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Editorial

Publisher
BW Group

Responsible Editor
Nick Fell

Managing Editor
Zachary Mahon

Editorial Team
Julia Moreau
Lisa Lim
Marita Sandvoll
Una Holmen

Contributions From

Andreas Beroutsos
Billy Chiu
Christian Bonfils
Edmer Preter Pelagio
Jon Harald Kilde
Jostein Vaagland
Mary Grace Mangahas
Michael Smyth
Mike Brugge
Neeraj Bhatt
Rod Macleod
Tai Nguyen

Design & Production
Simple Reels Genesis Pte Ltd

**For further information,
please contact:**

BW Group
10 Pasir Panjang Road #18-01
Mapletree Business City
Singapore 117438
+ 65 6337 2133
Zachary.Mahon@bw-group.com



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Chairman's Message



2020 turned into an unforgettable year because of Covid. Four questions to ponder for this last edition of World Horizon for the year:

- What is the impact on the world today?
- What is the impact on the world for tomorrow?
- What is the impact on BW?
- How should we think about this as a company and at a personal level?

In terms of the world today, we are in a challenging place. There has been a lot of suffering this year – over a million Covid deaths, lost jobs, mental strain, families separated, and mounting indebtedness. Some companies and individuals have been able to thrive – the technology sector being an obvious example – but no-one is totally immune when there is such widespread suffering, and everyone knows a friend or family member who has been affected.

In terms of impact on the future, we may be at a turning point. There has been an upsurge in environmental consciousness because it is not hard to see nature's stress in the pandemic, not to mention

in the wildfires and storms and rising temperatures. Covid has also highlighted questions of collective vs individual behaviour, and forced us to consider why some societies have been able to handle the virus better than others. There is of course a risk that we go back to old habits as soon as the pandemic has passed, but one can only hope that we emerge showing more considerate behaviour towards the environment and each other.

For BW, the impact has been mixed. Our upstream related businesses were hit hard by the oil price shock earlier in the year, resulting in significant impairments, while the tanker business saw a very strong first half. Fortunes reversed in the second half. Only LPG has seen relative strength through the year, with just a brief period of weakness. But our biggest challenge has been the difficulty in getting our seafarers home. We owe sincere thanks to our manning teams for the hard work they undertook to move crew around, and to our colleagues onboard for their patience and understanding as we worked to address this.

How should we confront these developments at a company and personal level? Within the group, we are doubling down on running an effective operation

as we have always done – and we should be proud of the outperformance of our businesses relative to our competitors. We are also investing in new areas which provide sustainable solutions for the future, which you will read about in these pages.

At a personal level, it is hard to give advice since each individual's situation and perspective differs. But mental health comes from resilience, and resilience is strengthened by gratitude. We should be grateful for whatever we have, whether that is our health, our job, our family or our friends.

I am grateful to all of you for the extraordinary efforts you have made in this extraordinary year. And to our team members and business partners alike, I wish you and your families the very best for the season, and a healthier and happier 2021.

Sincerely,
Andreas Sohlen-Pao
Chairman

Clean Sailing

The world's first Very Large Gas Carrier to be powered by Liquefied Petroleum Gas is set to make waves



Beyond the temporary turmoil of the pandemic, the fundamental demands on shipping are changing. It is not just about shipping energy across world markets safely, more quickly and more efficiently. It is also about doing it more sustainably and responsibly. BW is working hard to lead the way in sustainable shipping.

BW LPG is the world's largest owner and operator of Very Large Gas Carriers (VLGCs) and its fleet of 47 VLGCs represents over 15% of the global total. This scale brings a responsibility and an opportunity to lead the industry in tackling one of the most important challenges of our time, which is to decarbonize shipping operations.

Pioneering LPG Propulsion

BW LPG vessels specialize in the transportation of cleaner-burning fossil gas, so a few years ago, the team considered if they could use LPG for propulsion. The technology needed to power huge two-stroke diesel engines on liquid gas injection propulsion was not available, and market demand was nascent.

Using decades of maritime and gas experience, the team went to work. In collaboration with key engine manufacturers, BW LPG invested in research and development and now, four years later, is delivering from this collaboration. BW LPG has committed fifteen of its VLGCs to be retrofitted with LPG dual-fuel propulsion engines, a commitment of over USD 130 million.

