow in comparison with the southern routes.

Furthermore, pack ice will be encountered on the Northeast Passage from time to time. The risks of accidents on the passage are consequently higher than on the alternative shipping routes.

Research Director for the Research Institute of the Finnish Economy ETLA, Mr. Hannu Hernesniemi, expects that the Northeast Passage will offer a variety of business opportunities for Finnish corporations.

"Right now, Russia has a need for ships specifically for utilisation in the Northeast Passage traffic – and for the arctic regions generally," Hernesniemi states.

In addition to the maritime industry, Finnish metal engineering companies and their subcontractors are likely to end up with new prospects and job opportunities.

RAPID INCREASES IN MARITIME TRAFFIC

In the autumn of 2011, the question of the economic benefits to be gained from the northern maritime passage was focused on at a conference in Arkhangelsk.

"Among other things, the participants pondered on the actual traffic volumes that will eventually become feasible on the Northeast Passage. According to estimates, maritime traffic volumes on the Northeast Passage will rise to 62 million tons by 2020. This total figure consists of 32 million tons to be shipped from Russia to the Atlantic Ocean, plus 22 million tons of traffic from Russia to the Pacific Ocean."

"This will be complemented by 3.2 million tons of transit traffic, shipped through the entire length of the Northeast Passage. However, this estimate seems quite low, considering that already in the season of 2012 the estimate for transit traffic is 1.6 million tons," Hernesniemi points out.

At the Arkhangelsk conference, Mr. Igor Levitin – the Russian Minister of Communications – expressed his opinion that the northern maritime passage constitutes a unique system of transportation and that the utilisation thereof would even at the present time be profitable and sensible. He noted that a Panamax-class giant tanker ship sailed through the Northeast Passage already in the summer of 2011, assisted by an ice-breaker.

"The Russian attitude has changed in recent times. The commercial possibilities of the Northeast Passage are now becoming apparent," says Hernesniemi.

COORDINATION BY UNITED SHIPBUILDING

Already, there are significant needs for maritime transportation in the arctic regions. For instance, Norilsk Nickel is transporting ore and metals from the port of Dudinga, and a number of oil and gas companies have started to transport oil and liquefied natural gas (LNG) via the Arctic Sea.

"They have created a round-the-year shipping route utilising ships designed by the Finland-based company Aker Arctic Technologies."

Another important junction for maritime transports is the port of Murmansk that is free from ice. The importance of this district will increase within the next few years as Russia has new plans for exploiting natural resources in the northern regions.

According to Hernesniemi, Russia will have a need for specialised vessels designed for use in the arctic region, also in the future.

"In this field, Finland and Russia have a lot of potential for cooperation. Of course, cooperation between shipyards is a prominent possibility, with Arctech Helsinki Shipyard having a key role. The ownership of this shipyard is divided between Korean STX Finland and the Russian company United Shipbuilding. The shipyard concentrates on building specialised vessels for use in arctic areas but it also constructs other types of ships as the schedule allows."

In Russia, maritime cluster campaigning is advancing rapidly. United Shipbuilding – incorporating the combined forces of shipyards in Northwest and Far-East Russia – has recruited Finnish shipyards to participate in the finalisation of the ships under construction.

"At present, United Shipbuilding is in the process of building two specialised vessels, for which the hulls will be assembled in Vyborg. The Helsinki shipyard will deliver various components to be installed into the hulls. At the final stage, the ships will be brought to Helsinki for the final equipment installations," explains Hernesniemi.

"Another ship currently under construction is the so-called triangular icebreaker, capable of sailing sideways. The hull for this ship is now being built in Kaliningrad but the final installations will be carried out in Helsinki. These are but a few of the current shipyard projects."

SPECIALISED ICE-BREAKERS AND LIGHTWEIGHT FREIGHTERS

Hernesniemi believes that Aker Arctic Technology has top-notch expertise in the domain of maritime technology worldwide.

"For one thing, Aker Arctic Technology has designed a series of specialised icebreakers intended for use in maritime traffic in Russia's arctic regions. The first one of the vessels was built at Helsinki shipyard in 2005–2006 and the rest of them in Germany. Such ships are being used, for instance, to transport copper and nickel from the mining town of Norilsk Nickel and to bring back foodstuffs and other requisites."

"This type of vessel is capable of breaking ice of a thickness of up to 1.7 metres, while sailing backwards. At open sea, the vessel will sail straight ahead. There are also plans to construct a vessel capable of breaking winter ice that has

a thickness of two metres. With such a ship, round-the-year maritime traffic via the Northeast Passage to Asia would become possible."

The ice-breaker will utilise Azipod reversible-propeller technology.

Via the northern route, passage from Kirkenes to Shanghai takes 21 days – whereas it would take 39 days via Suez.

Another Finnish company Laffcomp has developed ultralight freighters that would be suitable for Russian channel and river traffic. Such freighters are 30 percent lighter than normal freighters, so that they can carry heavier cargo loads.

"These are tangible examples of practical cooperation, based on new technology", Hernesniemi says. ■

MERJA KIHL
ARI MONONEN

After hitting a reef, the ship was capsized near Giglio Island.

Salvage of 'Costa Concordia' will now proceed at full speed

The cruise ship Costa Concordia ran aground and was capsized in January 2012 in northwestern Italy, near the island of Giglio.
In April 2012, the American company Titan Salvage and the Italian marine contractor Micoperi signed the contract for wreck removal with the ship's owners. The salvage work is expected to take approximately one year.

Photos: Wikimedia

Survivors from the shipwreck are waiting to board the next ferry from Giglio Island to Porto Santo Stefano on mainland Italy.

The Costa Concordia was taken into service in July 2006. The cruise ship was the largest ship built in Italy at the time, with an overall length of 290.2 metres. The ship is owned by Costa Crociere, a company owned in turn by Miami-based Carnival Cruise Lines.

On the night of 13 January 2012, the Costa Concordia was on a tour of the Mediterranean off the coast of Tuscany, approaching Isola del Giglio. The ship was steered perilously close to the island's shoreline, hitting a reef on the east side of Isole le Scole. Within a couple of hours, the ship floated to its present position near the cape of Punta Gabbianara and partially sank. At least 32 people perished.

There are concerns that the ship's wreck may now cause environmental damage as oil spills would endanger flora and animal life. Pollution of the coast would also harm the local tourism business.

EXPERIENCED SALVAGE TEAM

In April, Costa Crociere and the Costa Concordia Emergency Commissioner's Office announced that the tender for the removal of the ship from Isola del Giglio has been awarded to Titan Salvage, in partnership with the Italian company Micoperi.

Titan Salvage is an American-owned specialist marine salvage and wreck removal company, part of the Crowley Group. Founded in 1981, the company has its primary offices and response depots in Pompano Beach, Florida. Micoperi is an Italian marine contractor and a specialist in underwater construction and engineering.

According to news reports, the contract is worth approximately USD 288 million.

The work was started in early May. It is expected to take about 12 months.

HULL TO BE RE-FLOATED, PULLED UPRIGHT, STABILISED

On 18 May, 2012, the chosen salvage contractors – along with the ship's owners and the Emergency Deputy Commissioner, Mr. Franco Gabrielli – presented the approved plans for removing the wrecked ship Costa Concordia.

The plan, which will re-float the vessel's hull, was designed to ensure the lowest possible environmental impact and to minimise harm to economic and tourism activities. As a precaution, salvage staff will work to remove asbestos from the ship.

The base for the salvage operations will be off the island, near Piombino, where equipment and materials will also be stored.

There are four stages of operation in the salvage plan. First, once the ship has been stabilised, an underwater platform will be built. Watertight boxes – or caissons – are to be fixed to the side of the ship that remains above water level.

Two cranes fixed to the platform will pull the ship upright, helped by the weight of the caissons, which will be filled with water. When the ship is upright, caissons will be fixed to the other side of the hull to stabilise it.

Finally, the caissons on both sides will be emptied and filled with air. Once floating, the wreck will be towed to an Italian port.

After the removal of the wreck has been completed, the salvage team will clean the waters to minimise environmental damage and to restore the marine flora.

"We are very pleased to have been chosen to perform this incredible operation to remove the wreck of Costa Concordia," says Mr. Richard Habib, Vice President of Titan Salvage. ■

MERJA KIHL
ARI MONONEN

Area Managers view for the Baltic area

Shipping plays an essential role in the global economy and aims to ensure safe and reliable transportation. The complex risk facing the shipping industry today mean that everyone involved needs to focus on quality and safety at sea as a first priority.

The stricter regulation and extensions of Emission Control Areas have put the industry under sharp environmental focus. The IMO regulations are defining the Baltic and part of the North Sea as a SECA (Sulphur Emission Control Area) with a max 0.1% sulphur in the ship fuel from 2015, as part of limiting pollution to the air.

Class societies acting as Recognised Organisation on behalf of the Flag States are responsible to enforce the implementation of this requirement. Since the Baltic is one of the first areas to implement such regulations, we are deeply involved in working out practical and safe solutions together with the rest of the industry. Solutions developed for the Baltic could well become the model for other SECA areas around the world.

Another hot environmental topic is related to global warming as a result of increased CO_2 emissions. In addition to ongoing work in international forums such as IMO, DNV are together with the industry working to find energy efficient solutions both regarding design and operation of vessels. Achievements here also have a direct impact in terms of reduced fuel bills and are thus attractive. DNV has also taken a clear position to advocate LNG as an alternative fuel for certain segments and trade.

In addition to emission to air, another challenge is the implementation of the new Convention for the Control and Management of Ship Ballast Water likely coming into force the next couple of years.

With the above examples, we see that new regulations and requirements are being introduced at an increasing frequency. For the designers, fabricators and operators, it is essential to be aware of and take account of new regulations as well as being able to anticipate important future regulatory trends. Here class societies have an important role to play, and we are continuously heavily investing in research and innovation, not least in order to provide advice on more energy efficient solution and improving safety at sea.

The rising cost of energy and increased public concerns about the environment have resulted in significant changes in the Cruise/passenger and other segments, as a class society working closely with different stakeholders, DNV is in unique position to understand how the different elements of ship design and construction work together to achieve improved energy efficiency performance. This kind of process based approach also gives owners access to DNV's expertise.

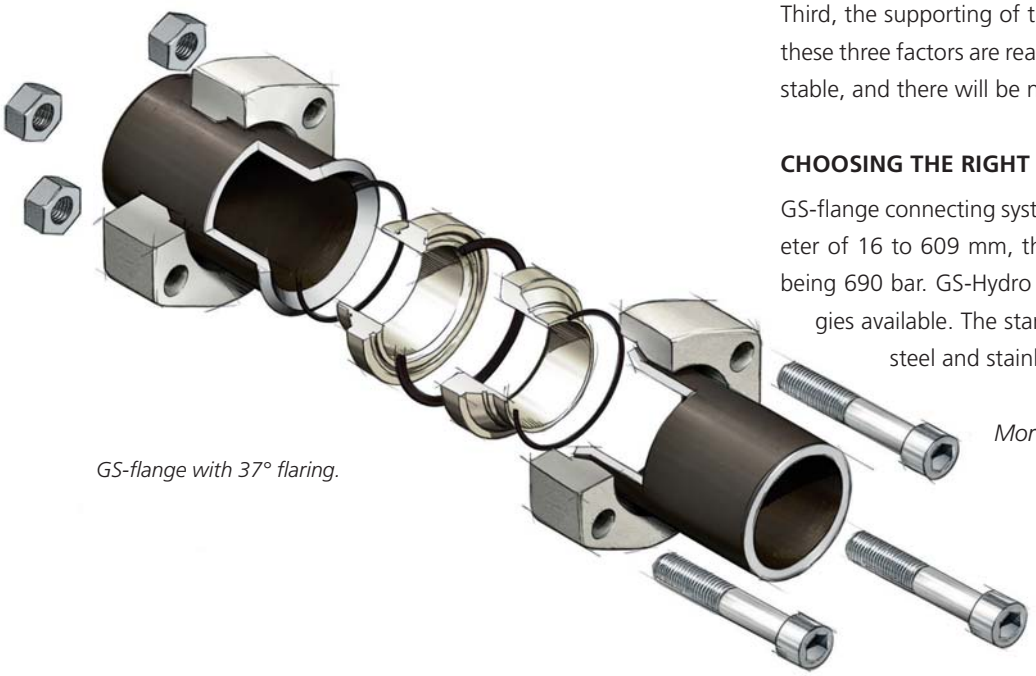
With our long history and hundreds years of experience, we have accumulated a hugh amount of knowledge and technical expertise within the Industry. This has positioned DNV so that we can offer added value not only through class process but also through full menu of advisory services for the industry with the common aim to improving safety performance and the vessels efficiency.

