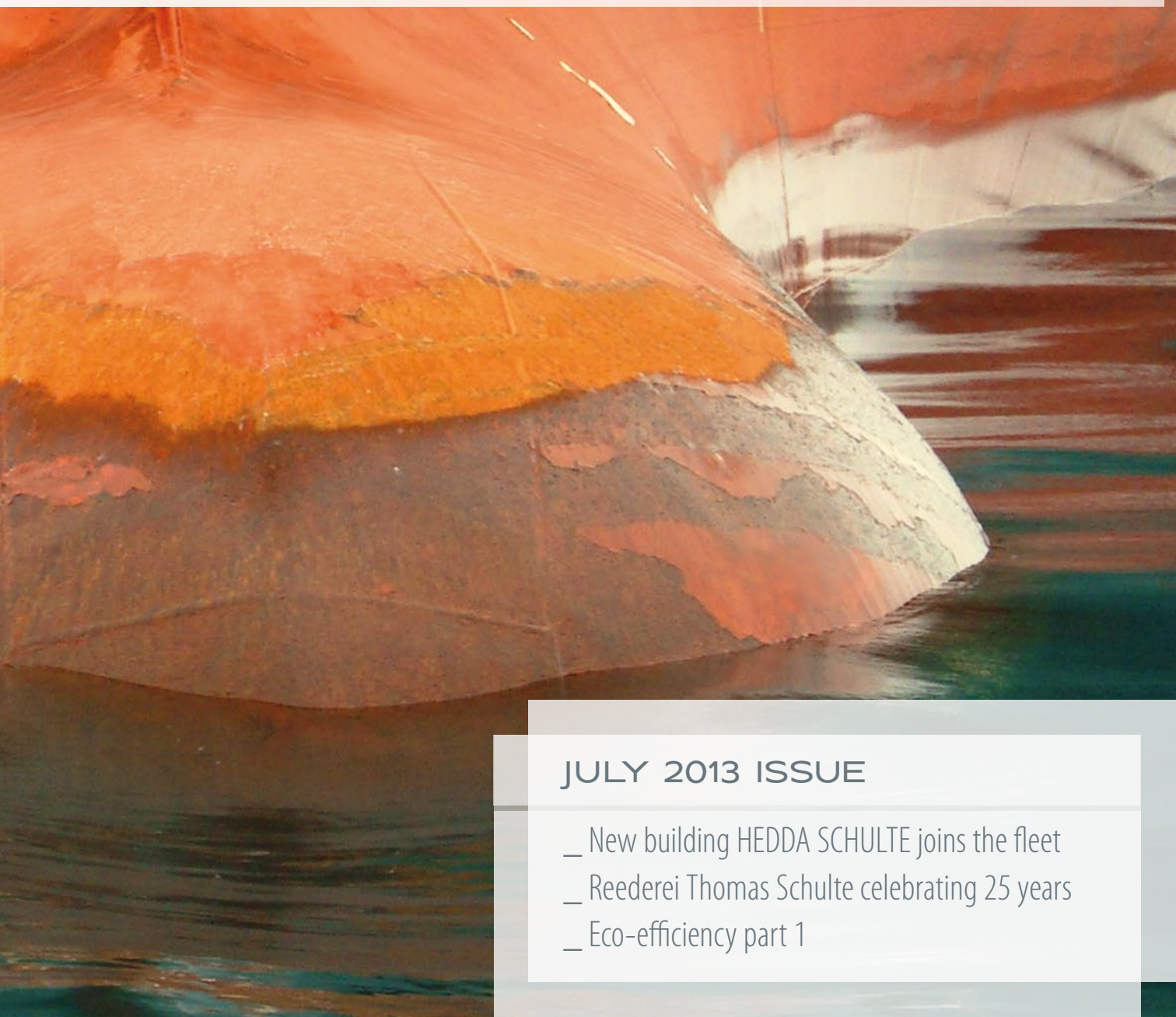
THE CROW'S NEST

THOMAS SCHULTE GROUP NEWS



JULY 2013 ISSUE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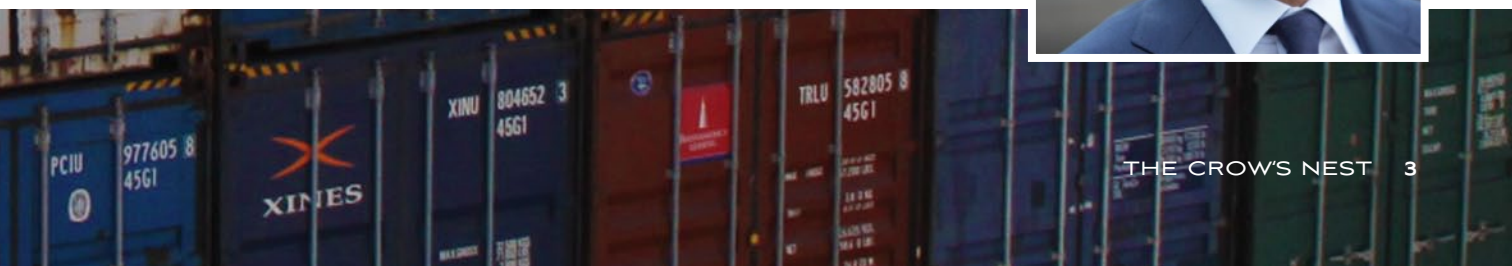
Welcome to the summer edition of The Crow's Nest.

Even though the shipping industry is well into its 5th year of abysmal freight rates, the market does offer some interesting perspectives. Scrapping is ever increasing and as a result of this, older and somewhat uneconomic designs tend to disappear, particularly in the feeder segments. In addition, new building orders are practically limited to the new eco designs in the post panmax sizes, driven by the lines continuous need to reduce their slot costs. This might however give cause to the question how the non eco post panmax designs delivered in the not so distant past will eventually fare and the establishment of a two-tier market in the not so distant future.
In the meantime owners and operators alike continue to focus on means to optimize cost cutting programs, primarily tackling issues that surround the fuel consumption. Though one has to mention, that fuel efficiency is presently not mirrored in the time charter income to the full extend. Consequently, the fine tuning of the operating expenses is moving slowly into the limelight. Regrettably this issue had been neglected for quite some time, but with the income side still under pressure, awareness is on the rise. We have been benchmarking the operating expenses of the fleet under management for a number of years already. Now two independent surveys have confirmed the figures. They show remarkable results by any industry standard. Despite 2013 being the companies 25th anniversary, we can assure all our clients that we will not rest on our laurels but will continue to strive for excellency!