LPG Propulsion and Benefits

During each of these vessel's regularly scheduled dry-docks, two LPG deck tanks are installed on deck. These tanks are filled using the cargo system during loading. LPG is drawn from the tanks into a fuel gas supply system and piped to the engine. A small amount of compliant pilot fuel, such as diesel, is injected into the engine as the piston nears the top. It sparks under pressure, and LPG burns to create propulsive force.

These LPG dual-fuel engines will reduce emissions of Sulfur Oxides (by about 97%), Particulate Matters (~90%), Carbon Dioxide, CO₂, (~25%) and Nitrous Oxides, N₂O, (~20%). This means that vessels powered by LPG will be in full compliance with current and future SOx emission requirements, including for Emission Control Areas (ECAs) and Sulfur Emission Control Areas (SECAs). CO₂ and N₂O are greenhouse gases, so while LPG is not a zero carbon fuel, it is an important stepping stone on the journey to full decarbonisation.

LPG propulsion also offers efficiency gains on many fronts. Output efficiencies will improve by about 11 percent with LPG when compared with compliant fuels. This means that we capture significant improvements in total voyage fuel economics. And with dual-fuel capability, these engines provide fuel flexibility which translates to full redundancy to ensure uninterrupted operations and buffering from fuel price sensitivities.



Other efficiencies include easy storage, faster refuelling and wide availability of bunkering ships and facilities. Bunkering can be done directly at load terminal or via ship-to-ship transfer from smaller LPG carrier. With LPG, we eliminate bunker quality issues and spill risks.

A further benefit of LPG propulsion is that it can be retrofitted to existing vessels. Building new ships can provide the benefits of operating with the new fuel, but this comes with a heavy carbon cost. Counting total emissions, a new ship represents about 70,000 tonnes of CO₂ in the materials and building process. Compared to 2,000 tonnes of CO₂ for retrofitting, the sustainability outcome is much better from retrofitting than from building new.

A Sea Change in BW Gemini

As the first of twelve vessels we have committed for retrofitting, BW Gemini is a demonstration not only of fuel savings and operational efficiencies, but also a commitment to reduce greenhouse gas emissions and fight climate change. With this pioneering technology, BW LPG is taking an important step to reduce its environmental footprint, as recently acknowledged in a Danske Bank report.

World Horizon speaks with Captain Vinay Khanna, who is onboard BW Gemini.

World Horizon [WH]: Good day Captain, tell us how you feel about being the first to captain the all-new BW Gemini.

Captain Vinay Khanna [VK]: Together with my 23 crew, we are honoured to be part of such a significant milestone not just

for BW LPG, but for the shipping industry. BW Gemini and I have a special connection. I was appointed Captain in 2016, and she was the first vessel I took command of. I have been sailing with her since.

We feel a heavy responsibility on our shoulders, but this is mixed with pride that we are playing a small part to help our company achieve such a milestone.

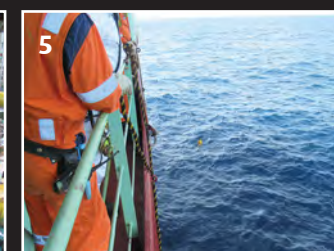
WH: Where are you headed next and what can we expect?

VK: My crew and I are embarking on a historic voyage. We will sail across the Pacific on a Great Circle towards the Panama Canal. We might encounter heavy weather with rough seas during our voyage to Enterprise Terminal in Houston, Texas, USA. As we gaze upon the world's largest ocean, we will be reminded why what we are doing at BW LPG is so important.

In my professional career, I have crossed the Pacific Ocean countless times, but this time, it will be special. This is because we are crossing the Pacific on full LPG propulsion. Once completed, we will make history as the first vessel to do so, and prove to the industry the environmental, operational and economic benefits of using LPG as fuel. We are playing our part to protect our world and reduce our carbon footprint. Just like the green colour of our ship's hull, the fuel is also turning green! **wh**

Weathering the Storm

BW Offshore's FPSO BW Pioneer evades Hurricane Laura



2020 has been a record-breaking year in terms of Tropical Storms and Hurricanes in the Gulf of Mexico and the Atlantic Basin. For the first time in her 10-year history, BW Offshore's FPSO BW Pioneer had to disconnect and evade the path of an oncoming hurricane. BW Pioneer and her crew safely and efficiently executed this complex series of operations.