We have lately developed several concept ships as the basis for dialogues with ship owners, yards and designers in order to find solutions and innovations in response to emerging market needs and new regulatory requirements, and I really hope that we will see more new and even breathtaking smart solutions integrating new technology into concepts development together with other stakeholders in the coming years to come. I believe the innovation is key and will be the critical success factor in the future, in a meantime looking forward to see and experience the next generation vessel to be delivered to our area M/S Viking Grace... ■

FREDDY FRIBERG
AREA MANAGER FOR FINLAND AND THE BALTIC COUNTRIES

Leak-Free High Pressure Piping Systems

GS-Hydro is the original provider of non-welded piping connections and has delivered leak-free piping systems around the world for over 35 years.



GS-flange with 37° flaring.

There are three major factors that must be managed in the planning and installation of a leak-free piping system. First, the right connection technique must be selected. Second, a single prefabricated tube has to be dimensioned accurately enough. Third, the supporting of the pipes must be solid enough. When these three factors are realised, the piping will be tensionless and stable, and there will be no excessive strain on the joints.

CHOOSING THE RIGHT CONNECTION TECHNIQUE

GS-flange connecting system covers tubes with an outside diameter of 16 to 609 mm, the highest allowed operating pressure being 690 bar. GS-Hydro has three major connection technologies available. The standard production materials are carbon steel and stainless steel. ■

More information: www.gshydro.com

Elomatic's systematic approach to environmental retrofits

The shipping industry is facing a number of environmental retrofits in the near future as a consequence of the enhanced legislation. Elomatic has responded to this challenge by offering a systematic four phase approach to secure a successful project.

Phase one results in selecting the optimum and most cost efficient solution and technology considering a full range of technical, operational and economical aspects. In phase two the integration design with necessary authority approvals is carried out, minimising the amount of modifications. Phase three ensures a high degree of component and part prefabrication through efficient detail design resulting in optimised installation as the last phase, minimising off hire time. Laser scanning can be used to verify existing arrangements with highest accuracy in order to eliminate design and installation errors and 3D design is standard whenever needed.

Elomatic's systematic and productised process is applicable for Ballast Water Treatment, SOx Scrubber, LNG or any other conversion retrofit, bringing added value for the retrofit project.

As an independent consultancy and engineering company Elomatic is able to serve the whole shipping community from ship owners, shipyards, equipment suppliers to contractors and turn key suppliers. ■

Shipyards of BLRT Grupp will install scrubbers

Ship-repair yards of BLRT Grupp and the marine industry's solutions provider Wärtsilä has signed a Co-operation Agreement aimed at promoting the exhaust gas purification systems (scrubbers).

All ship-repair yards of BLRT Grupp will cooperate – Tallinn Shipyard in Tallinn, Western Shiprepair in Klaipeda and Turku Repair Yard in Turku. "This agreement is the new phase of cooperation between our concerns that will allow not only to conduct general repairs in our yards but also to modernise ships in accordance with the new requirements of international conventions," explained Marketing Director of Tallinn Shipyard Gabriel Avanesov.

"The success of this cooperation was confirmed by the pilot project which was carried out by our specialists at Turku Repair Yard in anticipation of a formal agreement," said Managing Director of Turku Repair Yard Hans Sundqvist. According to him, the specialists of BLRT Grupp have everything that is required to carry out modernisation works and to develop relevant projects and draw up the documentation.

The agreement was concluded for a period of three years and it involves installation of scrubbers on the ships that regularly operate in SECA zones. According to the analytics, scrubber market capacity may increase up to 70 billion dollars by the year 2025.

The international convention MARPOL (International Convention for the Prevention of Pollution from Ships), namely its Annex VI «Prevention of Air Pollution from Ships», sets limits on sulfur content in the fuel that is used in ship propulsion systems. By 2015, the limit for sulphur content in the fuel for SECA zones (Sox Emission Control Areas: the Baltic Sea and the North Sea, La Manche) shall be 0,1 percent. The most cost-effective and efficient way to achieve these goals is to purify exhaust gases. The equipment provided by Wärtsilä and installed by BLRT Grupp's yards reduces sulphur oxides by 99 percent. ■

More information: www.turkurepairyard.com

ThyssenKrupp invested and expanded in Finland

Germany's largest metal stock enterprise and multi industry corporation ThyssenKrupp is strengthening its position in the Nordic countries. The company invested 3,5 Million Euros last year into the new premises and machines of ThyssenKrupp Aerospace Finland Oy in Jämsänkoski. Through the expansion the Finnish unit targets growth and new aluminium clients.

ThyssenKrupp bought an aviation industry material provider a few years ago, Apollo Metals- corporation, which operated in Mänttä. At the same time it established a new industry group, ThyssenKrupp Aerospace Finland Oy. The business unit in Finland is also responsible for operations in Sweden, Norway and the Baltic countries. The clients are for example Patria, Saab, Rolls-Royce, Kone and Wärtsilä.

The company imports, markets and stores tool and surface aluminiums, aluminium sheets cut to measurements, specialty steel and titanium. The materials are used for different structures in aviation industry, combustion engines, power stations and other targets demanding high strength or good corrosion resistance. The service also includes the supply of machined parts according to clients' needs.

"We have worked in three different locations, and our growth targets demand merging of our operations. Now we have space twice as large than all our previous premises were together in one place. The supply times get shorter, our operations become more efficient and we get more storage capacity", says the ThyssenKrupp Finland's CEO Petri Laaksonen. ■

Beacon Finland signed a Design Agreement with Samsung Heavy Industries

Beacon Finland Ltd Oy and one of the world's biggest shipyards have signed a joint design agreement. Beacon Finland will be designing the thruster canisters for a drill ship that will be built at Samsung's ship yard in Geoje, South Korea. The agreement includes an additional option for ten similar vessels.

"The agreement and optional vessels will provide us with full employment for a total of almost three years. The design work will keep us busy for many periods lasting several months, and, all in all, this is a remarkable agreement for Beacon Finland," says Ms. Tuija Hörkkö, Managing Director of Beacon Finland.

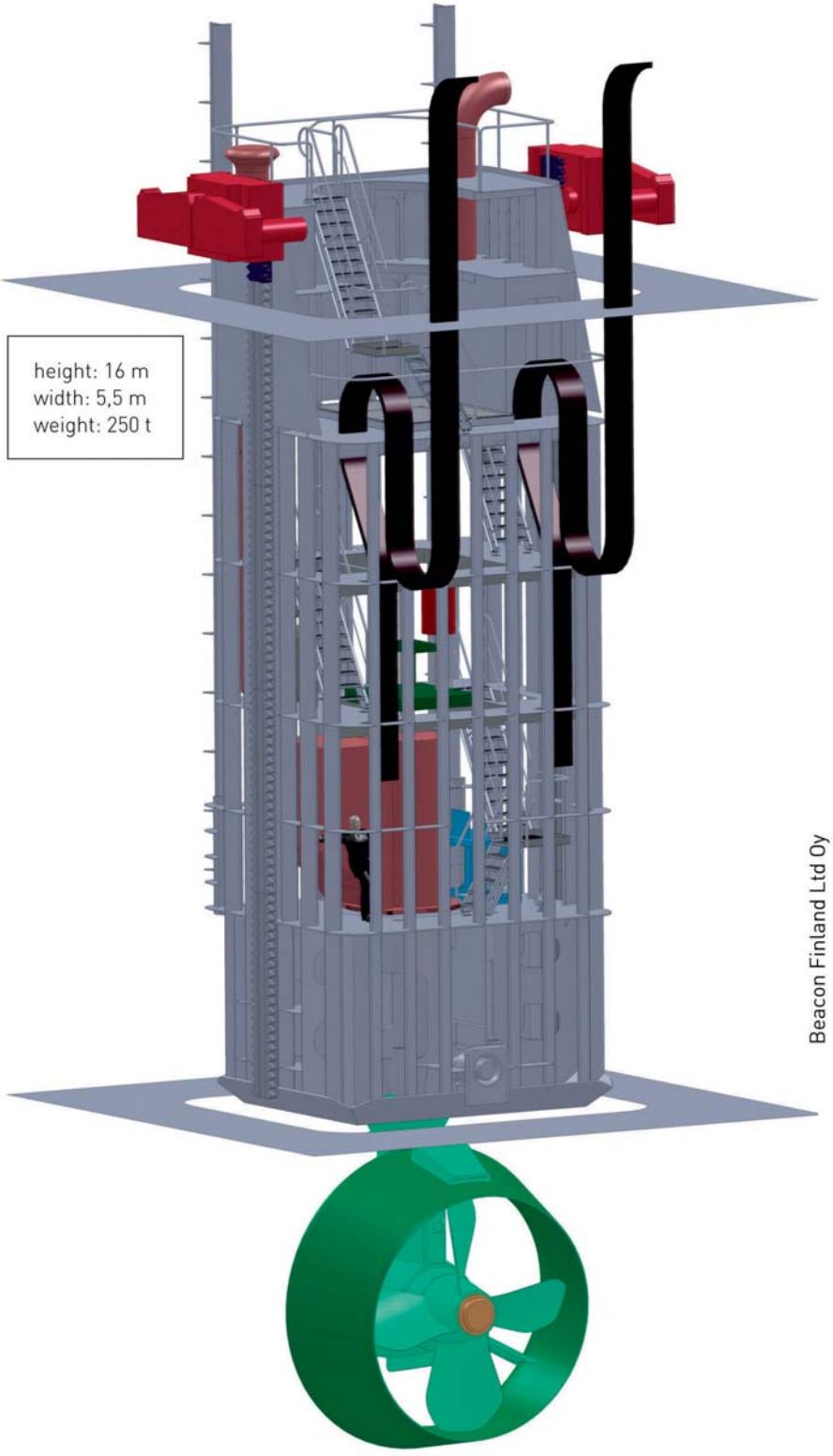
THE THRUSTER CANISTERS WILL ENABLE UNINTERRUPTED PRODUCTION

The canisters are modules that are equipped with their own engines and can be retracted into the ship when necessary. The thrusters are attached to the modules. Normally a drill ship has six thruster systems to keep it in the correct position. In deep waters, there is no possibility to use ordinary anchorage.

"Despite the fact that the vessel is not physically anchored to any site, it can retain its exact position through the use of a modern positioning technique (Dynamic Positioning) and the thrusters. The thruster systems are also used to move the vessel from one place to another," Hörkkö explains.