As always, we hope that you will enjoy reading about the issues that have been highlighted in this edition.

Sincerely,

Alexander Schulte



CONTENTS

NEW BUILDING PROJECT AT RONGCHENG SHENFEI SHIPYARD

HEDDA SCHULTE joins the Thomas Schulte fleet

Two newly built 3,400-TEU-container vessels joined our over-all management and the Thomas Schulte group supervised the construction of another sister-ship. It was good news to be approached by a ship-financing bank that offered to take over the new building project at Rongcheng Shenfei Shipbuilding Co. Ltd., P.R. China.

After Ocean Shipmanagement and North Star Marine Consultants had run numerous new building projects for the Thomas Schulte Group, this project marked the first third-party contract for new building supervision. The company was happy to meet the challenges of the project:

The yard is located in Shidao on the Shandong peninsula, a 3-hours-drive northeast of Quingdao, P.R. China. Taking over the project meant establishing a new fully operational site office within the short time of a few weeks. Shenfei is a classic green-field yard with limited experience. The shipyard was founded in 2007 and, despite the fact that the key personnel were recruited from older yards it is still a young company.

Assuming a running project is difficult, the best documentation handover still does not cover the in-depth knowledge of all the particulars of the project's history. The whole background of all of the previous decisions has to be explained, understood and evaluated.

One ship for the previous owner had been delivered already. Our first vessel was well under construction, with most blocks already assembled on the slipway. Therefore, opportunities to introduce improvements were limited. Nobody would think about a chance to check drawings or influence maker selections.

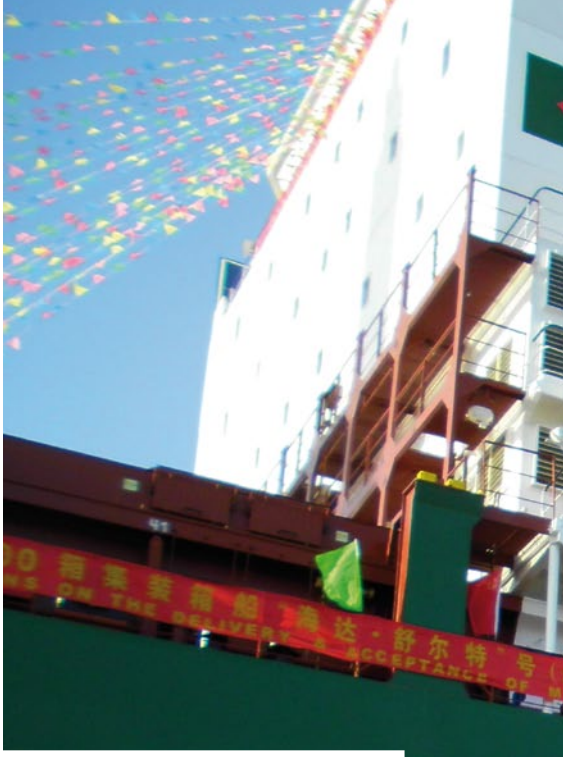
During the following year the supervision project was a real endurance test for everyone involved. The sea-trial had to be postponed several times. Finally, and because of the great support of the experienced RTS site team, on 22nd Feb. 2013, the lines for sea-trial were cast off.

Bad weather towards the end of the trial kept the ship at sea for not less than nine days, which is rather unpleasant when it is carrying more than 100 individual team members onboard a vessel that is designed for 32. The best reward for all of them, and despite a long claims list, was that the sea-trial was successful. It took more than one month to work through the claims, but finally on 3rd April 2013, HEDDA SCHULTE – our first 3,400 TEU vessel built by Rongcheng Shenfei Shipbuilding – was ready for delivery.

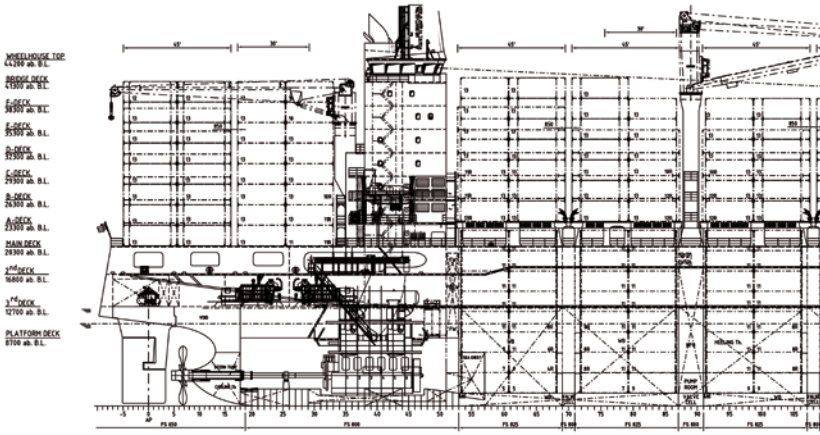
HEDDA SCHULTE has an electronically controlled main engine. The Wärtsilä 6RT-flex 82C with special tuning for low fuel consumption at low load (Delta Tuning) is very attractive in the current market situation. Thanks to a layout for a large number of containers in the hold and the equipment with cargo cranes, the ship has been chartered out within a short time.

HEDDA SCHULTE is trading for NileDutch carrying the charter name NILEDUTCH HIPPO.

We wish all the best to the ship and crew, always a safe return and Goede Reis!



