



DEUTSCHE AFRIKA-LINIEN  
JOHN T. ESSBERGER

# news

July/2017

The Group's In-House Magazine

www.rantzaude

## Distinguished guests, African rhythms and tropical temperatures

*DAL/JTE Group invites to African Night and in-house summer party*



*Hosts and their guests: Dr v Rantzaу, Patricia v Rantzaу, HE Ambassador Sizani, Senator Dr Dorothee Stapelfeldt, Annette and Heinrich v Rantzaу*

**O**n 22 June and at befittingly tropical temperatures, the Deutsche Afrika-Linien/John T. Essberger (DAL/JTE) Group celebrated its 9th African Night. The annual summer party for the staff and retirees was held the following evening. The hosts of both events were the family of Dr Eberhart von Rantzaу, Honorary Consul of South Africa, and Heinrich von Rantzaу as Managing Owners of the company.

Invited to the African Night were diplomats and consuls, and of course the customers of DAL/JTE with their partners: 680 guests

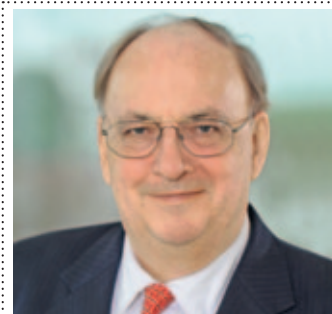
in all. They included HE Ambassador Phumelele Stone Sizani of the Republic of South Africa, Senator and Second Mayor Dr Dorothee Stapelfeldt, and the doyenne of the Corps Consulaire, the General Consul of Uruguay Maria Elizabeth Bogosian.

In his welcoming speech, Dr von Rantzaу also spoke about the unresolved shipping crisis. However, since the DAL/JTE Group has been able to master the difficult environment, he took the opportunity to thank the shipowning company's many loyal customers with this invitation (see also page 3).

In his speech the following day, his brother Heinrich von Rantzaу expressed his gratitude to the staff, who had successfully contributed towards consolidating the company in the general crisis. In particular he thanked the increasing number of seafarers from abroad attending this "family affair".

The events took place in various pavilions in the garden of the company's headquarters. Besides enjoying a sumptuous buffet of South African dishes, the guests were surprised by and introduced to live exotic animals – a snake, parrot, chameleon and spider. The entertainment programme started with a show by the powerfully voiced South African singer Nomfusi. Next on was an impressive music performance by 18 actors of the musical "The Lion King" in their wonderful costumes.

The following comment from one of our customers is representative of everyone attending: "I'd like to thank you, also on behalf of my wife, for another highly enjoyable African Night. DAL is one of the few shipping companies with style and etiquette, and where customers still play a big role and are not just an abstract number."



**S**ince the start of the shipping crisis in 2008, the global chemical trade has been going through rough times. Hardly any shipping companies have since made any profit, and there are no signs of a substantial market improvement.

But times of crisis also offer new opportunities as we are currently witnessing at Essberger Tankers (ET). Against the trend, ET have strengthened their market position in the European chemical trade and prudently expanded and achieved positive results.

It was hard work to reach this success and much of it is thanks to our employees on board and ashore. We did not lie back hoping the market will recover, which no company is able to influence. Instead we have been concentrating on matters we can take into our own hands. By selling older tonnage and buying vessels more suitable to the changing market requirements, our fleet has been homogenised and become more efficient. We have used organisational synergy effects, such as centralising operations in our Hamburg headquarters. We are more cost-conscious without saving in the wrong places. We are consistently investing in our seminar programme and the training of our crews. This enables us to offer a service that justifies ET's position in the European chemical trade. We intend to continue in this manner. Modernising and harmonising our fleet is an ongoing process and we know there is plenty of scope for improvement with regard to technical maintenance and costs. Since there are few newbuildings on order for our market segment we are cautiously optimistic about ET's future, even if the cargo volume continues to stagnate.