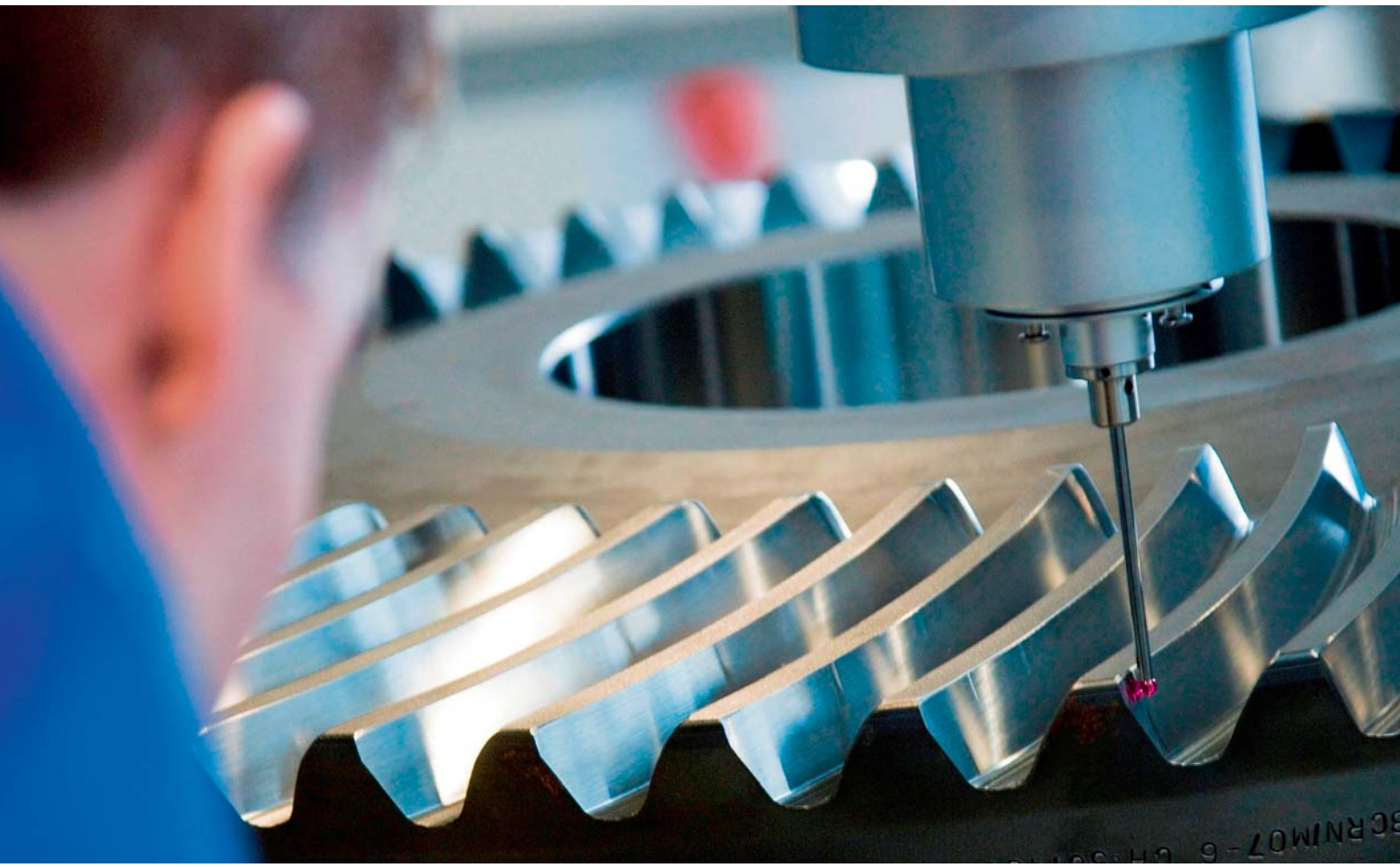
The drill ships are operating 24/7. Thanks to the canister solution by Beacon Finland, there are fewer production stops for thruster servicing and maintenance. The modules can, one at a time, be retracted into the ship for service.

The module is based on Beacon Finland's own product development. The development process has been extensive and has required a fair amount of resources. "New applications of the canister concept will be presented to relevant potential customers in the near future. The applications will broaden the usage of the concept to other types of vessels in the offshore industry, e.g. LNG and FPSO vessels." ■



Beacon Finland Ltd Oy

The thruster canisters are modules with their own engines that can be retracted into the ship for service of the thrusters. The canisters offer economic and productivity advantages as there are fewer production stops for thruster service and maintenance.



ATA keeps you in motion

ATA Gears sells, designs and produces spiral bevel gears for demanding applications worldwide.

ATA is one of the very few companies in the world that specialises solely in high-quality spiral bevel gears. By concentrating on this one product group, ATA can effectively focus all of our resources on meeting challenging gear application demands.

ATA´s strength lies in long-term knowledge of the entire process, which starts with expert design and advanced production and goes right through to full support services.

Design quality ensures that the end product meets all technical specifications. ATA´s customer service team provides customers with advanced technical services. From advice and consultation to a full design service, customers can choose the level of support they require.

The first ATA spiral bevel gear was manufactured in 1940. Today, ATA spiral bevel gears are considered the preferred choice, especially in the demanding applications used by the marine, vehicle and heavy engineering industries around the world. Customers who need dependable gears for critical applications know they can rely on ATA.

At this year's SMM exhibition, ATA will be presenting the Company's special know-how regarding the use of spiral bevel gears in propeller equipment. The marine industry's strict requirements call for process control in all phases. For many years, ATA has led the way in developing the design and manufacturing techniques of demanding propeller equipment.

Good news is on the way for customers and exhibition visitors. ATA has recently been investing heavily in modern production technology and focusing on increasing capacity. ATA's competitiveness in the market is improving thanks to shorter lead times, and increasing capacity especially in large spiral bevel gears. ■

ATA FACTS:

Established:	1937
Headquarters:	Tampere, Finland
Personnel:	190
Net sales:	EUR 43 million (2011)
Exports:	70%
Product range:	Max outer diameter 3000 mm / 120 inches Quality class: up to DIN 5 / AGMA 13

Clean Ship is Energy Efficient

"Designing a clean ship, operating a clean ship and recycling the ship cleanly are some of the key questions in maritime industry today," notes Mr. Olli Kaljala, Marine Chief Executive, Finland and Baltic States at Bureau Veritas.

"Safety is the first priority when designing and operating a passenger ship. But safe ships must also be clean ships. BV has the tools and experience to help our customers do things the clean way, and also demonstrate to the authorities and passengers that you are doing it cleanly."

"Clean ship is also energy efficient," Kaljala says.

"BV's SEECAT, Ship Energy Efficiency Calculation and Analysis Tool, is a complete ship energy use model. It can also be used to assist owners in the implementation of SEEMP, the Ship Energy Efficiency Management Plan."

"By working with ship owners, cruise ship operators and other sectors of shipping and leisure Bureau Veritas has developed a wide range of services and products to help ship owners in the implementation of environmental regulations and in the management of environmental risks," adds Kaljala.

CLEANSHIP EVOLUTION

The key tools developed by Bureau Veritas for the limitation of air and sea pollution are the class notations CLEANSHIP and CLEANSHIP SUPER. They provide a framework for equipment, operation and surveillance and a visible surety of performance over the ship's lifetime. Covering all annexes of MARPOL, these notations may be combined with other additional notations covering cold ironing, ballast water treatment and management, grey and black water advanced treatment system, and reduced level of polluting substances emissions compared to actual mandatory limitations.

When the ship reaches the end of her life, BV leads the industry in helping ship owners and yards to compile Green Passport inventories of hazardous materials built into their ships.

MASTERING ICE CONDITIONS

"Operation in difficult ice conditions is a special area of Finnish Bureau Veritas," Kaljala says.

BV has published Polar Rules and guidance on ice structure interaction. The rules cover vessels able to operate without icebreaker assistance in the high Arctic and Caspian Sea and are intended to speed oil and gas development. An ice loading and structural interaction tool, IceSTAR, was developed with St. Petersburg University. ■

RISTO VALKEAPÄÄ

Photo: Risto Valkeapää

Kemppi ArcQuality – the most advanced welding quality management system available

The ArcQuality smart reader is a clear and easy-to-use device for scanning bar codes and for sending welding parameter values to the report management server.

Welding procedure specifications (WPS) include all necessary information that a welder needs for managing the welding task. It is the foundation of all quality welding. The technical content of the WPS is determined to the detail in standards, such as ISO 15609-1 and ASME IX.

It's also likewise with the qualification of the WPS. How do the workshops observe the compliance to the WPS today, especially in manual welding work? The procedures vary according to the companies and projects. Even in most demanding offshore and nuclear power plant projects, often only random checks are made. Comprehensive control is not used, because there hasn't been a suitable commercial solution available.

To correct this fault, Kemppi with some of its key customers have developed a smart solution, the ArcQuality. The ArcQuality, or 'ArcQ', is an easy and comprehensive way of controlling that the welders are qualified and that all welding procedure specifications are followed. The system reports non-conformances automatically in real time. The system can also anticipate service needs and collect welding information for quality documentation, offering traceability up to individual welds. The productivity benefits come from increased quality and effectiveness of the

welding work, automated monitoring and faster and easier collection of project documentation.

ARCQUALITY MONITORS COMPLIANCE TO THE WPS, AND ENSURES THAT THE WELDERS ARE APPROPRIATELY QUALIFIED

The non-destructive testing (NDT) of welded joints is a very important phase but it does not produce sufficiently reliable information about the quality of the welding. That is why it is important to apply control measures also to ensure that correct work methods are used and that the welders have the necessary qualifications. The ArcQuality solution has been developed to respond to this need. It is suited to all companies that use welding.

It is based on the basic requirements set forth in welding quality management standards, which comprise the cornerstone of high quality manufacturing:

- The welder shall have valid professional qualifications that cover all the requirements of welding work.
- Qualified welding procedure specifications must be adhered to in welding work.
- Regular maintenance of welding machines must be planned in a systematic way.
- Non-conformances must be reported and addressed.
- Welded joint details must be traceable.

ArcQuality is the first quality control service that can automatically monitor compliance to welding procedure specifications, as well as the validity and coverage of welding qualifications in manual welding. The monitoring function in the system is activated when the welder's barcoded identity code, the WPS number, filler material make and, if necessary, the shielding gas designation are entered via the reader device into the system before the welding work is started.

The smart reader device compares the WPS data to the filler material make and warns the welder if a wrong filler material was accidentally selected. Thus the system ensures that the welder is always using the correct filler material. During welding work the system compares the values used by the welder and measured from the machine to the values in the WPS. A reporting server reports a non-conformance if the welding current or voltage does not stay within allowed limits. ■

DR. PETTERI JERNSTRÖM
BUSINESS AREA MANAGER/ TECHNOLOGY MANAGER
KEMPPI

Fuel Efficient Bulk Carriers: Sea Dragon Series

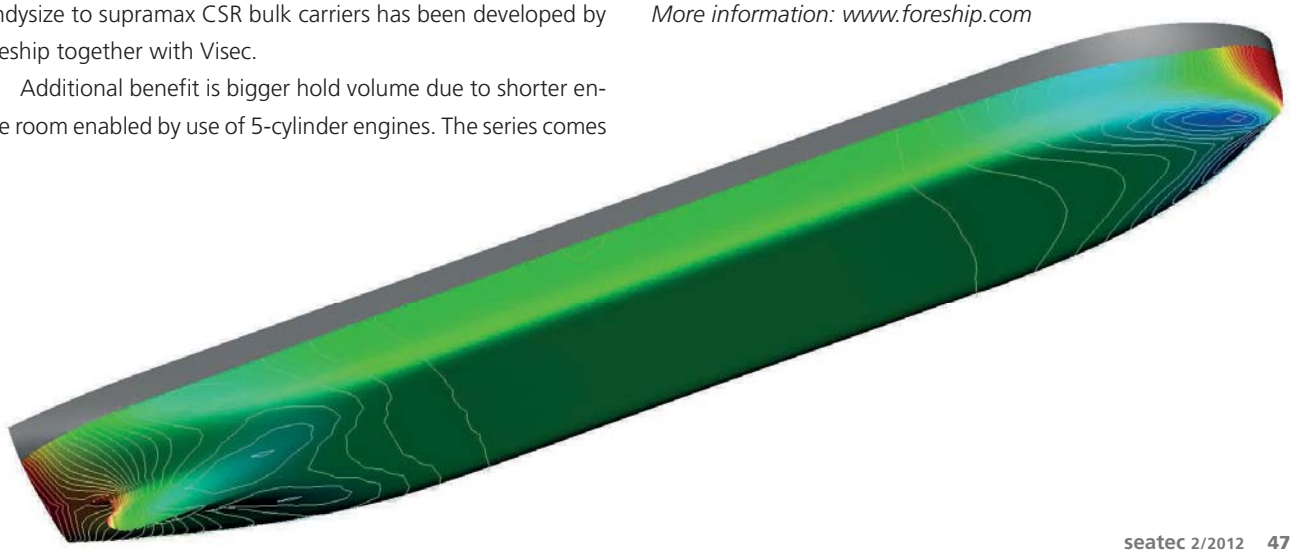
With ever increasing fuel prices and pressure on environmental impacts of shipping, also bulk carriers face need for improved fuel efficiency.

By advanced hull form development using latest CFD-tools and extensive calculations backed with long experience in cruise and naval vessel hydrodynamics, clever design of propulsion improvement devices and application of latest low speed engine technology together with big diameter propellers, a series of handysize to supramax CSR bulk carriers has been developed by Foreship together with Visec.

Additional benefit is bigger hold volume due to shorter engine room enabled by use of 5-cylinder engines. The series comes in the following sizes: 25 kdwt, 35 kdwt, 42 kdwt, 56 kdwt and 64 kdwt.