MAIN DATA:	**NILEDUTCH HIPPO / HEDDA SCHULTE**
Type	RSS 3,400
Flag	Cyprus
Length over all	228.2 m
Breadth	32.2 m
Depth	20.3 m
Scantling Draft	12.5 m
Design Draft	10,5 m
GT	39,753
Deadweight at Scantling	abt. 42,500 t
Total TEU	3,421
14 Homo TEU	2,433
Reefer total	539

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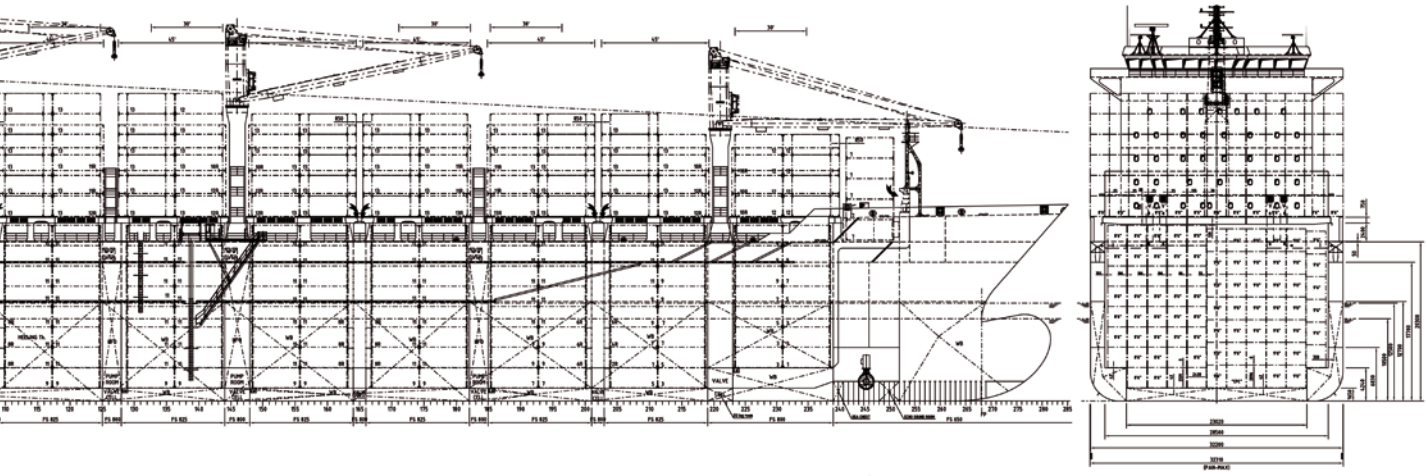


TURNING ECO TRENDS INTO EFFICIENCY GAINS – PART 1

Basic ship design and the high-efficiency rudder

The shipping markets are changing rapidly. Much has been written in the search for emerging trends across the globe – most of them rather negative for the overall development. However, great benefits arise from trends, such as slow-steaming to counter high fuel prices. During the last few years, many innovations have been developed, or discussed at least, in order to improve the propulsion efficiency of ships. On top of this, more stringent regulations have forced ship designers and engine makers to lower the fuel consumption of their systems step-by-step.

The Thomas Schulte Group continuously analyses fleet and potentials, markets and forecasts to obtain efficiency gains. CROW'S NEST would not provide enough space to show a complete review of all of the tracked-down trends. This edition displays the first summary of the most important factors and promising trends regarding basic design and hydrodynamics. The next edi-tion, by end of the year, will cover the machinery parts and other aspects. Ocean Shipmanagement and North Star Marine Consultants – as responsible and competent parts of Thomas Schulte group – are permanently monitoring the latest trends in shipbuilding and retrofitting to keep the fleet at the cutting edge of technical, ecological and economical developments.

Basic ship design

The most important factor for a vessel to sail efficiently is the ratio of the required design speed to the main dimensions. The question is: how often and how long is the vessel going to sail, and at which speed, during its life? The whole design process of a ship starts by choosing the right design speed. Key basic assumptions for this purpose are the intended cargo, port or waterway restrictions, and the speed profile of the ship in relation to the most favourable figures of:

length to breadth ratio;

breadth to draught ratio;

and block coefficient, which is the displacement divided by L x B x T, where L is the length, B is the beam and T is the draught.

Increasing the amount of deck cargo by moving the bridge forward would require a Twin Island concept, which would have to be investigated for very large container carriers. For our vessels, all dimensions have been carefully selected, based on our experience and the perceptions about the future trades of the fleet. If possible, the designated charterer is involved at an early stage. The correct basic dimensions of the planned ship are crucial for all further improvements. The design process continues by optimising the hull's contours based on the speed profile.

Again, questions have to be answered:

Is there a need to optimise for one design speed only or will the vessel change speed regularly during its life? Will the vessel usually sail with the design draught or will the vessel often sail with higher or lower draughts?

State-of-the-art-design of a hull's form is achieved by running specialist computer programs, which scientifically change basic parameters of the hull and generate hundreds or thousands of slightly varying hull contours analysed by Computational Fluid Dynamics (CFD) and compared to the design goals.

This way, this computerised flow analysis allows for the optimisation of the hull form. At a later stage, various CFD methods and model tests assist in the process to optimise details of the hull, such as the bulbous bow or rudder.

In the aft area of a vessel, a hydrodynamically sensible design of the stern section is a crucial factor for propeller efficiency and it is as important as a well-designed propeller that is perfect for the speed profile. Sufficient space in the aft body is necessary to employ a large propeller and to ensure a homogeneous water inflow. For this purpose, a slender stern contour is recommended. Specified flow-optimising components, such as ducts or fins, will increase the overall efficiency cumulatively.

Mewis or Schneekluth ducts used to be deployed on slow vessels such as bulk carriers or tankers for efficiency improvements, or on a few containerships, in order to reduce propeller-induced vibrations. They are now becoming attractive for all the slow-steaming container ships as well, because they seem to offer a viable option for saving expensive fuel. The ducts increase propeller efficiency by accelerating the inflow speed into the propeller where regular inflow is poor due to the hull contour. The biggest gain can be achieved on a vessel with a blunt aft section.