Yours Eberhart von Rantzaу

## New home port for "Usambara"

**I**n the early 1950s, most of Hamburg was still in ruins. But the "Museum für Hamburgische Geschichte" (Museum for Hamburg History) had already opened its doors. Apart from the regular visitors, generations of Hamburg school kids were taken into this museum to get a glimpse of the great past of this city. The future

*(continued on page 5)*



*Perfect location for "Usambara" model at the DALSA office in Bremen*



# Green, small and beautiful

Int. Maritime Agencies Ltd. is Deutsche Afrika-Linien's agency partner in Ireland



The IMA team: Liam Farrell, Rafael Pecoits, Michal Podolski-Czajka, Bill Byrne, Liam Quigley, Barry Coonagh (l. to r., back); Barbara Walton, Dave Whelan, Norman Wilkinson (Managing Director), Andreina Mosquera (front)

International Maritime Agencies Ltd. is a dedicated liner agency company that commenced trading back in January 1997. Over the past 20 years we have built a strong and dedicated team and have earned the respect of both our customers and principals alike. We were appointed agents in the Republic of Ireland for Deutsche Afrika-Linien in May 2013 and we are very proud to have represented DAL for the past 4 years. During this time we have seen the business develop and we are committed to working with the management in Hamburg and with the regional offices to further increase business and the customer base.

Ireland, like many of our EU partners, experienced a deep recession between 2008 and 2012. However we are very pleased to advise

that our economy has rebounded from 2013 onward and Ireland posted the highest GDP growth rate (5.2%) within the EU during 2016. Ireland has a temperate climate which is very suitable for the production of agricultural products. We export about 80% of the food we produce, and you will find our meat and dairy products in supermarkets all over the world.

## Focus on Africa

Our main exports to South Africa include dairy and meat products, alcoholic beverages, chemicals and pharmaceuticals, medical devices, computers and machinery with a total value of 230 million euros in 2016. There has been a gradual decline in imports from South Africa to Ireland over the past 5

years with the total value dropping below 100 million euros for the first time since 2012. The bulk of the imports are made up of fresh and chilled fruit, wines, metals and chemicals. There is huge potential to boost imports as demand in Ireland grows and we are working very hard with our clients to develop new business in this area.

International Maritime Agencies Ltd. is ideally positioned on the northern side of Dublin City, midway between Dublin port and Dublin airport and within easy reach of the Ireland motorway network. Our team is led by Mr Dave Whelan, our General Manager and Sales Director, who is supported by Keith Wilkinson, Director of Operations and by Bill Byrne, who is our DAL Import/Export Manager. Dave, Keith and Bill have over 100 years' experience between them working in the Irish freight industry. Dave is supported by Barry Coonagh, our External Sales Leader, and by Rafael Pecoits on Internal Sales. Bill Byrne's team is made up of Michal Podolski-Czajka, Barbara Walton and Andreina Mosquera, all of whom are experienced customer service providers. Our accounts and administration department is headed by John Atkinson, Co. Secretary with Liam Farrell, A/C Manager supported by Liam Quigley.

Finally we'd like to thank all our colleagues north and south of the equator for the assistance and encouragement we have received over the past four years.



Lutz Weber, CFO of the DAL/JTE Group and responsible for IT

## Cyberattack

Various companies, including our partner Maersk Line, suffered cyberattacks that brought their daily business operations almost to a halt. We asked Lutz Weber, CFO of DAL/JTE and person responsible for our IT.

**DAL/JTE NEWS:** The cyberattacks led to IT systems breaking down across the global logistics industry. To what extent is DAL at risk?

**WEBER:** Luckily, so far it's only affected us indirectly. It's hard to assess how big the damage worldwide is. In financial terms and as regards customer confidence, immense damage was caused.

**DAL/JTE:** How can we protect ourselves?

**WEBER:** There's no such thing as full protection. Our IT is constantly on guard and well prepared. The last waves of "Petya" and Trojan "WannaCry" left us unscathed.

**DAL/JTE:** What can each of us do to prevent cyberattacks?

**WEBER:** The virus has to infiltrate the network, by email or mobile data carrier such as a flash drive. Since viruses and Trojans are usually hidden in email attachments, it's vital that you never open emails whose source seems uncertain. You should keep your personal computer up to date, i.e. install all Windows updates and keep up-to-date copies of your data (backups).