For example, the Sea Dragon 42 (42 kdwt) has 15–30 % better fuel efficiency than similar size vessels currently under construction. It complies already today with EEDI Phase 3 requirements, saving the operator up to 7–8 tons of fuel per day, representing savings of more than 4,000 USD/day. ■

More information: www.foreship.com



Marine Diesel Finland Oy – MDF is a service company for ship machinery systems

MDF has in last 12 months been involved twice in Main Engine block machining jobs. We used our new portable electric drilling (boring) unit, which can be used on most engine sizes. In this specific job we removed corroded material from a CAT 3618 engine cylinder liners landing area, and inserted as a replacement a cast steel ring. Job is demanding, requires big accuracy in drilling.

Our customer was selecting MDF for this job even though it conducted practically on the other side of the Globe, at Pacific Ocean. One important factor in here was the fact that MDF does also complete engine replacement and assembly back with conditioned components, so ME overhaul was performed same time, and ALL work was done by us.

This work was repeated twice, as two ME's needed this repair. Time in use was only 21 days for one ME. Work was possible to complete in desired time as we can send enough big team with skilled professionals. Here we had totally 15 persons in two 12 hour shifts, so work continued without breaks. Earlier, same ship was visited, when one of the ME's needed to have it's crankshaft replaced. Also then we managed to do replacement as well as engine overhaul in less than 20 days.

Latest news are for company expanding: Now MDF is outfitting our new workshop in Helsinki. Location is excellent; inside the Arctech Helsinki Shipyard in downtown, where we have rented a suitable workplace. This workshop will serve Helsinki area, ships coming to Capital or nearby ports as well as Arctech Helsinki Shipyard in their commissioning needs for newbuildings. Location is good especially for Cruise Ships visiting Helsinki at Cruise Terminal, since distance is only one kilometre!

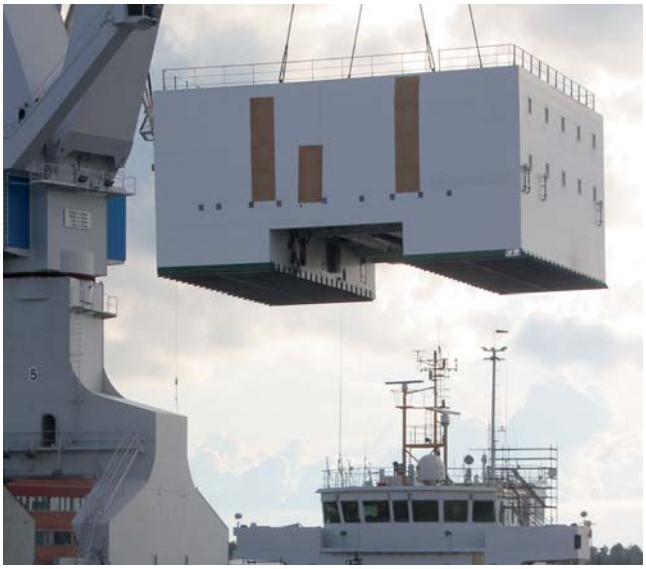
MDF works all around the Globe for maintenance, repair and installation of ship diesel engines of ALL engine types, propulsion equipment and other engine room components. In addition, we are an Authorized Marine Dealer (AMD) for CAT engines. Our experience is 20 years of successful operation, our present number of employees is 40 persons. We provide high quality services for global marine needs, with competitive total cost for customer. ■

More information: www.marinediesel.fi

NOVEL OFFSHORE ACCOMODATION SOLUTION FROM SHIPPAX

Following the successful delivery of 1 000 m² harbor office in Turku, Finland, Oy Shippax Ltd is now completing the construction of an entirely new type of marine deckhouse to the Finnish shipping company Meriaura Oy. The building is based on Shippax's innovative FIXCELMARINE-concept. Being transferable from one ship to another the new accommodation unit greatly increases the flexibility of Meriaura's fleet. It is first installed onboard of a North Sea cable-layer bearing company's name and chartered to German Norddeutsche Seekabelwerke GmbH. The new living quarter can accommodate a crew of 36 persons. With integrated utility and service systems it can be completely independent from the ship, and is able to maintain its autonomic operation over a period of one month.

The new FIXCELMARINE accommodation solution is based on patented Fixcel® steel sandwich structure made of hot-galvanised steel by means of triple seam rolling technology. The final structure is self-supporting, has excellent corrosion and fire resistance properties, and is lightweight, strong, rigid and 100 % recyclable. The entire unit with cabins and adjacent spaces is fully finished and functionally ready when leaving the works. The delivery time is only 6 months from the order.



Oy Shippax Ltd, established 1984, is an independent Finnish interior and accommodation building company known for its open-minded solutions and innovations. ■

More information: www.shippax.fi
Or see us in SMM at Stand nr. B2 EG 200

Parker Hannifin Corporation – Filtration in the Marine Market

Parker Hannifin's Filtration Group has a long history in the marine industry where co-operation with leading manufacturers such as Wärtsilä, Man Diesel, Rolls-Royce, MTU and many others has repeatedly proven the quality and the capabilities of Parker products.

For lubricating oil applications Parker Filtration has a wide range of duplex filters that ensure the continuous running of engines and propulsion systems. The filtration media can be chosen from cellulose paper, metal mesh or high quality glassfibre depending on the application's demands. Duplex filters also include several options for monitoring the condition of filter elements by means of differential pressure indicators.

For the thruster systems, Parker Filtration will introduce a new type of duplex filter at the forthcoming SMM exhibition in Hamburg, Germany. The unique design of the DF65 type filter allows the installation of the filter into almost any position. For very tight height limitations, mounting the filter in the horizontal position will save on critical available space. Also the size of the filter eliminates the classification costs of certain classification companies without decreasing the flow capacity.

Parker Hannifin can supply filtration and condition monitoring solutions for all systems on board a ship including the hydraulics, lubricating and even on fuel oil systems. By using Parker Hannifin's filtration products, together we can help our customer's to ensure the safe and reliable operation of their systems even in the most difficult and demanding conditions. ■

More information: www.parker.com

Telatek Group – high quality products and innovative solutions

Telatek Group is the leading Finnish producer of installation, maintenance, quality control and workshop services. Telatek was founded in 1977 with the launch of a servicing and maintenance business in Raahe, Finland. These operations have subsequently grown and diversified to incorporate a wide range of expertise in company's core businesses: thermal spraying, on-site maintenance, NDT-inspections and heavy workshop services.

Company's roots are in paper and steel industry. Today Telatek teams are also common sight in energy, mining, marine and offshore assignments.

From the very outset the guiding lights of Telatek have been innovation and the development and adaptation of new technologies. Telatek's provision of machining, repair welding and coating services for industrial applications and development of coating methods plus steel and aluminium constructions have been granted ISO 9001, 14001 and OHSAS 18001 certificate. The NDT operations of Telatek Quality Oy are FINAS-accredited according to EN ISO/IEC 17025, no. T237.

"International companies choose to work with us because they have noticed how our techniques and working methods bring many valuable benefits, such as lower maintenance costs," says Markku Koponen, CEO of Telatek Group. ■

More information: www.telatek.fi

Tebul – Watertight bulkhead door system for all types of ships

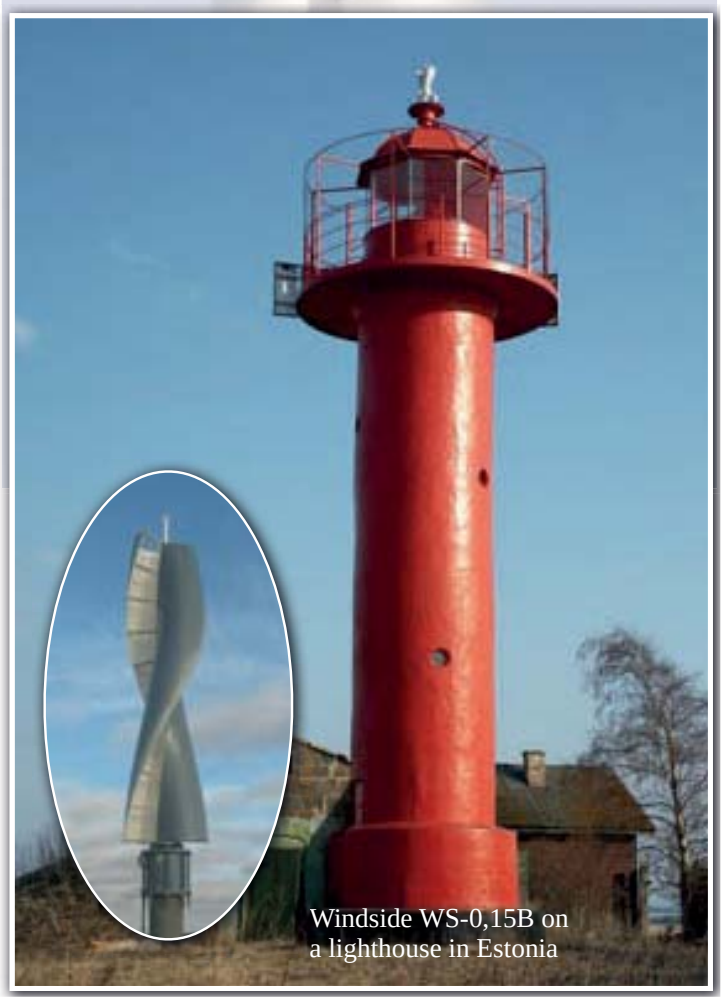
Tebul is dedicated to providing watertight bulkhead sliding door system for ship manufacturers all over the world.

Our current generation of sliding bulkhead doors is an outstanding demonstration of Tebul's innovative engineering skill, featuring a unique sealing system which significantly reduces the risk of distortion compared to other conventional bulkheads.

We are the technology leader in electric door systems, and specialise in bulkhead doors designed for offshore vessels, super yachts, cruise liners and other high-class vessels.

Tebul doors are now available also in the Eex-version for Explosion Hazardous areas, specially designed for offshore application. ■

More information: www.tebul.fi



Windside WS-0,15B on a lighthouse in Estonia

WatMan SWRO

Seawater Reverse Osmosis (SWRO) rejects typically 98.5–99.5% of the salinity in one pass.

In large-scale production, energy consumption creates a noticeable expense. In conventional SWRO systems, typical energy consumption varies from 6 to 10 kWh/m³-fresh water, depending on salinity, temperature and recovery rate among others. In state-of-the-art systems with energy recovery the energy consumption can be as low as 2…4 kWh/m³-fresh water.

On the other hand, 1-pass SWRO can produce fresh water with 100–150 mg/l of chloride at its best. These high rejection systems always need an average feed pressure of 55–70 bars. So called 2-pass SWRO can remove even up to 99.9 % of the total salinity, meaning 20–50 mg/l of chloride. These extremely high rejections are sometimes needed to spare the metal piping from corrosion.

WatMan SWRO Systems can help you to produce extremely low-salinity fresh water with very low energy consumption. This means less energy, less maintenance, less down-time, less costs and more customer satisfaction. Less is sometimes more. ■

More information: www.watman.fi

Hollming Works – engineering works group with professional staff

Engineering works group serves its clients through five workshops and professional staff.

Hollming Works is a system supplier, which can deliver solutions in turnkey principle, but naturally we serve our clients to the extend needed in each specific case.

We have focused specifically in the production of Marine, Offshore and Subsea products as well as energy and environmental technology products.

Our specialty know-how lies within demanding welding methods and multiple machining opportunities and demanding assembly works.

The modernisations and other alignments in our production and organsation have further increased our competitiveness. Also our own design service helps our clients to make their products more competitive. ■

More information: www.hollmingworks.com

Merima top quality interiors a quarter century

Merima is a state of the art turn-key public areas interior supplier for newbuildings & refurbishments regarding Cruise Vessels & car-passenger ferries both old and new. Current market situation is "tough" but Merima is pushing further leaning to an old aphorism. "When going gets tough. Tough get going."

Recent orders includes four newbuildings of which three newbuildings at Meyer Werft in Germany. Celebrity Reflection the fifth in Solstice series, N.B. 688 "Norwegian Breakaway" her sistership N.B. 692 "Norwegian Getaway" and one at STX Finland Turku shipyard TUI "Blue Motion".