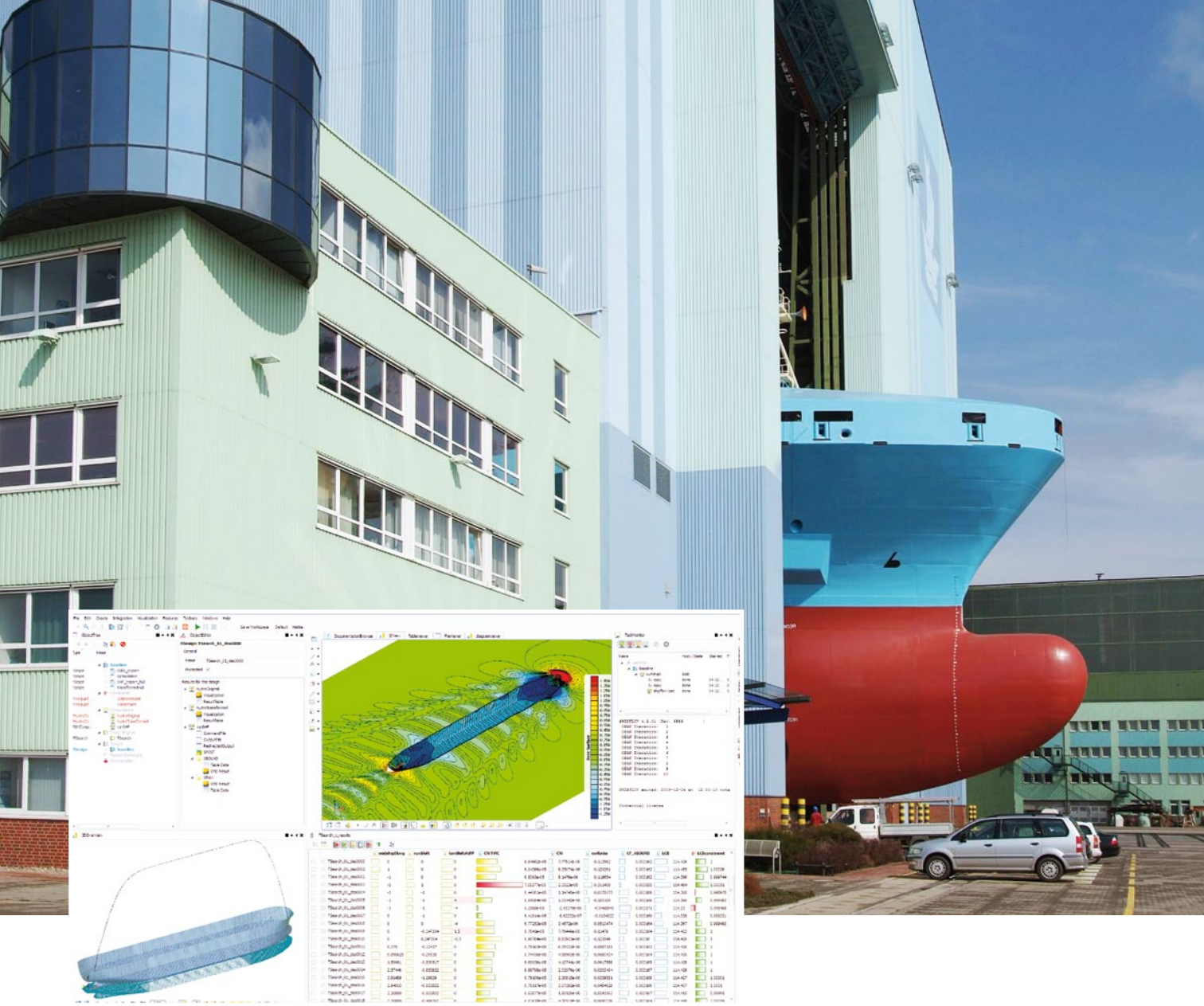
Fins in front of the propeller introduce a twist to the inflow. Fins inside the Mewis duct® or the Becker twisted fins® compensate the twist or swirl by the propeller and help to increase propeller efficiency even further.

The hypothesized improvement of these devices is limited to about 10 per cent fuel saving (assuming optimum conditions of a perfectly arranged combination of propeller and devices). However, experience has shown results close to this only where bulk ships or tankers are concerned, and the whole design of the aft ship and propeller is re-adjusted for the duct. Manufacturers have published comparative sea trials, yielding a 6 per cent saving in only the most favourable case. Most containers ships are designed with a very slender aft ship, where the inflow on the propeller is already favourable so that the savings will be significantly less than the 6 per cent.

High-efficiency rudder

A high efficiency rudder will deliver 2 to 5 per cent fuel savings using the energy in the propeller swirl. To achieve this, the conventional rudder with a rudder horn has to be replaced by a full-spade rudder yielding certain savings. Special rudders by Barkemeyer, Becker or Rolls Royce are equipped with a sophisticated twisted edge and with a bulb behind the propeller hub. In order to achieve the full benefits of the technology, a full-spade rudder has to be designed based on the speed profile, hull shape, and resulting inflow on the propeller and rudder. It must be based on the propeller design as well. All parameters have to match each other.

High investment costs, however, pose considerable difficulties in the upgrading program. Additionally, if retrofitting, a costly new propeller might be necessary and the ship would need up to ten days off-hire for extra dry-docking. Elevated repair and maintenance costs might result at a later stage. Reviewing the speed profile as a whole, negative effects can occur when applying some of the above-mentioned devices and can decrease the savings for the overall lifecycle of the ship, particularly, if it was not possible to adapt selected



design parameters of propeller or hull contour.

As a result, the time required for a return of the investment will be considerably longer. Extensive retrofits are hard to put into practice in times of short charter contracts and difficult financing.

The engineers of Ocean Shipmanagement and North Star Marine Consultants are encouraged to continuously check if any of the vessels of the RTS fleet are suitable for any of the described beneficial options.

HAPPY BIRTHDAY!

Reederei Thomas Schulte proudly celebrates its 25th anniversary.

Back in 1988 Reederei Thomas Schulte started its operations in a somewhat smaller premises in the western outskirts of Hamburg. The separation from Bernhard Schulte saw Mr. Thomas Schulte part with three Bulk carriers, named CHARLOTTE SCHULTE, DONATA SCHULTE and FRANCISCA SCHULTE, and a tweendecker called HEINRICH ARNOLD SCHULTE. Whilst this is the nucleus of today's Thomas Schulte Group, the Schulte family had already been in shipping for more than 100 years at that moment in time. It was originally founded as Schulte & Bruns in the town of Papenburg back in 1883. In 1955 Mr. Bernhard Schulte, father of Thomas Schulte separated from his brother himself and founded Reederei Bernhard Schulte in Hamburg.

Subsequently, until 1992 the ships were sold and in the same year two tweendeckers were bought, named FRANCISCA SCHULTE and ALEXANDER SCHULTE. The venture prospered and in 1996 and 1997 three container new buildings were ordered, which were delivered in the following year. This represented the company's first foray into the then striving KG market.