# African Night – a party for customers

680 guests of Deutsche Afrika-Linien enjoyed some of the best South Africa has to offer: hospitality and friendship



Heiko Lütjen and Silke Lütjen, (DHL Bremen)



Mrs Annette von Rantzau, Mrs Patricia von Rantzau



Guido Howoldt (Schober International) with unexpected animal



Boris & Zoe Gronenberg (Aegean Bunker)



Dr Eberhart von Rantzau addressing the guests



Frank & Maja Römer with Manfred & Angela Siedenbueg (DHL Bremen)



Katherina Endrukut, Kirsten Kirchhoff, Thomas & Andrea Briks (Saco Shipping)



Senator Dr Dorothee Stapelfeldt with Dr Rolf Naunin



Doyenne Maria Elizabeth Bogosian (General Consul Uruguay), Osvaldo Paiz



Johan P. Schryver, Margit Borowski (HJ Schryver)



Thomas & Cordula Laudon (Fr. Meyer's Sohn)



Philipp von Rantzau with a macaw, a parrot from South America



With artists from the musical "The Lion King": Georg von Rantzau, Annette von Rantzau, Dr Eberhart von Rantzau, Patricia von Rantzau, Philipp von Rantzau and Heinrich von Rantzau



Heinrich and Annette von Rantzau with son Georg von Rantzau



Christian Wahl & Wiebke Baden (Saco Shipping)



Hans Duncker (CTC), Suzi Steinke (DAL), Jörn Mecklenburg (Saco Shipping)



Kerstin Bedranowsky with son Niklas



Klaus and Jutta Bohn (LPL Logistics)



Christina Schunk, Torben Aschendorf, Felix Weber and Anja Fröhlich (Gebr. Heinemann)

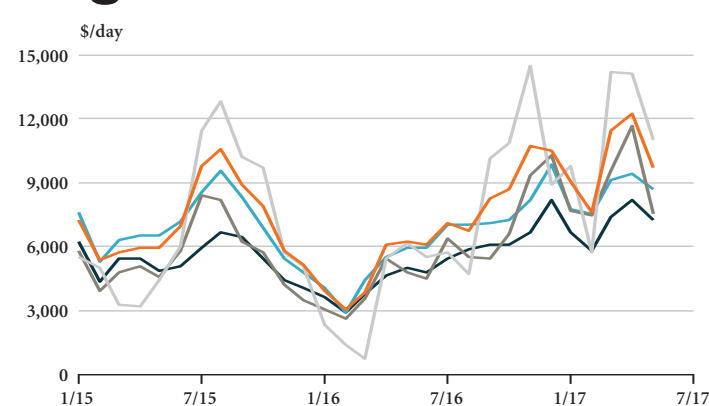
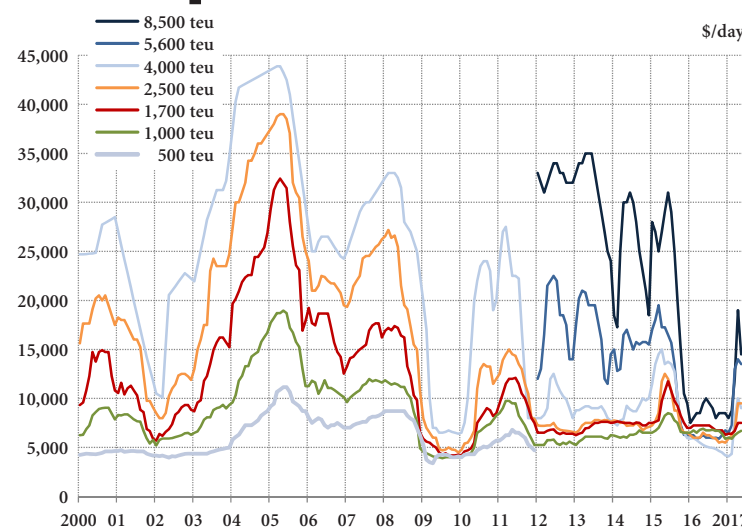


HE Ambassador Phumelele Stone Sizani, Dr Stefan & Ines Liebing (Afrika-Verein)



Hans-Ulrich & Margrit Geck (Pro Cambio Trading)

## Boxship and bulker rates: nothing to write home about



Left graphic shows charter rates of 500 to 8,500 TEU-sized vessels. Essberger Dry Cargo container ship newbuilds are in the range of 2,500 TEU (orange line). Right graphic shows bulk carriers. The Essberger handysize bulkers are shown by the black line. The downturn is clearly visible



# An in-house Sommerfest at its best



A selection of impressions from the summer party for members and pensioners of the DAL/JTE Group. These and other images will be displayed on the intranet for downloading