Two recently delivered car-passenger ferries at STX Finland Rauma shipyard. Spirit of Britain and Spirit of France for P&O Ferries.

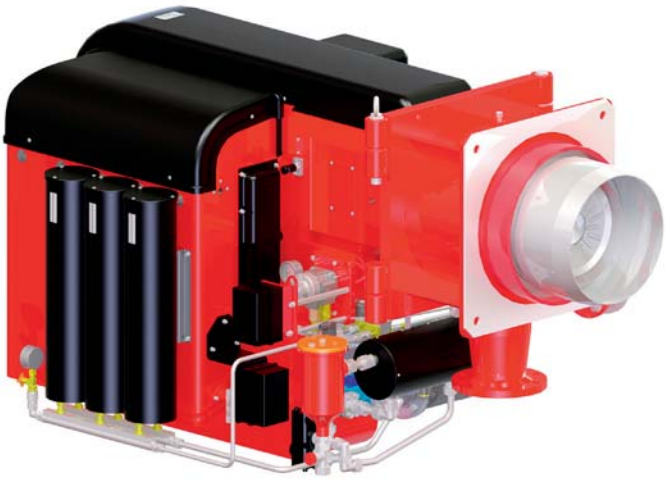
One recently delivered refurbishment M/S Horizon, a vessel of Pullmantur Ship Management/Croisière de France at Chantier Navale de Marseille. Following areas were delivered for the Horizon. Restaurant Le Splendide Dining Room revitalisation, Rendezvouz revitalisation and Pool Area revitalisation. ■

More information: www.merima.fi

M/S Horizon Le Splendide before.

M/S Horizon Le Splendide after.

Oilon – LNG burners for cleaner environment



Reduction of sulphur content of the heavy oil for cleaner environment causes remarkable cost increase of the marine fuel for the ships. As a consequence usage of heavy fuel oil is cut down considerable amounts in the ships sailing in the coastal areas. New fuels were developed and taken in use during the last years. The combustion of MGO, marine gas oil, known also as sulphur free light fuel oil, is dominated by Oilon, as a leading marine burner manufacturer, very well. Our recipe for success has been innovation and human capital.

LNG, liquefied natural gas is coming as a cleaner alternative fuel for ships. Solid and sulphur emissions of LNG are non-existent. Pricewise LNG is also competitive with MGO. These features boost up the usage of LNG in the future. Oilon has invested in the development of gas burners for ships recently. Today, Oilon can deliver gas burners for marine use according to most common classification societies. Entering in the marine field was very natural continuation of the long experience of the gas burners in the land based installations. ■

More information: www.oilon.com

ABB EMMA™ Advisory Suite – A Comprehensive Energy Management Solution

ABB has launched a complete solution for energy management and optimisation called EMMA™ Advisory Suite. Using the extensive experience and knowledge on power and energy, ABB wanted to develop a tool to increase the energy efficiency awareness in maritime applications. Simple reason for this is that having studied operating vessels and their data, ABB found definite savings potential for energy. And this is achievable with just minor retrofitting of software and in some cases sensors.

The modules of EMMA Advisory Suite are tailored and selected together with the customer to fit the operations in question. EMMA offers something for all type of vessels. Some examples of EMMA modules are: Energy monitoring (production/consumption), Power Plant optimisation, Hull Condition monitoring, Dynamic Trim optimisation and Fleet benchmarking. All EMMA modules onboard the vessels synchronise the measurements and calculations automatically to a cloud service, which provides the office personnel a secure access to the data anywhere and anytime.

The monitoring tool onboard uses dynamic and adaptive KPI (key performance indicator) target limits. Traditionally the limits for maritime industry KPIs have been fixed, with the minor exception of possible separate limits for ballast and laden conditions. This has usually meant apparently bad performance in any type of exceptional conditions (such as high speed or bad weather). EMMA algorithm sets the targets for the real measured condition, taking in account for example wind, waves, draft, speed, squat and temperature. Basically anything that can be measured. All the optimisation modules work with the same principles as the monitoring: The calculations and recommendations are based on the same full scale measurements done onboard the vessel. This way EMMA can assure up-to-date guidelines throughout the vessels lifecycle with varying hull-, loading- and engine condition for some to mention.

ABB can deliver the full EMMA Advisory Suite as a turnkey delivery, providing all required sensors, hardware and software. For the owner this could mean 5 % savings on the fuel oil bill already 3 months after an order. ■

More information:
jukka.ignatius@fi.abb.com, www.abb.com/marine

Supreme Insulation Know-how for Challenging Conditions

According to DNV (Det Norske Veritas) oil leakage hitting hot spots on engines is the most common cause of engine room fires on board ships. More than 60% of all engine room fires have been initiated by a hot spot.

The International SOLAS Convention determines that all surfaces above 220°C are to be insulated or equivalently protected in order to avoid ignition of flammable liquids. Properly installed, insulation ensures cooler surfaces and prevents engine room fires.

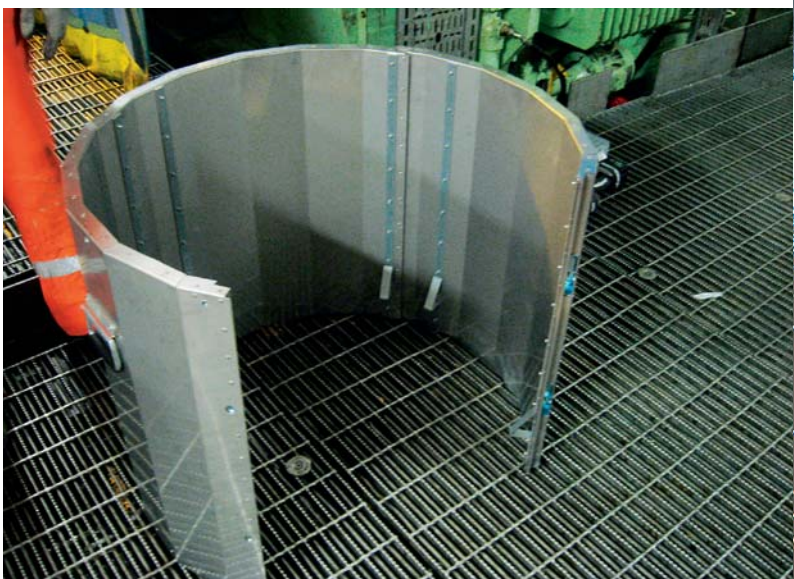
Adiabatix Oy has been specialising in advanced insulation solutions for marine, offshore, nuclear power and process applications since 2000. The Adiabatix module system is a patented and economical solution which advances safety, and saves time and energy.

"Our tailor-made insulation solutions are extremely durable and, thanks to our unique assembly system, easy to install and remove", explains Arto Laasanen, Managing Director of Adiabatix. "We co-operate with a large engine manufacturer, and our insulation systems are already in use in various cruisers, passenger ships, cargo vessels and oil rigs", he continues.

The Adi-XP® insulation module is especially designed for insulating exhaust ducts or other high-temperature marine engine pipes. Adi-XP® has proved its effectiveness and endurance in action. The oldest modules still in use and in good shape are more than 10 years old. ■

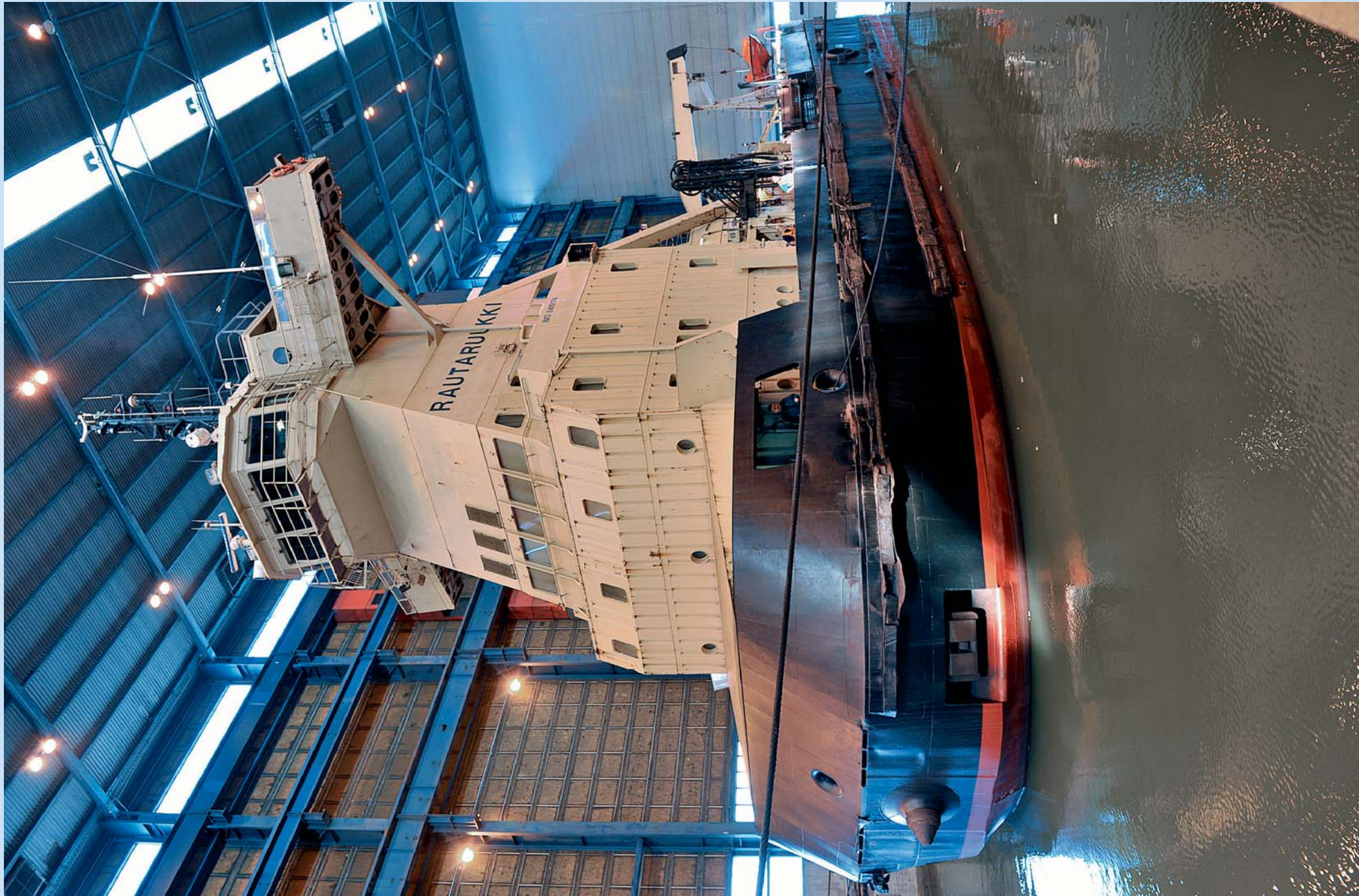
More information: www.adiabatix.fi

The pictures show how well Adi-XP® insulates exhaust pipes on a marine engine compared to a traditional insulation system, notice the damaged insulation.



company directory

Photo: STX Europe



2 6 7 *See page 52*

ABB OY, MARINE AND CRANES

P.O. Box 185
FI-00981 Helsinki
Finland
Phone +358 10 2211
Fax +358 10 222 2350
www.abb.com/marine

Contact Person
Marcus Högblom
VP Sales
marcus.hogblom@fi.abb.com

Facts & Figures
Personnel: 250
Established: 1889

Specialty Areas
ABB Marine and Cranes is the leading manufacturer of electric power, propulsion and vessel control systems. We are a global maritime organisation, providing reliable, safe and environmentally friendly solutions and qualified services to ship owners, operators and yards reducing operational costs and ensuring optimum vessel lifecycle.