Whilst in those days technical management and crewing was still sourced out, the group renders the full range of shipping services to its clients today.

By 2002 Alexander Schulte, having spent the last ten years working abroad, follows in his father's footsteps and becomes a shareholder of the company. Further growth of the tonnage under management required the company to relocate to a larger premises; it moved to the city centre into a building in Domstrasse, where it has been located up to the present day.

Mr. Thomas Schulte, founder of todays
Thomas Schulte Group

Reederei Thomas Schulte started its operations in Hamburg's Parkstraße, Othmarschen.

And the company continued to develop. In 2004 it founded Ocean Shipmanagement (OSM), the company's technical manager, which soon began to position itself as an independent technical manager, with the certification of the GL excellence award as one of the first worldwide shipping companies in 2006. Some years later, OSM was certified with the "Green ship certificate" for its entire fleet under management as the first worldwide company. By that time the Thomas Schulte Group had already identified quality management as one cornerstone of its corporate identity. In 2008, the company had some 33 ships under management and already employed 30 employees, whilst also continuing to broaden its maritime service activities. Several sister companies were established as independent units, in order to provide maritime services for the Thomas Schulte Group and also for third party clients. Today, some 72 professionals manage about 40 cellular container ships and bulk carriers. The services provided by the group to its clients cover marine operations, insurances & claims handling, procurement & technical management, new building supervision, chartering, S&P, crewing, accounts, ship finance & controlling and marine consultancy.

In 2013, the Thomas Schulte Group was audited by two separate and independent companies in order to verify the OPEX figures and service capabilities of the container-fleet under management. The results of the audit are not only a credit to the company's staff ashore, but just as much to the crews onboard the ships. The benchmarking confirmed savings of up to 25 per cent in comparison with the peer group! A worthy present for a company's anniversary.

ONLINE FUEL OPTIMIZATION – SMART SHIPS

Reederei Thomas Schulte (RTS) reassumes the role of technological leadership and quality. For the benefit of all customers and the environment, the company's smart ships allow for online monitoring of specific fuel consumption figures, ensuring optimum performance of the vessels.

The increasing significance of fuel efficiency underlines the importance of ship managers closely monitoring and controlling the performance parameters of their vessels. "You can't manage what you don't measure" is the guiding management principle adhered to by RTS.

In-house research of OCEAN Shipmanagement GmbH, the technical manager of RTS, developed a tailor-made solution using the best practices and innovative technologies in ship performance monitoring. The solution, which is placed likewise at the disposal of third party clients, has two main advantages: it exactly matches the individual needs and, secondly, gives the crew and office staff more time to concentrate on their original tasks.

Quality, accuracy, actuality and presentation of data received are key aspects of successfully benefitting from the flow of information. Whenever possible, the relevant components themselves forward data, for example, about the power output of the main engine or fuel consumption automatically. This process avoids human error, while the crew also has more time to concentrate on the operation of the vessel rather than picking figures for monitoring. Early intelligent checks at the input stage ensure accuracy of manually obtained data.

Particular highlight: the software analyses all data automatically, and presents the results for quick overview and use to those in charge on board and ashore. Moreover, final performance indicators are benchmarked against individually activated warning limits. Performance indicators undershooting or overshooting given limits immediately trigger an automatic alarm.

The most sophisticated data analysis extracts the full potential of ongoing ship operations, facilitating prediction of technical issues and wear and tear at the same time. It allows for identification of further optimization possibilities for all sequences of the ship energy consumption process, applying the latest stage of technology. Last but not least, most economical ship operations help to preserve the environment.


EISU
GROSS
TARE

STOWAWAYS – AN ANCIENT PROBLEM IN MODERN TIMES

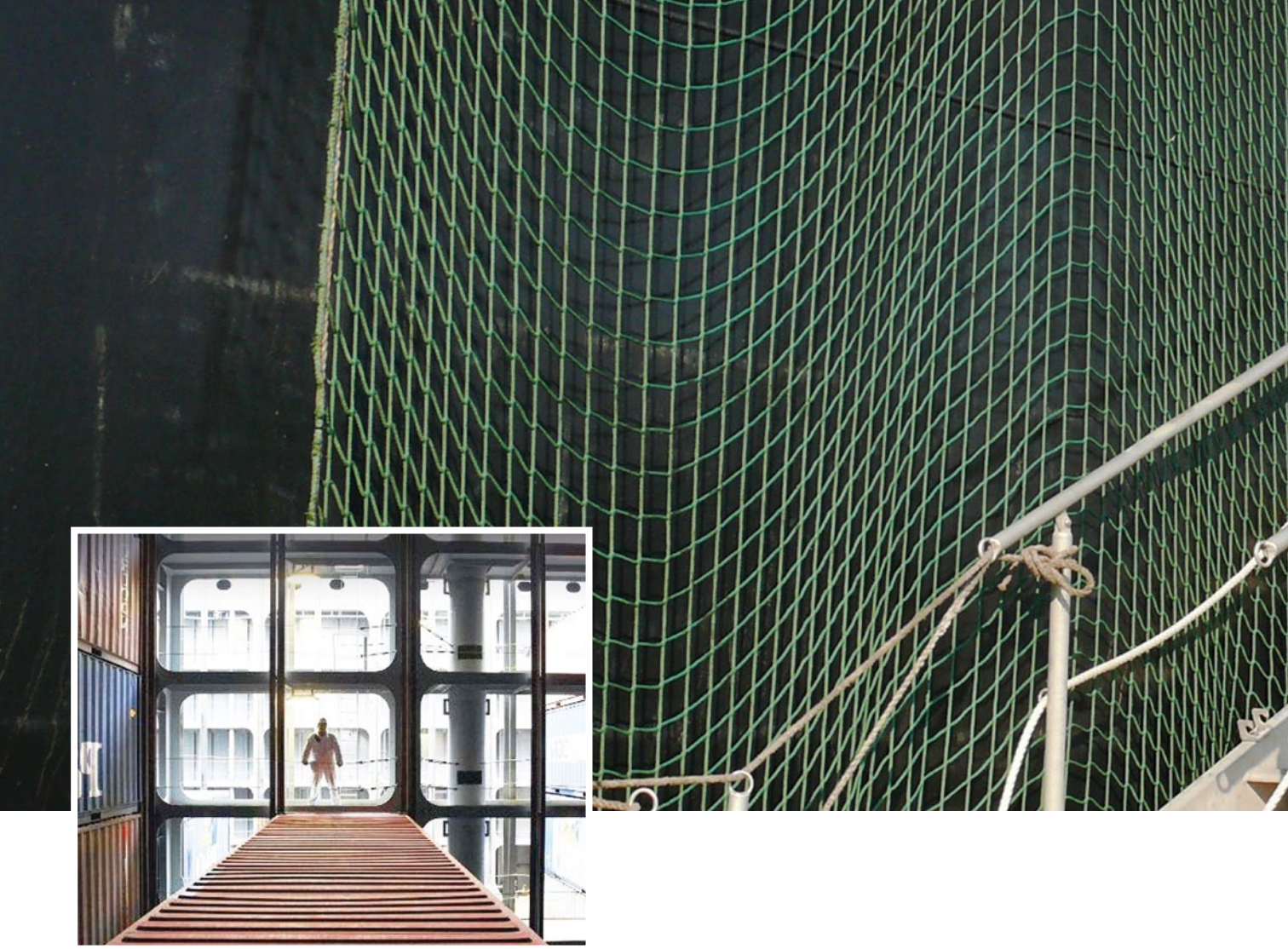
He was just 16 years old when, early one morning, he picked up a backpack with almost nothing inside, no money in his pocket, no legal documents and embarked on a trip to escape from hunger, discrimination or war. At the nearest port to his hometown he secretly boarded and hides on board a merchant vessel departing for international waters.