## With “Barbican Success” around the world in 90 days

Three vessels were employed in DAL's southern hemisphere container service/Pioneers with no success

In the 1990s, Deutsche Afrika-Linien offered a round-the-world container service for the southern hemisphere under the name “Barbican Line”. At its peak, four vessels were employed in this service, sailing east around the globe from South America via South Africa to Australia and, for a while, also to Fiji and Tahiti. Due to the unusual mix of cargo, including heavy goods such as paper, ceramics, PVC, tobacco, rice, milk powder and leather, Barbican used ships that had a high carrying capacity and were particularly seaworthy because of the stormy weather on route on the Southern Ocean. One of these vessels was the “Barbican Success”, which had slots for 904 TEU, 496 of which on deck, and plug connections for 10 (!) reefer containers. Since hardly any of the ports of call had gantry cranes, the ship had three 38-tonne cranes on board.



“Barbican Success” (904 TEU, ex-“Frauenfels”) was built in 1973 by Nipponkai Heavy Ind. and later lengthened and turned into a container vessel

The “Barbican Success” was built in 1973 as a multipurpose vessel at Nipponkai Heavy Ind. shipyard in Toyama, Japan, for Greek owners and first sailed by the name of “Aristipos”. The following year already, Hansa-Reederei took over the newbuild, had it converted into a container

ship lengthened by 21 metres, and renamed it “Frauenfels”. The dimensions of the 21,375 dwt ship were now LOA 170 metres, breadth 22.8 metres, draught 9.6 metres. A Mitsui B&W Diesel Type 7K62F 9400 BHP engine allowed a service speed of 15 to 16 knots, consuming 31 tonnes

of fuel per day. The “Barbican Success” offered accommodation for a crew of 39.

In 1980, shipowners Hapag-Lloyd took over the vessel and put it into service first as “Ibn Al Suwaidi” and then as “Isar Express”. This was followed by a succession of different owners and names: “Norasia Karsten”, “Carmen Alba” and “Ocean Express”. In 1993, the ship changed hands to Transocean Liners of Deutsche Afrika-Linien and served in the Barbican Line service until 1996. Back then, the schedule for a roundtrip comprised 90 days.

Commercial reasons, in particular the highly volatile markets in South America, led to the Barbican service being terminated in 1996. The “Barbican Success” was then chartered out under the traditional DAL names of “Pangani” and “Tabora” for two more years before she had to be scrapped in Alang, India, in 1999.

## New home in Bremen

(continued from page 1) seemed dark in those days. Among the exhibits, the Shipping department of the museum had displayed three huge (1:30) ship models, given to the museum by John T. Essberger. It was the tanker “Kattegat” (built in 1927), the South African passenger liner “Windhuk” (built in 1927) and the general cargo ship “Usambara” (1922). Just recently, after renovation of the museum, the three models were given back to the DAL/JTE Group. It was decided to display two of the models, the “Usambara” and “Windhuk”, at the DALSA office Am Wall 128/134 in Bremen.

Due to their enormous size and weight, a window of the building had to be removed and the fully wooden model ships had to be lifted to the 5th floor by telescope crane.

The “Usambara”, a typical workhorse in the East Africa trade and built at the famous Hamburg shipyard Blohm+Voss, was lost in 1945 by allied bomb attacks in Szczecin.

## MV “Valbella” and eight refugees adrift

The refugee problem in the Mediterranean Sea is far from solved. Now, in summer, when there are fewer storms on the Med, the number of refugees trying to cross the sea has increased again. Despite a heightened presence of navy vessels, coast guard boats and ships of various private rescue organisations, merchant vessels are frequently called to assist, too. The crew of the 1992-built cement tanker “Valbella” (ex-“Halla No. 5”, 9146 dwt) experienced this first-hand in June off the coast of Algeria. Here is the report of Captain Neil Clifford Brown and a few photos of the rescue operation:

On Sunday, 11.06.2017, MV “Valbella” reported a rescue operation of 8 refugees. In position 37 02 N 000 26 E, 47 nm off the Algerian coast, a small boat approximately 6 m long with a non-functioning outboard was abandoned and traffic control in this area advised that an empty boat was drifting.