Hurricane Laura passed over the island of Hispaniola (The Dominican Republic and Haiti) and then skipped over the western tip of Cuba as a Tropical Storm on August 20th. As she tracked North West through the warm, energy-rich waters of the Gulf of Mexico she quickly strengthened through the hurricane categories and became a serious threat.

As is customary during hurricane season (June 1st to November 30th) the onshore and offshore teams in New Orleans and on the BW Pioneer closely monitor weather systems as they come off the Sahara and make their way across the Atlantic towards the Americas.

(Above) 1. BW Pioneer 2. OIM Bob Koik and Capt. Genesis dela Torre 3. Buoy Raising 4. Buoy Top Dry 5. BW Pioneer sailing away



“ We had been watching Laura and her predecessor Marco closely for some time and as such were gaining confidence that these two systems could cause us problems. Tropical Storm Marco mercifully dissipated but Laura just kept on coming. ”

Rod MacLeod,
Asset Manager at BW Offshore

BW Offshore Turret Mooring System (TMS) Design

The traditional mooring system used in many FPSOs, incorporates a number of mooring lines attached to the perimeter of the hull of the vessel. These mooring lines are anchored to the seabed.

By contrast, Turret Mooring System (TMS) is designed for harsh environments, and it gives the ability to decouple the hull of the FPSO from the mooring system. There are many variances on this design concept but the BW Pioneer has one of the few, genuinely ‘disconnectable’ systems in operation. During normal operations the BW Pioneer’s turret allows her to freely weathervane around the TMS, depending on whether the wind, tide or the Gulf of Mexico ‘Loop Current’ holds sway.

The BW Offshore TMS allows the turret to be disconnected from the vessel while remaining attached to the mooring lines on the seabed. This is particularly useful in situations such as

hurricanes and storms, where the vessel needs to react quickly to external hazards. Once the threat has dissipated, the FPSO can return to the turret, reattach and continue operations. This mooring system is by far the most flexible on the market.

Responding in time

As with many emergency mitigation procedures, planning is crucial. In order to safely disconnect the FPSO from the buoy, the full procedure has to be observed and executed before weather conditions become prohibitive. One of many metrics used is “significant wave height (Hs).” If the wave height rises above 4.5 metres, the unit cannot safely disconnect.

However, the disconnection is only part of the sequence. Prior to that, there are several steps involving manual handling operations in the confined STP (Submerged Turret Production) compartment. These steps involve disconnecting pipe spools, hydraulic umbilicals, high voltage cables and fibre optic communication lines. BW Pioneer draws hydrocarbon fluids from two fields via sub-sea electric submersible pumps, and many connections need to be safely de-energised and opened before it is safe to lower them into the sea.

On the morning of August 23rd, during one of the frequent “0700” calls with the meteorologists, it became clear that Laura was going to track very close to the Walker Ridge block where BW Pioneer is located on the Cascade & Chinook fields. By 10:30 am

the OIM (Offshore Installation Manager), together with the onshore and offshore teams, made the collective decision to shut down the plant at 04:00 am on the 24th and begin the ‘disconnect’ operation.

By 11:00 pm on the 24th, all mechanical and electrical disconnections were complete, the buoy was secured solely by the locking mechanisms, and all personnel stood down for a well-deserved rest.

At 04:30 am on the 25th, after a final check that the area was clean and there was no pollution risk, the buoy lowering operations commenced. Slowly and steadily, and with safety as the primary focus.

At 09:30 am with 569 metric tons on the winch, all buoy locking mechanisms were unlatched, and they commenced lowering the STP Buoy. At 10:50 am, the BW Pioneer was physically and wholly disconnected from the seabed 2,450 metres below. At this point, the BW Pioneer qualified as a ship as opposed to an offshore installation – making the OIM Bob Koik a Supernumerary (a person whose presence is more than what is necessary) and the Marine Superintendent, Genesis dela Torre, became Captain of the vessel.

As per procedure, BW Pioneer then sailed South West in a direction perpendicular to the track of the storm.