This is the start of the typical story of an increasing number of young people in poor African countries, hoping to find a better life with economic chances and dignity. Every human being has the right to enjoy safety and protection, and as human beings we have an obligation to help one another. However, support of the shipping company and the crew are limited and clearly defined by international and national laws.

Stowaways have existed since the beginning of navigation, and captains and shipping companies have had to deal with them ever since. There are myths and legends about young men from Ireland hidden away on board whaling vessels seeking adventure and a new life as immigrants in America during the 19th century.

Today this way of travelling normally ends up as an odyssey for the stowaway and for the ship. According to maritime law, no ship or ship's crewmember without legal documents is allowed to enter the territorial waters of any state anywhere in the world. A stowaway on board therefore causes legal problems for authorities in ports of call, humanitarian problems for ship's crew and financial problems for ship owners and states. In the worst cases, stowaways outnumber crews, creating a genuinely dangerous situation for the seafarers on board.

Despite the fact that security standards at ports are tighter than ever, the risk of stowaways persists. The reasons are manifold. Some port authorities do not care about the matter and are not willing to assist the ship's command when a stowaway is discovered and has to be returned home. In addition, stowaways today are extremely determined to leave their home countries, despite the odds.



For most stowaways, the dream of a better life soon comes to an end when they are discovered on board. Barely any country accepts stowaways in national ports; authorities do not give permission to disembark. Therefore, the desperate individual must be taken back to the port of embarkation, which may take a very long time. In the event of a country issuing a permit, this usually means that the stowaway is allowed to be guided to the nearest airport for immediate expulsion to his home country if this is known.

Vessels take precautionary measures such as fencing the mooring ropes in order to prevent unauthorized persons from aboard. The deck and pier are constantly guarded, while strong lighting on deck is activated during the night.

However, a modern stowaway comes on board business as usual via the gangway, dressed like a longshoreman intending to lash containers. The security gap is a result of insufficient port security and a lack of work organization in the terminal. Before departure, all crews routinely search for hidden persons aboard the vessel. Ship specific checklists serve to facilitate the stowaway search. In specific cases external experts are asked for assistance, sometimes making use of sniffer dogs to detect people in hiding places.

On modern vessels there are many empty spaces or hollows suitable for stowaways, enabling them to remain unnoticed

before departure. Once food and water supplies have run out the stowaways introduce themselves to the crew, triggering a chain-reaction of formalities and responsibilities the ship's command has to cope with. The best scenario is that stowaways are discovered before ropes are cast off.

If one or more illegal persons have managed to stay on board, as a matter of course, the crew will care for their health and welfare. Human rights and humanitarian needs come first. Accommodation and food are provided and the stowaway is given medical treatment if required.

The detected persons are not allowed to work on board and have to be guarded permanently, putting an additional strain on the crew's working schedule. The ship's master has to report and submit information about the nationality and identity of the persons to headquarters, insurance, the Flag State and the next ports of call, as well as the authorities of the embarkation port. All opportunities have to be considered in order to find the best possible solution to repatriate the stowaway as quickly as possible. There is no human right requiring Port States to allow stowaways to transit through their ports and airports to be sent back home. If the port does not allow the person to disembark, the odyssey begins.

DANGEROUS CARGO IN MANAUS

Sodium Hydrosulfite – Spontaneously combustible

At sea, options to extinguish a fire on board are limited because of the extreme heat, smoke and explosion hazards. However, it was fortunate that the incident we are reporting happened in the port of Manaus.

When the fire occurred in hold no.1, the vessel was still moored at the pier of the Brazilian port. More than 1,700 barrels of Sodium Hydrosulfite were properly packed and stowed on pallets in three tiers in that one hold alone.

It is imperative for storage and shipping to protect the chemical against air, heat, and particularly moisture, because Sodium Hydrosulfite tends to react in a spontaneously combustible way if exposed to air or moisture. It is classified as 'Dangerous Cargo – Group No.4', and is shipped in sealed metal drums and secured under a protective foil.

When a crewmember detected the fire by noticing explosions, the open hatch cover was closed immediately, the hold was flooded with 126 cylinders of CO2 from the gas fire-fighting system to extinguish any open or smoldering fire, and fire hoses were deployed and connected on deck immediately. The Master informed the local fire brigade, which arrived quickly to provide cooling of the hatch cover. Water-cooling was later taken over by our own on-board firefighting-unit. This process took no less than 13 days until it was safe to open the hatch cover again.

Rapid fire fighting requires the right means and measures at the right time. In certain cases, flooding of a cargo hold by CO2 will remain ineffective, while in others the attempt to extinguish the fire with water from the fire-fighting system may worsen the situation – much like adding fuel to the fire.