MV “Valbella” slowed and manoeuvred alongside the boat. At 15:36 hrs all 8 refugees have been taken on board. All refu-



On their way from Algeria to a better life in Europe these eight refugees ran out of fuel and were taken on board cement tanker “Valbella”

gees searched and accommodated in a covered position on the main deck, supplied with necessities, portable toilets etc. Guards posted and security measures have been taken.

### Without documents

During the search no kind of documentation has been found and they claimed having no documentation. Refugees comprise of 8 men, claiming to be Algerian citizen, speaking Arabic and

French language only. Vessel proceeding to Carboneras with ETA 11.06.2017 at 23:45 hrs. Agents and Flag State have been informed and local P&I correspondent has been contacted as well. MRCC Cartagena confirmed that the 8 refugees will be taken from board on arrival anchorage Carboneras. MV “Valbella” arrived as expected in time.

On 12.06.2017 at 00:30 hrs Guardia Civil patrol boat came alongside – at 01:10 hrs all 8 refugees disembarked.



# Whereabouts

July 2017

| Ship's name          | Master                  | First Mate          | Chief Engineer         |
|----------------------|-------------------------|---------------------|------------------------|
| Alcedo               | Thomas Kijzers          | Marcin Szajdecki    | Gerlof Tijink          |
| Amalie Essberger     | Antonio Petinga         | Piotr Bes           | Vitaliy Kolesnyk       |
| Anneliese Essberger  | Peter Troost            | Els Impens          | Teunis Oskam           |
| Ardea                | Jeroen De Koster        | Chris De Boer       | Ronald Van Herwijnen   |
| Caroline Essberger   | Albertus Linthorst      | Sjoerd Rijndorp     | Dionysius Jannink      |
| Christian Essberger  | Robert Szmaj            | Rafal Garbacz       | Zbigniew Biernacki     |
| Dutch Aquamarine     | Gerardus Wijnands       | Kokou Gbegan        | Arnoldus Eland         |
| Dutch Emerald        | Louis Kint              | Bernardus Lobart    | Oebele Kooistra        |
| Dutch Faith          | Cornelis Lodder         | Slawomir Narloch    | Johannes Laurey        |
| Dutch Spirit         | Theo Keizer             | Roger Oenema        | Serge Van Der Pol      |
| Eduard Essberger     | Boguslaw Gajdowski      | Daniel Szarzyński   | Tomasz Kozłowski       |
| Ellen Essberger      | Adam Krzyżykowski       | Jarosław Krok       | Artur Kazimierz Gzella |
| Elsa Essberger       | Stefan Grabowski        | Grzegorz Kakol      | Lukasz Zeromski        |
| Georg Essberger      | Jose Teixeira           | Evgeniy Buzyrev     | Andrzej Sullik         |
| Johann Essberger     | Mariusz Borek           | Juris Jurionas      | Ryszard Topolewski     |
| Koralia              | Jose Jr Subradil        | Pepito Ruedas       | Dony Merwoto           |
| Liesel Essberger     | Dariusz Swierkosz       | Bartosz Selau       | Saturnino Yuson        |
| Lisa Essberger       | Alex Buren              | Jon De Wulf         | Jelle Spoelstra        |
| Lucy Essberger       | Leonardus Kanter        | Albertus Konijn     | Geert Sap              |
| Maersk Launceston    | Mirosław Drozewski      | Sergiy Perepelytsya | Piotr Turski           |
| Patricia Essberger   | Gocha Bezhanidze        | Antonio Ocampo      | Oleksandr Samusenko    |
| Philipp Essberger    | Andrey Grzhibovskiy     | Tomasz Rembisz      | Vitor Belo             |
| Selinda              | Valery Sukhach          | Yuriy Poglod        | Danut Daniel Oprea     |
| Swakop               | Sergiy Demchenko        | Andriy Stoyakin     | Ilarion Sorin Chirtes  |
| UAFL Zanzibar        | Eduard Grimakovskiy     | Angie Mae Cagud     | Petre Radu Florian     |
| Ubena                | Pavlo Klyuyev           | Marcelo Borbon      | Costica Tuca           |
| Ulanga               | Konstantin Kveseleovich | Vitaly Ochilov      | Dmytro Shamonin        |
| Ursula Essberger     | Karel Van Der Klooster  | Rik Bolwijn         | Marinus Kroon          |
| Valbella             | Neil Brown              | Zviad Kalandadze    | Oleg Burlachenko       |
| Wilhelmine Essberger | Hubertus Meulenberg     | Pieter Labee        | Stefan Kluijfhout      |
| Zambesi              | Rostislav Kokorev       | Oleksandr Glebov    | Konstantin Khardin     |