1 2

ACM-TRADING LTD

Ketunleivänkuja 4
FI-21110 Naantali, Finland
Phone +358 20 799 1400
Fax +358 20 799 1409
firstname.lastname@acm-trading.fi
www.acm-trading.fi

Contact Person
Kari U. Laiho

Specialty Areas
Complete PUSHPIN®-ATB-Coupler System for Pusher Tug and Barge combinations. Available models 2 or 3 pin executions, with electro-pneumatic or electro-hydraulic controls with modern PLC controls. New Model! PUSHPIN®-SliderRig – Coupler enabling to be engaged during loading and discharging. Pin forces from 150 Tons up to 3000 Tons, from River ATBs to Large Offshore ATBs, 11 systems in service. Concept design, Feasibility Studies and total installation engineering and supervision including class approvals with FEM-analysis. Electro-Hydraulic EHS Actuators for valve control and remote sounding systems with total BUSLoop systems for all kind of vessels.
Cooling control systems for HT-, LT-, LO-, SW- etc. cooling circuits. Marine Pumps, Marine Butterfly valves In house already over 40 years experience.

1 2 3 4 5 6 7 8 9 *See page 52*

ADIABATIX OY

Pääportti 3
FI-65320 Vaasa
Finland
Phone +358 6 3610 390
Fax +358 6 3610 391
contact@adiabatix.fi
www.adiabatix.fi

Contact Person
Arto Laasanen
Managing Director
arto.laasanen@adiabatix.fi

Facts & Figures
Established: 2000

Specialty Areas
Adiabatix Oy has been specialising in advanced insulation solutions for marine, offshore, nuclear power and process applications since 2000. Adiabatix module system is patented and economical solution which advances safety, and saves time and energy.

3

AGCO POWER

FI-37240 Linnavuori, Finland
Phone +358 2 341 7111
Fax +358 3 341 7330
www.agcopower.com

Contact Person
Kari Mettälä, kari.mettala@agcocorp.com

Facts & Figures
Parent Company: AGCO Corp

Subsidiaries & Representatives
Idäntie Ky, Finland; Nordhavn A/S, Denmark, Greenland; Sandfirden, Holland; Jackfame, Taiwan; Cimpomovel, Portugal; Flydenbø Power, Norway; Motorimport, Sweden; Baltic Marine, Estonia, Latvia, Lithuania; ScanDiesel, Germany; Werkhuizen Frans Stevens, Belgium; Moteurs Baudouin S.A., France; J.Netas & Sons S.A., Greece; Nuova Motonautica, Italy; Scania Cimpomóvel, Portugal; Kronstadt Ltd, Russia; Guascor S.A., Spain ; Scangen, China, Hong Kong, Indonesia, Malaysia, Philippines, Singapore. Sri Lanka; Hattat Otomotiv Pazarlama A.S., Turkey, Grant's Marine Diesel, USA; Eastern States - CANADA; Eastern States

Specialty Areas
Diesel engines 74-250 kW for propulsion and generator use.
Diesel generating sets for auxiliary and emergency use.

1 6

AKER ARCTIC TECHNOLOGY INC

Merenkulkijankatu 6
FI-00980 Helsinki
Finland
Phone +358 10 670 2000
Fax +358 10 670 2527
info@akerarctic.fi
www.akerarctic.fi

Contact Person
Mikko Niini
President
mikko.niini@akerarctic.fi

Facts & Figures
Turnover: EUR 7 million
Established: 2005
Parent Company: STX Finland Oy

Specialty Areas
Aker Arctic is running the only privately owned ice model testing facility in the world. The company continues the R&D work of the former Masa-Yards´ Arctic Technology Centre MARC in Finland, offering R&D services on maritime transport systems, ships, offshore structures and ports, ship and propulsion system design and ice navigation training.

9

ALUPRO LTD

Pakkasraitti 14
FI-04360 Tuusula
Finland
Phone +358 207 421 700
Fax +358 207 421 733
info@alupro.fi
www.alupro.fi

Contact Person
Tapio Kärkkäinen
tapio.karkkainen@alupro.fi

Facts & Figures
Turnover: EUR 6,7 million
Personnel: 37
Established: 2005
Parent Company: Alupro Group Ltd.

Specialty Areas
Manufacturing and design of water separators and mask louvers

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

4

ALUWOOD AB

Verkaregränd 6
FI-22120 Mariehamn
Finland
Phone +358 18 192 00
Fax +358 18 139 78
info@aluwood.eu
www.aluwood.eu

Contact Person
Kenneth Sundlöf
Managing Director

Facts & Figures
Turnover: EUR 2,6 million
Personnel: 15
Established: 1949

Specialty Areas
Fire classified wall and ceiling panels with a surface layer of genuine wood veneer, plastic laminate, foil and textile fabrics.

2

ANTTI-TEOLLISUUS OY, ANTTI MARINE

Koskentie 89
FI-25340 Kanunki
Finland
Phone +358 2 774 4700
Fax +358 2 774 4777
wmd@antti-teollisuus.fi
www.antti-teollisuus.fi

Contact Person
Toni Leino
Sales Manager
toni.leino@antti-teollisuus.fi

Subsidiaries & Representatives
Germany, Benipo Oy, USA, Almaco Group Inc, www.almaco.cc

Specialty Areas
Cabin, Accommodation & Interior fire doors for marine and off-shore applications
Antti doors are available in C, B-15 and B-30 class with MED & USCG approvals

9

APROCOS KY

Paciuksenkuja 1
FI-00270 Helsinki
Finland
Phone +358 9 241 0404
www.aprocos.fi

Contact Person
Heikki Mattila
heikki.mattila@aprocos.fi

Facts & Figures
Turnover: EUR 0,5 million
Personnel: 8
Established: 1986

Specialty Areas
Interior design of public spaces: ships, restaurants, shops, department stores etc.
Graphic and sign design

2 6

AURAMARINE

P.O. Box 849
FI-20101 Turku
Finland
Phone +358 204 86 5030
Fax +358 204 86 5031
sales@auramarine.com
www.auramarine.com

Facts & Figures
Personnel: 100
Established: 1974
Parent Company: Hollming Ltd

Subsidiaries & Representatives
Auramarine Asia Ltd, China

Specialty Areas
Auramarine has wide-ranging experience in liquid flows and this craftmanship is utilised in designing and manufacturing of fuel oil supply systems, marine gas oil handling systems and ballast water treatment systems.

2 5 6 7

AUTROSAFE OY

Uranuksenkuja 10
FI-01480 Vantaa
Finland
Phone +358 9 2709 0120
Fax +358 9 2709 0129
autrosafe@autrosafe.fi
www.autrosafe.fi

Contact Person
Mikko Haapalainen
Managing Director
mikko.haapalainen@autrosafe.fi

Facts & Figures
Turnover: EUR 3,04 million
Personnel: 11
Established: 1995
Parent Company: Copertura Oy

Specialty Areas
Temperature sensors, pressure transducers
Fire alarm and Engine alarm systems
Wikrolux Led-technic based safety and guiding lights
Electrical sounders and flash alarms

1 2

See page 43

BEACON FINLAND LTD OY

P.O. Box 228
FI-26101 Rauma, Finland
Phone +358 2 8387 9500
Fax +358 2 8387 9510
beacon@beaconfinland.com
www.beaconfinland.com

Contact Person
Timo Rintala
timo.rintala@beaconfinland.com

Facts & Figures
Personnel: 12
Established: 1987

Specialty Areas
Ship Design Services
• concept and basic design, strength and vibration analysis
• design of tugs, pilot- and workboats
Equipment for Pusher-Barge combinations
• design and manufacturing of JAK®- ATB Coupling System
• mounting design & strength analysis
Solutions for Offshore Vessels
• design and manufacturing of BeaCan™ Thruster Container (Canister)

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

1 9 *See pages 13 and 45*

BUREAU VERITAS

Hermannin rantatie 10
FI-00580 Helsinki
Finland
Phone +358 10 830 8630
Fax +358 10 830 8690
helsinki@fi.bureauveritas.com
www.bureauveritas.com

Contact Person
Olli Kaljala
Chief Executive
olli.kaljala@fi.bureauveritas.com

Facts & Figures
Personnel: 65
Established: 1984 (Finland)
Parent Company: Bureau Veritas SA (est. 1828)

Specialty Areas
Survey of ships & ship equipment, classification of newbuildings
Inspection of industrial products & goods for international trade
Certification of management systems against international standards

2 4

ELEKTROSKANDIA SUOMI OY

P.O. Box 360
FI-05801 Hyvinkää
Finland
Phone +358 10 509 311
Fax +358 10 509 3222
www.elektroskandia.fi

Contact Person
Juhani Lehtinen
Regional Director, SW Finland and Marine
juhani.lehtinen@elektroskandia.fi

Facts & Figures
Turnover: EUR 220 million (2011)
Personnel: 313 (2011)
Established: 1913
Parent Company: Rexel Group

Specialty Areas
Electrical wholesaling; Electrical items such as electrical installation materials, cables, cable racks, cable penetrations and seals.
Also deliveries of all electrical items for marine business.

1 9 *See page 41*

ELOMATIC MARINE ENGINEERING LTD

Itäinen Rantakatu 72, FI-20810 Turku, Finland
Phone +358 2 412 411
Fax +358 2 412 4444
info@elomatic.com
www.elomatic.com

Contact Person
Heikki Pöntynen, Senior Vice President , heikki.pontynen@elomatic.com

Facts & Figures
Turnover: EUR 40 million
Personnel: 700
Established: 1970
Parent Company: Elomatic Ltd

Subsidiaries & Representatives
Juha Husu, Turku, Finland
Henrik Bachér, Helsinki, Finland
Veikko Jussila, Gdánsk, Poland
Ivan Maksić, Belgrade, Serbia
Ethan Shen, Shanghai, P.R. China

Specialty Areas
Full range of design and engineering services for shipowners and shipbuilders

5

EXIT-PAINIKE KY

P.O. Box 78
FI-61801 Kauhajoki
Finland
Phone +358 6 231 4034
Fax +358 6 231 4112
exitpainike@exitpainike.fi
www.exitpainike.fi

Contact Person
Timo Hakala

Specialty Areas
EXIT 6000 series emergency doors.
(EXIT panic device)

9 *See page 47*

FORESHIP LTD

Hitsaajankatu 4 A
FI-00810 Helsinki
Finland
Phone +358 20 730 9090
Fax +358 20 730 9091
office@foreship.com
www.foreship.com

Contact Persons
Janne Lietzén
Managing Director
janne.lietzen@foreship.com
Markus Aarnio
SVP Ship Technology
markus.aarnio@foreship.com

Specialty Areas
Foreship's Naval Architects and Marine Engineers specialises in challenging conversions and newbuilding concept designs. Foreship is also a major design and engineering service provider for new buildings.

6 *See page 41*

GS-HYDRO OY

Lautatarhankatu 4
FI-13110 Hämeenlinna
Finland
Phone +358 3 656 41
Fax +358 3 653 2998
sales@gshydro.fi
www.gshydro.com

Contact Person
Seppo Lusenius

Facts & Figures
Turnover: EUR 120 million in 2011
Personnel: over 600
Established: 1974

Subsidiaries & Representatives
Austria, Brazil, China, Denmark, Finland, France, Germany, Korea, Netherlands, Norway, Poland, Russia, Singapore, Spain, Sweden, UK, USA.

Specialty Areas
GS-Hydro is the world's leading supplier of non-welded piping.

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

6 *See page 3*

HELKAMA BICA OY

Lakimiehenkatu 4
FI-20780 Kaarina
Finland
Phone +358 2 410 8700
Fax +358 2 410 8750
sales@helkamabica.fi
www.helkamabica.fi

Contact Persons
Marine Cables:
Sami-Pekka Arlin
sami-pekka.arlin@helkamabica.fi
Industrial Cables:
Jari Merilä
jari.merila@helkamabica.fi

Facts & Figures
Turnover: EUR 42 million
Personnel: 190
Established: 1984

Specialty Areas
Marine cables

7 8 9 *See page 50*

HOLLMING WORKS OY

P.O. Box 96
FI-28101 Pori
Finland
Phone +358 20 486 5040
Fax +358 20 486 5041
firstname.lastname@hollmingworks.com
www.hollmingworks.com

Contact Person
Markku Mänki
Managing Director

Facts & Figures
Turnover: EUR 60 million
Personnel: 550
Established: 2002
Parent Company: Hollming Ltd

Specialty Areas
In Sea, Offshore and SubSea section: Propulsion units, thrusters, nozzles, oilrig parts, anchorhandling towing winches, secondary winches, streamer winches, gun winches, rudders, fairleads, subsea structures, pressure vessels and other demanding offshore constructions.
Services also in Energy, Mineral, Process and Pulp&Paper sections.