Sodium hydrosulfite is shipped in drums

But the main question was: how could the properly-packed and stowed cargo of Sodium Hydrosulfite on board ignite spontaneously? The load had been kept well away from any source of heating or warming. Investigations were complex and difficult. It finally turned out that in a previous port, stevedores failed to pay the necessary attention to this type of cargo. During discharging operations with a forklift one of the drums was damaged by puncturing a hole with a fork. However, too much time had passed since then and there must have been further reasons a fire like this would have been caused.

Further investigations showed that more cargo drums had been punctured in Manaus during re-stowing operations performed by the stevedores. Cargo was spilled over the pallets in the cargo hold, leading to a knock-on effect. When the damaged barrels finally combusted, they affected others in their vicinity seriously.

Lessons to be learned: Do not leave stevedores alone when handling this kind of cargo! Supervisory control by the crew is necessary during loading, discharging and any moving operation when this commodity is involved. Carrying Sodium Hydrosulfite requires the utmost care. Each and every drum has to be inspected in order to detect obvious external damages. It must be assured that the cargo is shipped and packed by a trusted client. The commodity needs to be safely stored and lashed on board a ship. Protected on deck stowage in watertight containers in safe distance to accommodation and engine should be considered

Most importantly, the accident fortunately ended without any injury to the crew or other persons involved.

The article is based on a casualty on board APHRODITE C (ex.Francisca Schulte) in Manaus, Brazil, 1998.

Rapid firefighting requires the right means and measures at the right time. RTS ships' crews are trained according to highest safety standards


EUROGATE

GYPSIES OF THE SEA

Migration of species endangers global ecosystems

Bacteria, algae, crabs, jellyfish, and all sorts of fish: many exotic species travel to distant places by sea-going ships. Even some plants move as modern gypsies via the sea to invade ecosystems all over the world. The phenomenon is as old as shipping itself and its occurrence is often unknown and unwanted.

Ever more creatures travel within the ballast water of vessels, bunkered in their home region before being discharged far away in an alien habitat where they can cause a major disturbance to the existing balance of local fauna and flora.

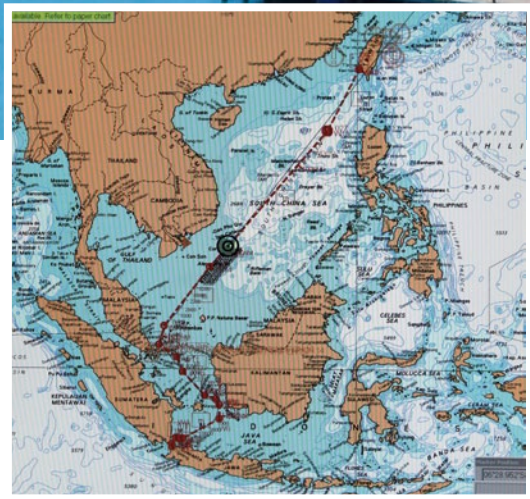
Therefore, all vessels of Reederei Thomas Schulte (RTS) customarily exchange ballast water at the high seas having been taken in port or coastal areas, in order to ensure that exotic organisms will not reach sensitive areas in distant countries. In addition to that, a comprehensive program to install water treatment plants on all ships has been set up and will be completed within a few years.

The types of plants and animals species travelling as potential invaders are numerous and varied. One of them, known as an unpopular visitor on board ships for centuries, is the rat. Often living in dirt and damp, the animals are potentially infectious and are neither wanted ashore, or aboard ship.

Hence, it is common practice on all RTS Ships, not only in ports where required by regulations, to install rat guards on every mooring rope, which is the preferential boarding access of the animals to the ship. The wooden or metallic shields are placed in a way that prevents the rats from climbing up the rope.

Another extremely destructive species is the Asian gypsy moth. Its natural home is in northern China, Japan and Korea, where it is an insignificant insect. The small animal has a tremendous capacity to reproduce, mainly between May and October.


MAERSK SEALAND
MAERSK
HAMBURG SÜD
COSCO
PORT OF MONTREAL



Brightly lit ships that are in port during the night attract female gypsy moths to deposit their eggs into cavities and crevices. They merge millions of them in small cushions, sticking them to walls and into corners. While adult moths would struggle to survive a voyage by sea, their eggs are a solid breed and can survive a journey of many months, even floating on seawater. Far away from its home region, the Asian gypsy moth turns into a forest pest. Once in a swarm, the insects develop a huge appetite for many kinds of trees and have the potential to ruin forests and entire landscapes. Asian gypsy moths larvae have been known to feed on over 500 plant species.

Canada and the USA are particularly concerned about the uncontrollable impacts on nature. Consequently, the authorities have enforced stringent regulations for ships and cargo from the Far East. Ships that have been trading in the north Asian range during a fertile period of the previous two years must be inspected by experts before entering Canadian or US ports. Detection surveys guarantee that no traces of egg masses remain on board a ship. In cases where any are found, extensive removal and re-inspection actions are obligatory, which has negative consequences such as a delay of the ship and additional work for the crew.

Reederei Thomas Schulte has implemented a rigorous system ensuring that any potentially affected ship is thoroughly inspected by recognised experts before leaving north Asian countries. Up to now, all inspections have shown negative results. The surveys are acknowledged by Canadian and US authorities, ensuring free entry to their national ports. Prevention once more proves to be best option.