## Aus der Reederei-Familie

### Jubiläen

#### 25 Jahre

Herr Lennart Van der Net  
HR Sea  
31.07.1992

Frau Ramona Kurth  
DALSA Bremen  
21.09.1992

#### 10 Jahre

Herr Dirk Lemke  
Ops Liner Services  
01.06.2007

Frau Andrea Full  
HR Sea  
01.08.2007

Herr Bartosz Selau  
C/O  
13.08.2007

Herr David Cutshaw  
Ship Management  
01.09.2007

### Besondere Geburtstage

#### 85 Jahre

Frau Renate Kühn  
06.07.1932

#### 80 Jahre

Herr Dick Gelijns  
18.07.1937

#### 65 Jahre

Herr Gerd-Adolf Rathje  
HR Shore  
02.09.1952

#### 60 Jahre

Herr Gheorghe Georgescu  
2/E  
22.08.1957

#### 50 Jahre

Capt. Gerardus Johannes  
Wijnands  
24.09.1967

### geheiratet hat

Anne Taurorat  
Essberger Tankers  
13.05.2017

### Wir gratulieren zur Geburt eines Kindes

Frau Sabrina Bauer –  
Jonas am 04.06.2017

### Neue Mitarbeiter an Land

Frau Nicole Baehr  
HR Sea

Herr Stephan Beneke  
Treasury

Frau Katharina Fletcher  
DSA Frankfurt

Herr Seruan Hassan  
DSA Stuttgart

Frau Christine Kallnik  
DSA Frankfurt

Frau Katrin Scholz  
HR Shore

Herr Rico Solbach  
Ops Liner Services

Herr Sascha Wendt  
Facility Management

### Wir gedenken

Eckhard Schulz  
(91 Jahre), April 2017  
ehemals JTE

Hans Gerhard Flies  
(79 Jahre), Juli 2017  
ehemals DAL



8,000 euros: this was the prize money for the winner of the Deutsche Afrika-Linien/ John T. Essberger Cup at the Hamburg Derby. And the winner was: “Incantator”, a five-year-old stallion owned by Eugen Andres-Woehler, President of the Hamburger Renn-Club of 1852. The prize was given to jockey Boijko by Ms Caroline von Rantzau in attendance of her parents Dr Eberhart and Mrs Patricia von Rantzau. Also attending was Mr Albert Darboven, Vice President of the Hamburger Renn-Club. Ms von Rantzau, wearing a dark-blue dress and white hat, had her first official appearance at the traditional race week in Hamburg-Horn.



Important events like the African Night and the in-house summer party demand proper planning and helpful hands. Among the many people involved in the successful organisation we'd like to thank are our friendly apprentices for their great effort. They left an excellent impression – and really, don't they look smart? They are, from left to right, Nina Suhk, Lara Käsemann, Finn Schaarschmidt, Olga Shmakova, Svenja Albrechtsen (HR, in charge of the apprentices), Oscar Rebbe, Silke Steinfurt (HR Manager), Katharina Mallock, Jana Damann, Nadine Rüter, Sascha Timmann and Leonhard Kruschel. Good job, all of you!



Dr Dag-Sven Dieckmann, Managing Director of United Africa Feeder Line (UAFL group), met with the President of the Union of the Comoros, Azali Assoumani, to discuss the cooperation between the group and the new government of the Comoros. The UAFL group is operating the port of Mutsamudu in the Comoros with its affiliate Anjouan Stevedoring Company as well as serving the islands of Comoros with several UAFL shipping services. The Comoros are an archipelago off Africa's eastern coast, an independent nation since 1975.



15 Teams took part in the 2017 “Jotun Penguin Football Cup” of shipping companies at the traditional Adolf-Jäger-Kampfbahn. The Essberger mixed team achieved a glorious 2nd place. Hard defence and fast counter-strikes proved to be the right tactics until the final, when they lost against TB Marine Management only by a penalty shootout. Congratulations to: Godwill Sarpey, Finn Schaarschmidt, René Hogrefe, Eliza van Es, Jan Schuppius, Max Meyer-Loos (back row, l.t.r.); Daniel Kirchner, Mate Turcinov, Mark Landau, Oscar Rebbe, Dietrich Wulff, Lisa Bretthauer (front row).