1

ILS LTD

Puutarhakatu 45
FI-20100 Turku
Finland
Phone +358 2 417 2200
Fax +358 2 417 2210
ils@ils.fi
www.ils.fi

Contact Person
Jyrki Lehtonen
Managing Director

Specialty Areas
Design of icebreakers and ice-going ships

2 7 9

JOPTEK OY COMPOSITES

Kerantie 7-9
FI-81720 Lieksa
Finland
Phone +358 20 743 9150
Fax +358 13 523 710
info@joptek.fi
www.joptek.fi

Contact Person
Aku Lampola
Managing Director
aku.lampola@joptek.fi

Facts & Figures
Turnover: EUR 8,5 million (2011)
Personnel: approx. 90
Established: 1985

Specialty Areas
Modular balconies
Divider walls and handrails
Toilet and bathroom modules
Composite floors and walls
Sandwich structures

2 7 *See page 9*

JUKOVA OY

Jukovantie 20
FI-21430 Yliskulma
Finland
Phone +358 10 474 444
Fax +358 10 474 4290
jukova@jukova.fi
www.jukova.fi

Contact Persons
Stefan Sundblom
stefan.sundblom@jukova.fi
Ari Toivola
ari.toivola@jukova.fi

Specialty Areas
Modular balconies
Sliding doors
Balcony divider walls
Glass railings

3 4

KESKIPAKOVALU OY

Lastikankatu 21
FI-33730 Tampere
Finland
Phone +358 3 357 9000
Fax +358 3 364 5964
info@keskipakovalu.fi
www.keskipakovalu.fi

Contact Persons
Kimmo Markkula
Keijo Koivisto
Asmo Rantanen

Facts & Figures
Turnover: EUR 7 million
Personnel: 39
Established: 1956

Specialty Areas
Bronze parts of diesel engines
Bronze parts of propulsion machinery
Bronze parts of maneuvering machinery

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

2 6 7

KOJA MARINE

P.O. Box 351
(Lentokentänkatu 7)
FI-33101 Tampere
Finland
Phone +358 3 282 5111
Fax +358 3 282 5404
marine@koja.fi
www.koja.fi

Contact Person
Esko Nousiainen
Director
esko.nousiainen@koja.fi

Facts & Figures
Turnover: EUR 32,7 million
Personnel: 182
Established: 1935
Parent Company: Koja Group

Specialty Areas
Air conditioning systems, air conditioning units, system design and material delivers. Cargo ventilation systems. Air Conditioning turn-key deliveries, HVAC electrical / automation systems.

2 3 7

KONEPAJA HÄKKINEN OY

Konekuja 4, FI-21200 Raisio, Finland
Phone +358 20 781 3400
Fax +358 20 781 3402
konepaja.hakkinen@konepajahakkinen.fi
www.konepajahakkinen.fi

Contact Persons
Mika Penttinen, Managing Director, mika.penttinen@konepajahakkinen.fi
Jukka Runola. Sales Director, jukka.runola@konepajahakkinen.fi

Facts & Figures
Turnover: EUR 46 million
Personnel: 360
Established: 1980
Parent Company: Konepaja Häkkinen Oy

Subsidiaries & Representatives
Tikkakosken Konepaja Oy and Rautpohjan Konepaja Oy

Specialty Areas
The most valued long term partner in supply of demanding machined casting, forging and welded steel components for a energy, inshore, offshore, subsea, maritime, mining, pulp and paper industries. Focus area medium and large size demanding components as well as small and medium batch products manufacturing's before mentioned industrial sectors

3 9

LAIVAKONE OY

Uranuksenkuja 1C
FI-01480 Vantaa
Finland

Posenerstr. 1a
D-23554 Lübeck
Germany

Phone +358 20 763 1570
Fax +358 20 763 1571
laivakone@laivakone.fi

Contact Person
Harri Elonen

Facts & Figures
Personnel: 20
Established: 1969

Specialty Areas
Ship engine repairs & services

4

LAUTEX OY AB

P.O. Box 58, FI-03101 Nummela, Finland
Phone +358 9 224 8810
Fax +358 9 222 5447
sales@lautex.com
www.lautex.com

Contact Persons
Jarno Soinila, Sales Director
Phone +358 40 517 9502
Jussi Pärssinen, Sales Manager, Shipbuilding
Phone +358 400 268 851
Alexandru Filimon, Export Sales Manager
Phone +358 40 835 1804

Facts & Figures
Turnover: EUR 9,8 million
Personnel: 80
Established: 1951
Parent Company: Christian Berner Invest AB

Specialty Areas
Ceilings for ship accomodation and public spaces, such as metal panels, profiles, tiles and grating in aluminium or steel.
Special ceilings, domes and beams etc.
Various finishes possible: real wood finish, digital coating etc.

4 7

LEMMINKÄINEN INFRA OY

Puusepäntie 11
FI-04360 Tuusula
Finland
Phone +358 20 715 7713
www.lemminkainenomni.fi

Contact Person
Tomi Hulmi
tomi.hulmi@lemminkainen.com

Facts & Figures
Turnover: EUR 1 170 million
Personnel: 3 160
Established: 1910
Parent Company: Lemminkäinen Oyj

Specialty Areas
Outdoor/indoor deck surfaces, balconie deck surfaces, auditorium seating systems, recreation / sport artifical turfs, climbing walls.

1 2 9

OY LINDAB AB

Juvan teollisuuskatu 3, FI-02920 Espoo, Finland
Phone +358 20 785 1010
Fax +358 20 785 1074
info@lindab.fi
www.lindab.fi

Facts & Figures
Turnover: SEK 6 878 million (2011)
Personnel: 4 300
Established: 1959
Parent Company: Lindab Group

Specialty Areas
Lindab was founded in Sweden in 1959 and is divided into two business areas: Ventilation and Profile. Ventilation and Profile develop, produce and market ventilation- and building components in sheet metal. Today Lindab is one of the world's leading suppliers to the ventilation business, and we do not want to give up that position. We will continuously develop and strengthen the abilities we possess today: knowledge, logistics, design and dialogue – and in doing so, we will make the difference to ensure our customer's continued success. For more than 30 years, the "Lindab – marine" products have been part of ventilation installations all over the world. The compact size and the approved marine insulation, combined with the unique Lindab Safe Click system, makes it the ideal choice for installations on all types of ships.

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

2 7 9

OY MATATEC SERVICES AB

Länsilaituri 1
FI-20200 Turku
Finland
Phone +358 2 2501 852
Fax +358 2 2501 853
matatec@netti.fi
www.matatec.com

Contact Person
Magnus Ekman
magnus.ekman@matatec.fi

Facts & Figures
Established: 1983

Specialty Areas
Voyage Repairs and Maintenance on board, in ports, alongside yards
Berth. Upgrading and retrofits services for OEM partners.

2 7

See page 51

MERIMA OY

Tatti 10
FI-00760 Helsinki
Finland
Phone +358 9 350 9300
Fax +358 9 388 2133
contact@merima.fi
www.merima.fi

Contact Person
Ari Nylund
Export Manager

Facts & Figures
Turnover: EUR 25,5 million (2011)
Personnel: 60 (2011)
Established: 1987

Specialty Areas
Turn-key interior outfitting for cruise ships, ferries and Ro-pax vessels
Cabin furniture deliveries

2

METOS OY AB

Ahjonkaarre
FI-04220 Kerava
Finland
Phone +358 204 39 13
Fax +358 204 39 4432
metos.marine@metos.com
www.metos.com

Contact Person
Taina Salonen
Director
taina.salonen@metos.com

Facts & Figures
Personnel: 700
Established: 1922
Parent Company: Ali Group

Specialty Areas
Galley equipment
Laundry equipment

4

METSO MINERALS OY LOKOMO STEEL FOUNDRY

P.O. Box 306 (Lokomonkatu 3)
FI-33101 Tampere, Finland
Phone +358 20 484 4222
Fax +358 20 484 4233
minerals.lokomosteels@metso.com
www.metsolokomosteels.com

Contact Person
Timo Norvasto
Sales Manager
timo.norvasto@metso.com

Facts & Figures
Personnel: 250
Established: 1916
Parent Company: Metso Corporation

Specialty Areas
Lokomo Steel Foundry has been a pioneer in stainless steel production. In 1982 Metso Lokomo Steels began to manufacture vacuum steel castings using world's first "Vacuum Oxygen Decarburization Converter" VODC. Lokomo Steel Foundry's vacuum steel are marketed under the Vaculok® -trademark. Metso Minerals Oy Lokomo Steel Foundry is a member of Metso Corporation.

2

OY NAUTI-ELECTRONICS AB

Motorgatan 11
FI-65170 Vaasa
Finland
Phone +358 6 317 2911
Fax +358 6 317 2912
sales@nautiele.fi
www.nautiele.fi

Contact Person
Leif Hagner
leif.hagner@nautiele.fi

Facts & Figures
Turnover: EUR 1 million
Established: 1983

Specialty Areas
Marine Electronics
Navigation
Communication
Interfaces

2 3

NURMI CYLINDERS OY

Pusulantie 1080
FI-03810 Ikkala, Finland
Phone +358 10 834 6700
Fax +358 10 834 6790
sales@nurmi.fi
www.nurmi.fi

Contact Person
Olli-Pekka Arvila, Sales and Marketing Director
olli-pekka.arvila@nurmi.fi

Facts & Figures
Turnover: EUR 18 million
Personnel: 90
Established: 1957
Parent Company: Nurmi Hydraulics Oy

Subsidiaries & Representatives
Dalian Nurmi Hydraulics Ltd., China

Specialty Areas
Nurmi provides customers around the world with hydraulic cylinders and solutions for marine & offshore equipment and other heavy-duty applications. Products are classified by needed society.

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

3 *See pages 29 and 51*

OILON OY

P.O. Box 5
FI-15801 Lahti
Finland
Phone +358 3 857 61
Fax +358 3 857 6239
www.oilon.com

Contact Person
Jani Kurikka
jani.kurikka@oilon.com

Facts & Figures
Turnover: EUR 70 million
Personnel: 360
Established: 1961

Specialty Areas
Oil & gas burners for marine applications

3 *See page 49*

PARKER HANNIFIN MANUFACTURING FINLAND OY

Salmentie 260
FI-31700 Urjala As.
Finland
Phone +358 20 753 2500
Fax +358 20 753 2501
filtration.finland@parker.com
www.parker.com

Contact Person
Jyrki Sandt
jyrki.sandt@parker.com

Facts & Figures
Personnel: 135
Established: 1964
Parent Company: Parker Hannifin

Specialty Areas
Filtration: Lubrication oil filtration, fuel oil filtration, hydraulic filtration
Condition Monitoring

2 3

PATRIA AVIATION ENGINE BUSINESS UNIT

Linnavuorentie 2
FI-37240 Linnavuori
Finland
Phone +358 40 869 2800
Fax +358 20 469 2801
www.patria.fi

Contact Person
Seppo Tamminen
Senior Manager, Diesel Engine Business
seppo.tamminen@patria.fi

Facts & Figures
Turnover: EUR 14 million
Personnel: 150
Established: 1947
Parent Company: Patria Oyj

Specialty Areas
Maintenance and overhaul of high speed diesel engines and related equipment up to 6 000 kW. Authorised MTU Service dealer. Maintenance and overhaul of industrial and marine gas turbines. Special repairs of parts for diesel engines and gas turbines

9

PEMAMEK OY

P.O. Box 50
(Lamminkatu 47)
FI-32201 Loimaa
Finland
Phone +358 2 760 771
Fax +358 2 762 8660
www.pemamek.com

Contact Person
Jukka Rantala, Director, Sales & Marketing
jukka.rantala@pemamek.com

Facts & Figures
Turnover: EUR 40 million
Personnel: 140
Established: 1970
Parent Company: Pemamek Oy

Specialty Areas
Shipbuilding production automation, patented Vision robot welding stations, unique automation for vertical welding of double bottoms, stations for milling and integrated welding of plates, advanced flat and micro panel lines, robotised profile cutting, edge cleaning and milling lines, material transportation and handling solutions.