A BIG CHALLENGE IN MODERN SHIPPING – BIOFOULING

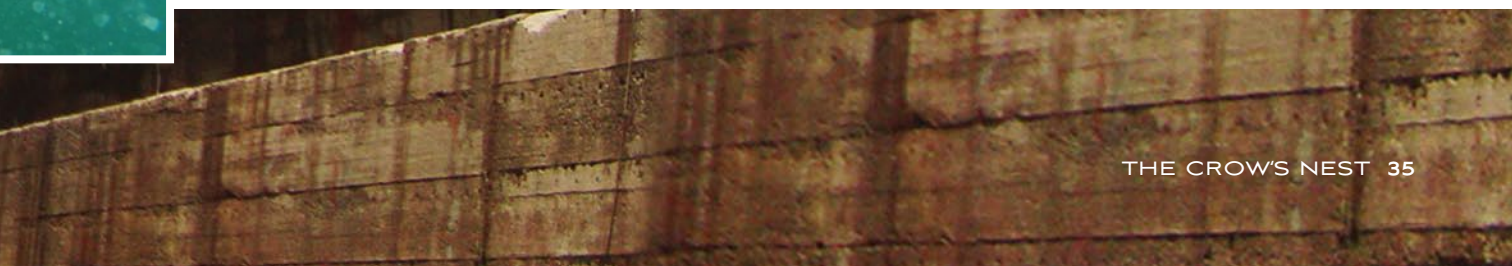
Biofouling is an ancient process and has been a severe problem in shipping for the owners for centuries. Biofouling is the accumulation of aquatic organisms of flora and fauna at the ship's hull, which attaches a bio-film of algae, anemones or sponges to the hull's surface. The parts most affected are the sides of the vessel, where the sunlight accelerates the accumulation quota of species by photosynthesis.

Particularly in the tropical and sub-tropical areas with warm waters, the biofouling-ratio can be rather intense and lead to a full coverage, with biota over almost the entire hull. Worldwide, more than two and a half thousand different organisms can be found on industrial surfaces in the marine environment, and many of them damage the undercoat.

Timber-built merchant ships of former centuries had been particularly affected, specifically by the shipworm, because wood is an organic material that strongly attracts living species. To protect the hull, precautionary copper plating was attached to the under-water-part of the ships. The Romans were the first to protect their galleys with lead plating.
Since modern steel hulls have been developed, there has been a continual surge in the demand for coatings that prevent corrosion and fouling. Anti-fouling coatings had a good adhesive character and the component biocides such as Tributyltin (TBT) were very effective in controlling and avoiding biofouling. However, in 2008, the International Maritime Organization banned the application of TBT to ship anti-fowling coatings because of its environmental impact that had been noted in the reproductive failures of various species. TBT even accumulates in the food chains, to which we, as humans, are exposed.

What happens?

The main cause for the easy adhesion and settling of the foulers is a secretion that simply works as a natural glue, called barnacle-glue. The barnacle is an animal organism with a solid shell that sticks to the hull and is very hard to deal with. Its glue is extremely effective, even sticking to Polytetrafluoroethylene (PTFE) or Teflon. There is no existent epoxy-glue with this adhesive strength. In addition, the barnacle glue destroys all of the coating and painting until it sticks to the bare steel of the ship, undermining all kinds of corrosion protection across the whole area of the hull. Other species create a vacuum to cause a firm adhesion, which in most cases is then followed by a gluing process.



Currently, shipping has to deal with multiple causes of fouling or biofouling. The growing problem is highlighted by three challenging factors:

First, the pressure to safeguard the marine environment, and the corresponding prohibition of most of the extremely harmful biocide substances that had previously been added to the coatings. Second, most of the vessels are running at a significantly reduced speed at the present time, thus lowering the abrasion of the paint and consequently increasing the extent of fouling. Third, prolonged anchorage of many vessels waiting for berth or even worse repeated lay up times due to market situations – both cutting operation times significantly.

Fouling of the hulls poses a variety of additional costs to the shipping industry: enhanced fuel consumption due to increased hull friction and costly damages to the ship's hull due to corrosion. Moreover, the vessel will need more frequent dry-docking or prolonged regular docking times due to the necessity of extensive blasting of the affected areas. The biofilm has to be removed completely from the bare steel prior to application of a new coating system.

What has to be done?

Fouling has to be identified in the initial phase before it affects larger parts of the hull. Key to this objective is a continuous monitoring of the vessel's performance and fuel consumption. Ocean Shipmanagement – as part of Reederei Thomas Schulte group – applies sophisticated cutting-edge software tools and trains the crew to be vigilant about corresponding signals.

The parts of the hull of the vessel that are under water are regularly checked during long waiting times at anchor in order to identify any upcoming problems. The vessel's bottom hull, rudder and propeller are to be cleaned as soon as any upcoming fouling problem is identified. It is much better to remove the initial fouling microorganisms and to reduce the long-term consequences significantly, as the coating system is still not damaged at that early stage.

The Ocean Shipmanagement technicians constantly add and discuss information provided by paint-manufacturers regarding the best use of coatings which are state-of-the-art and, specifically prior to dockings, how to optimise the coating systems for the present demands in vessel operation of continuous slow-steaming.

RTS will implement a comprehensive Biofouling Management Plan, which will soon be rolled out to the entire fleet. The Management Plan will become compulsory in several areas of the world and will serve as a useful tool to standardise all efforts to control and avoid biofouling. The plan enables the crews to identify new possibilities in the fight against biofouling in modern shipping.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12TH SENIOR FLEET OFFICER MEETING

Hamburg, 16th to 18th April, 2013

The first internal Senior Fleet Officer Meeting was held in 2007. Following the company's tradition of meeting biannually, once in spring and once in late autumn, a group of top four officers were welcomed to the headquarters of Thomas Schulte Group in Hamburg from April 16th to April 18th, 2013. This time, a particular large group of 24 officers followed our invitation and made the effort to come to Hamburg.

The program covered well established items on the agenda, such as attending an Electronic Chart Display and Information System workshop for our Deck Officers and a Purifier System workshop for our Engine Officers.

Besides the training programs, time was allocated for presentations concerning fleet specific and general shipping related topics such as MLC 2006 or Ballast Water Treatment System. Moreover, casual meetings of officers, the technical department and the crewing department were organized in order to get to know one another and to talk about current shipping issues and our company. The program left enough time for all questions and in-depth discussions.

In evaluation of the conference, the atmosphere during the entire meeting can be summarized as very enjoyable for everyone. An especially pleasing highlight was the closing dinner, with a lot of good conversation and laughter on Thursday evening.

We thank our Captains, Chief Officers, Chief Engineers and 2nd Engineers for being our guests and spending their time with us. Our special thanks go to all external speakers, Mr. Jens Koslowski (Sauer & Sohn), Mr. Enam Hussain (The Standard P&I Club), Mr. Frans Paardekooper (Det Norske Veritas) and Mr. Rüdiger Engel (Furuno Germany), as well as to workshop directors and all colleagues who kept the meeting going with lively content.

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