## The sailors from Manila

Sheq-related issues were discussed at a three-day seminar in Manila in May. Such issues are: risk assessment, fleet health safety survey, assertive behaviour (international relationship) and leadership, extended by some company updates. The seminar was attended by 40 captains, officers and ratings of the Essberger chemical tanker and dry bulk fleet. Also attending was Captain Josef Stingl of TOS Singapore and Bjoern Borbe (HR Sea) from Hamburg, both gentlemen seated in the front row in dark suits.



# Big brother is watching over air pollution in German North Sea coastal areas

*MeSMarT: A system designed to monitor the compliance of sulphur emission regulations on the Elbe estuary*

**T**wo of the most harmful pollutants emitted by ship engines, nitrogen oxide (NO<sub>x</sub>) and sulphur dioxide (SO<sub>2</sub>), are gases with significant impacts on the air quality of coastal areas, as well as being hazardous to the environment and human health.

Sulphur oxide is a result of the presence and combustion of sulphur compounds in marine fuels, and in presence of a catalyst such as NO<sub>2</sub>, forms sulphuric acid, a major cause of acid rain. SO<sub>x</sub> also reacts with components in the air to form secondary inorganic aerosol gases and fine particles which are harmful to people. In order to combat shipping pollution, the UN International Maritime Organisation (IMO) revised its standards on the sulphur content of marine fuels (contained in MARPOL Annex VI) and set up Sulphur Control Areas (SECA) such as those of the North- and Baltic Seas. The sulphur content in marine fuels for vessels operating in such zones was limited until December 2014 to 1.00 %, and has been since further reduced to today's 0.10 %.

## Remote sensing Passive sampling

The German Federal Maritime and Hydrographic Agency (BSH, or Bundesamt für Seeschifffahrt und Hydrographie) initiated 2012 MeSMarT (the acronym for Measurements of Shipping Emissions in the Maritime Troposphere) in 2012, a project designed to measure the influence of ship emissions on the chemistry of the atmospheric boundary layer with the following goals:

- ▶ Assessment of measurement methods such as remote sensing, on-site sensing, and passive sampling for long-term monitoring of emissions in the North and Baltic Sea.
- ▶ Knowledge improvement over the environmental impact caused by ship emissions, the extension

of available data covering traced gases and the spread of aerosols.

- ▶ Development of a compliance monitoring method that measures the composition of individual ship exhaust gas plumes and estimate the fuel sulphur content of the marine fuel in use (MARPOL Annex VI, EU-sulphur directive).

Two permanent ship monitoring stations fitted with a variety of data-collecting instruments have been set up, one on Neuwerk, an island in the River Elbe's estuary, and a second in Wedel, further upstream, close to Hamburg's port. Both are in the near vicinity of the main shipping channels. Furthermore, data has been collected by research vessels in the North and Baltic Sea.

During phase one (which ran between 2012 and 2015), the MeSMarT- project conceived a methodology capable of determining the fuel sulphur

content of ships and based on the remote measurement of sulphur dioxide (SO<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) concentrations found in the exhaust plumes of passing ships.

## Continuous measurements

The allocation of plumes to originators was derived from simultaneous wind data and Automated Identification System (AIS) signals. If the analysis algorithm detected a violation of current sulphur thresholds, the identified ship and its non-compliant fuel sulphur content was reported to the authorities responsible.

In MeSMarT's second phase, (2015–2017), the focus shifted to more technical issues such as the automatisization and operability required for compliance monitoring.

In June 2016, the continuous trace gas measurements accrued in Wedel are analysed in almost real time by the prototype of a fully automated algorithm which has the potential to deliver compliance information on a 24/7 base. In order to increase a measuring site's reliability and validity, the influence of local meteorological conditions (e.g. wind direction) on data-assembly is an issue that is currently being addressed. Under current evaluation are optical sensing methods and, or the strategic installation of further monitoring stations.

The success of the remote exhaust gas measurement sites have encouraged the BSH to increase the number of monitoring sites to create a surveillance network of at least six stations spread down the major German North and Baltic Sea traffic lanes.



*Bunker fuel qualities are a key to a better environment: "Eduard Essberger" in North Sea coastal waters*