Hurricane Laura passed over the location of BW Pioneer as a Category 3 Hurricane before strengthening further to a Category 4 and causing widespread devastation to the Lake Charles area of Louisiana where she made landfall. The wind and waves on BW Pioneer field were the highest ever recorded by the weather buoy,

with 60ft waves and 120mph winds during the night as it passed. BW Pioneer had safely moved away from the storm to wait it out.

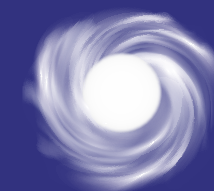
Returning to operations

On the morning of August 28th, BW Pioneer was back on location and ready to retrieve the buoy. After a textbook execution of the procedure, the buoy was locked back into the STP compartment and the complex reverse operation of reconnecting and reconfiguring the spools, lines and cables could begin. Taking his “Captain’s hat” off, the Marine Superintendent resumed his normal role, and Bob was once again the man in charge as OIM. The BW Pioneer returned to be an Offshore Installation.

At 08:00 am on August 30th after a successful and safe hook up, the BW Pioneer was processing reservoir fluids from both the Cascade and the Chinook fields. **wh**

“ The BW Pioneer offshore team achieved a monumental milestone in these few days. As a company, BW Offshore should be extremely proud. Under the leadership of Bob and Genesis, the team rose to the occasion, acting with professionalism, and safely executing one of the most complex operations that we see anywhere in our fleet. I am very proud to have these guys in my region and under my care. ”

Rod MacLeod,
Asset Manager at BW Offshore



Hurricane Laura

- Hurricane Laura was the fastest intensifying storm in the Gulf of Mexico since Hurricane Karl in 2010, with winds up to 65 mph sustained over a 24-hour period
- It led to the evacuation of 1.5 million people across the northern Gulf Coast of the US
- More than 910,000 people lost electricity during the storm
- Winds up to 150 mph: Laura had exceptional winds for a storm of its pressure, having developed aggressively during the 24 hours before landfall



Turret Mooring System (TMS)

- Freely weathervaning turret mooring solution from very shallow to ultra-deep location, from benign to harsh environments
- Decouples the FPSO schedule from the Offshore installation schedule, thus greatly reducing offshore execution risks
- Provides for mooring line change out *in situ*
- Provides for retensioning features
- Provides for mooring load continuous monitoring

Patience is a Virtue



Vessels linking past and future

BW Dry Cargo's most modern vessels are named after two of the first ships built for World-Wide at Oshima Shipyard in the late 1960s, but they come equipped with some of the latest environmental technology.

In March 2020 BW Dry Cargo celebrated the naming of its two newest bulk carriers – World Diana and World Virtue, delivered on the 28th of April and the 14th of May, respectively – at Oshima Shipyard in Nagasaki, Japan. However, this was no ordinary naming ceremony.

Firstly, as a result of the COVID-19 pandemic, no one from outside Japan was able to attend in person. Secondly, the names of these vessels are steeped in history between BW and Oshima Shipbuilding. In fact, this is the second time BW Group has built vessels by these names with Oshima, and the decision to do so again was a gesture to commemorate the strong and longstanding relationship.

World Diana and World Virtue were originally delivered to World-Wide Shipping in 1968 and 1969 respectively. These vessels were 20,000 DWT bulk carriers, quite a bit smaller than their modern counterparts. World Diana at 82,000 DWT and World Virtue at 62,000 DWT.

Perhaps the letters and post-ceremony pictures from this year's ceremony were the most fitting way to pay homage to the original vessels and the relationship between the two companies, which blossomed during a time when travel was slower and letters were a more normal means of communicating. As we can see from the 1969 naming ceremony pictures, that didn't prevent a good celebration back then.

The 1968-built World Diana was sponsored by Diane Kirrage, the daughter of Sir John Saunders, then heading HSBC, while the 1969-built World Virtue was sponsored by Mrs June Bennet, the spouse of Norman Bennet, another HSBC director at the time. This year's sponsors were Mrs Ai Iriguchi and Ms Manami Tateishi, long supporters of Oshima shipyard.

Christian Bonfils, Managing Director of BW Dry Cargo, said "I have personally had the privilege of getting to know the Oshima team very well over the last 10 years. We have built eight vessels together, including the first ever vessel to sail via the Northern Sea Route. They are innovative, yet consistent. Capable, yet humble. These are but a few of the reasons why it's a pleasure and honour to work with Oshima, in addition to the storied history with BW."