2 7

PORKKA FINLAND OY

P.O. Box 127
FI-33101 Tampere
Finland
Phone +358 20 5555 12
Fax +358 20 5555 288
www.porkka.fi

Contact Person
Petri Hiilloste
porkkapanel@huurre.com

Facts & Figures
Turnover: EUR 26 million
Personnel: 170
Established: 1962
Parent Company: Huurre Group Oy

Specialty Areas
Provision stores
Walk-in rooms in galleys/pantries
Insulated doors
Insulated fire doors, A60, for cold stores

4

POLYFLOR LTD

Radcliffe New Road Whitefield
M45 7NR Manchester
United Kingdom
Phone +44 161 767 1122
Fax +44 161 767 1166
info@polyflor.com
www.polyflor.com

Facts & Figures
Personnel: 900
Established: 1915
Parent Company: James Halstead plc

Subsidiaries & Representatives
RTV-Yhtymä Oy, Mattilantie 1, FI-11710 Riihimäki, Finland
Phone +358 19 742 267, Fax +358 19 742 274
mika.rantamaki@rtv.fi

Specialty Areas
The Voyager Transport division of commercial flooring specialists Polyflor Ltd comprises a range of resilient, MED certified safety and decorative floorcoverings for the marine sector.

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

2 3 6 7

PROMECO GROUP OY

P.O. Box 116 (Mettälänkatu 91)
FI-38701 Kankaanpää, Finland
Phone +358 20 759 5300
Fax +358 20 759 5301
promeco@promeco.fi
www.promeco.fi

Contact Person
Jani Leppänen, Sales Director
jani.leppanen@promeco.fi

Facts & Figures
Turnover: EUR 56 million
Personnel: 420
Established: 2008

Subsidiaries & Representatives
KMT Group Oy, Finland, Promeco S.A. , Poland, JAT-Asennus Oy, Finland, VM-Group Oy, Finland, Promeco Solutions Oy, Finland

Specialty Areas
Main switchboards, Motor starters, Cyclo converters, Electricity distribution centers, Data transfer control systems, Propeller control systems, Steering modules, Mech. and electr. engineering, FSW

2

PUTTEK OY

Jokitie 8
FI-37800 Toijala
Finland
Phone +358 40 832 0502
Fax +358 3 575 2550
info@puttek.fi
www.puttek.fi

Contact Person
Harri Syrjäläinen
Managing Director
harri.syrjalainen@puttek.fi

Specialty Areas
Pipe clamps and supporting systems for shipbuilding and offshore industry

7

RAUMA INTERIOR OY

Hallitie 8
FI-26510 Rauma
Finland
Phone +358 2 8387 8200
Fax +358 2 8387 8210
info@raumainterior.fi
www.raumainterior.fi

Contact Person
Kari Wendelin
Managing Director
kari.wendelin@raumainterior.fi

Specialty Areas
Designed fixed and free-standing Furniture in various Materials especially for Passenger & Crew Cabins, but also for Restaurants, Nightclubs, Coffee Shops, Conference Rooms (Wardrobes & Racks, Dressing Tables, Cabinets, Coffee Tables, Desks, TV-stands, Beds in Wood and Metal, Nightstands, Sofas, Resin Coated Dining Tables, Bar desks, Decorative Columns etc.)

2

ROLLS-ROYCE OY AB

P.O. Box 220
FI-26101 Rauma
Finland
Phone +358 2 837 91
Fax +358 2 8379 4804
rolls-royce.finland@rolls-royce.com
www.rolls-royce.com/marine

Contact Person
Liisa Snellman
Communications
liisa.snellman@rolls-royce.com

Facts & Figures
Turnover: EUR 572 million
Established: 1988
Parent Company: Rolls-Royce plc

Subsidiaries & Representatives
Rolls-Royce worldwide sales and service network

Specialty Areas
Thrusters, propulsion systems, winch systems
Stabilizers, steering gears, bearings

7

S.A. SVENDSEN OY

Särkiniementie 3 B
FI-00210 Helsinki
Finland
Phone +358 9 6811 170
Fax +358 9 6811 1768
www.sasvendsen.com

Contact Person
Kimmo Räisänen
Managing Director
kimmo.raisanen@sasvendsen.com

Facts & Figures
Turnover: EUR 7,1 million
Personnel: 6
Established: 1981

Specialty Areas
Complete turnkey deliveries for cruise ships and ferries
Interior materials and custom made interior modules
Refurbishments and refits for cruise ships and ferries

9

See page 48

SHIPPAX OY

Telakkatie 5
FI-23500 Uusikaupunki
Finland
Phone +358 2 468 812
Fax +358 2 468 8307
info@shippax.fi
www.shippax.fi

Contact Persons
Jukka Laiterä, Sales Director
jukka.laitera@shippax.fi
Juha Lahtivuori, Technical Director
juha.lahtivuori@shippax.fi

Facts & Figures
Turnover: EUR 15 million
Personnel: 44
Established: 1984

Specialty Areas
Fixcelmarine Macro Modules
Turn key deliveries
High Gienic™ products
Complete multi storey offshore living quaters

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

9

OY SIKA FINLAND AB

P.O. Box 49
FI-02921 Espoo
Finland
Phone +358 9 5114 31
Fax +358 9 5114 3300
sika.finland@fi.sika.com
www.sika.com

Contact Person
Kai Winqvist
Industry Manager
winqvist.kai@fi.sika.com

Facts & Figures
Turnover: EUR 16 million
Personnel: 35
Established: 1985
Parent Company: Sika AG

Specialty Areas
Sealing – Bonding – Acoustic Damping – Reinforcing – Protecting

3

STEERPROP LTD

P.O. Box 217
FI-26101 Rauma
Finland
Phone +358 2 8387 7900
Fax +358 2 8387 7910
steerprop@steerprop.com
www.steerprop.com

Specialty Areas
Azimuth Propulsors for demanding applications.
Steerprop Ltd. combines the reliability of proven technologies with the efficiency of modern design to produce azimuth propulsors of exceptional quality and excellent reliability.
Steerprop Azimuth Propulsors can be made up to 20 MW in power or even in the most stringent ice-classes.

1 8

STX FINLAND OY

P.O. Box 666
(Telakkakatu 1)
FI-20101 Turku
Finland
Phone +358 10 6700
Fax +358 10 670 6700
finland@stxeurope.com
www.stxeurope.com

Specialty Areas
STX Finland Oy has three shipyards in Finland, Turku shipyard, Rauma shipyard and Arctech Helsinki Shipyard Oy, of which STX Finland Oy owns 50%. STX Finland's subsidiaries include Aker Arctic Technology Oy and STX Cabins Oy, among others. The company belongs to the STX Europe Group, an international shipbuilding group with a product range including passenger ships, ferries, offshore services vessels and specialized vessels. STX Europe has approximately 14,000 employees. www.stxeurope.com

9

TEKNIKUM OY

P.O. Box 13
FI-38211 Vammala
Finland
Phone +358 3 51 911
Fax +358 3 514 3137
marketing@teknikum.com
www.teknikum.com

Contact Person
Hannu Vesterinen
Phone +358 500 233 259

Facts & Figures
Turnover: EUR 50 million
Personnel: 20
Established: 1989
Parent Company: Teknikum Group Ltd.

Specialty Areas
Rubber lining for steel pipes aganst seewater corrosion.
Compressed rubber hoses, bellows and connection hoses for shipbuilding and offshore industry.
Moreover we offer customised rubber products for different stages of all industry.

2 3 9

TEVO OY

Hiientie 17
FI-92160 Saloinen
Finland
Phone +358 8 265 8800
Fax +358 8 265 8805
tevo@tevo.fi
www.tevo.fi

Contact Person
Marjatta Pyhtilä
Export Assistant
marjatta.pyhtila@tevo.fi

Facts & Figures
Turnover: EUR 18 million
Personnel: 110
Established: 1974

Specialty Areas
Manufacture and service of Bronze Marine Propellers up to 10 m diameter Offshore steel constructions and special welding
Heavy steel machine building
Manufacture of TEVO Spreader rolls and overhaul

4

See page 42

THYSSENKRUPP AEROSPACE FINLAND OY

Jalostamontie 1
FI-42300 Jämsänkoski
Finland
Phone +358 20 127 4420
Fax +358 20 127 4450
www.thyssenkruppaerospace.com

Contact Person
Petri Laaksonen
Managing Director
petri.laaksonen@thyssenkrupp.com

Specialty Areas
Aluminium sheet and plates
Stainless steel
Honeycomb panels

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

2 4

TRAFOTEK OY

Kaarinantie 700
FI-20540 Turku
Finland
Phone +358 2 275 9200
Fax +358 2 275 9210
info@trafotek.fi
www.trafotek.fi

Contact Person
Timo Heikkinen
timo.heikkinen@trafotek.fi

Facts & Figures
Turnover: EUR 66 million
Personnel: 370
Established: 1983

Specialty Areas
Ship and offshore transformers up to 12 MVA, electrical filters and reactors

1 2 6

OY TRITMAR LTD

Morokiventie 3
FI-04300 Tuusula
Finland
Phone +358 9 2735 2140
Fax +358 9 2586 5192
sales@tritmar.com
www.tritmar.com

Contact Person
Martti Tulimaa
martti.tulimaa@tritmar.com

Facts & Figures
Turnover: EUR 5 million
Personnel: 5
Established: 1998

Specialty Areas
Galley equipment for all kind of vessels
Bar and pantry equipment
Buffet tables and waiter stations for cruise ships
Turn-Key deliveries

9 *See page 42*

TURKU REPAIR YARD LTD

P.O. Box 212
FI-21101 Naantali
Finland
Phone +358 2 445 11
Fax +358 2 445 1407
try@turkurepairyard.com
www.turkurepairyard.com

Contact Person
Hans Sundqvist
Managing Director
hans.sundqvist@turkurepairyard.com

Facts & Figures
Turnover: EUR 20 million
Personnel: 100
Established: 1989

Specialty Areas
Dockings, heavy steel work, heavy machinery work, interior work, surface treatment, annual service and maintenance, 24h Voyage repairs.

1 2 6 7 *See page 50*

WAT MAN ENGINEERING LTD OY

Laatukatu 16
FI-15680 Lahti
Finland
Phone +358 20 741 7255
Fax +358 3 725 2750
engineering@watman.fi
www.watman.fi

Facts & Figures
Turnover: EUR 2-3 million
Personnel: 10
Established: 1995
Parent Company: Pumppulohja Oy

Specialty Areas
Water treatment, desalination, RO-units, waste water treatment
Pressure vessels and storage tanks, tube heat exchangers, pumps, water management

2 *See page 50*

WINDSIDE PRODUCTION OY LTD

Keskitie 4
FI-44500 Viitasaari
Finland
Phone +358 20 835 0700
Fax +358 20 835 0701
finland@windside.com
www.windside.com

Contact Person
Sara-Maaria Asp
Export Manager
sara@windside.com

Specialty Areas
Windside wind turbines for battery charging are safe, soundless and ecological solution for energy production wherever energy is needed. They meet the requirements of the demanding professional use in the harshest of environments. Their unique features ensure reability, high effiency, long life span, durability and an absolute minimum of maintenance. All the advantages of the turbine together with the beautiful design, enables almost limitless use of Windside.

1 5

VTT TECHNICAL RESEARCH CENTRE OF FINLAND

P.O. Box 1 000
FI-02044 VTT
Finland
Phone +358 20 722 4294
Fax +358 20 722 4815
www.vtt.fi

Contact Person
Seppo Kivimaa
Vehicle Engineering
seppo.kivimaa@vtt.fi

Facts & Figures
Turnover: EUR 269 million
Personnel: 3 152
Established: 1942

Specialty Areas
R&D services. In vehicle engineering VTT offers expertise in model and full-scale tests, computational fluid dynamics, structural monitoring, structural integrity and dynamics, maritime simulations and virtual prototyping, maritime safety and environmental engineering, small craft design analysis, hydraulics.

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

4

YIT INDUSTRIA OY

P.O. Box 27
(Lemminkäisenkatu 59)
FI-20521 Turku
Finland
Phone +358 20 433 111
Fax +358 20 433 7251
www.yit.fi

Contact Person

Markku Salonen
markku.salonen@yit.fi

Facts & Figures

Turnover: EUR 320 million
Personnel: 3 800
Established: 1920
Parent Company: YIT Corporation

Specialty Areas

Prefabricated pipes, pipe modules, electrical and steel outfitting.

NOTES

1. Consulting
2. Equipment
3. Machinery
4. Materials
5. Safety
6. Systems
7. Turnkey Deliveries
8. Yards
9. Other

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