World Diana and World Virtue look towards the future with their modern and environmentally friendly specifications and onboard technologies, such as Miro's wavex technology – delivering detailed, real-time data on waves, currents, and accurate speed through water.

Miro's was founded in 1984 with the purpose of developing a novel instrument for the measurements of ocean waves and currents based on microwave radar technology. Its first wave radar system was developed with financial support from Statoil and Esso Norway, as both parties were eager to have it installed on their oil platforms.

It became clear that the missing link in reliable vessel performance measurements was accurate data about the oceans, primarily wave height and currents. So the BW Dry Cargo team believed it would make sense to apply what Miro's had been doing for decades on oil platforms to its ships. BW Group has now created a joint venture with Miro's called "Miro's Mocean" – aimed at promoting this technology within the shipping industry.

According to Christian Bonfils, who represents BW as Chairman of this new joint venture, "this new technology can help all performance systems, and even has the potential to set the future standards for accurate vessel performance measurements and ESG reporting." **wh**



(Above) 1. From left to right: Mr Norman Bennet, Director of HSBC, Lady Pao, Mrs June Bennet, Sir YK Pao at the 1969 naming ceremony of World Virtue; 2 and 3 - Christening of World Diana and World Virtue by Mrs Ai Iriguchi and Ms Manami Tateishi respectively.

A Stiff Tailwind

BW invests in Cadeler, a leading wind turbine installation company

Headquartered in Denmark, Cadeler is a leading provider of marine services for the burgeoning offshore wind farm industry. Specifically, the company is involved in turbine installation and operations maintenance services.

Cadeler was established in 2008 as Blue Ocean Ships A/S. The Company's initial success was founded on an entrepreneurial spirit and an innovative design for a new class of windfarm installation vessel. In 2010, the company was acquired by the Swire Group and operated under Swire Pacific Offshore with the name Swire Blue Ocean.

The company has two highly efficient Wind Turbine Installation Vessels (WTIVs), Pacific Orca and Pacific Osprey. In addition to turbine installation, these vessels are well-suited for a wide range of maintenance, construction and decommissioning tasks. The vessels were delivered in late 2012 and early 2013, after which the company completed its first offshore wind installation projects before the end of 2013. Since then, Cadeler has participated in over 20 significant offshore wind farm installation projects, primarily in Europe, installing



(Above) Pacific Osprey with new crane boom in the Port of Esbjerg.

287 wind turbines and 414 foundations. Cadeler's vessels stand out for their technical specifications, the power and height of their equipment, and the ability to service the 15-20MW+ wind turbines that will be installed post-2025.

In 2020, the decision was made to list Swire Blue Ocean on Oslo Stock Exchange and to rebrand it 'Cadeler'. With significant growth in the offshore wind industry globally, it was felt that the company would benefit from additional funding from the capital markets.

Initial Public Offering and BW Investment

Shortly before its planned initial public offering (IPO), on 5 November 2020 Cadeler announced that BW Group would become a significant shareholder through a lead-investor position in the listing. The IPO occurred on the main Oslo Stock Exchange on 27 November 2020. BW acquired a 20% stake with an investment of USD 62 million and was granted a right of first refusal by Swire Pacific Offshore to acquire additional shares in the company post-IPO.

As a significant shareholder, BW also exercised its right to elect one member to the company's Board of Directors, appointing Andreas Beroutsos, BW Managing Director responsible for strategic investments and new businesses. Andreas joined a Board consisting of senior Swire executives as well as three Danish Independent Directors who bring to Cadeler broad and deep expertise.

Mikkel Gleerup, Cadeler's CEO, said of the IPO: "This is an exciting day for Cadeler. After a decade of providing industry-leading services to the offshore wind industry, Cadeler is poised for a new chapter of growth. The successful IPO is a vote of confidence in the company, the wind industry and renewable energy in general. We are thrilled at this opportunity to deliver value to our customers, shareholders and the public at large."

BW's investment process was reflective of our experience in maritime transportation and offshore engineering as well as our culture of collaboration: the decision to invest in Cadeler followed a relatively short period from our first

in-person meeting with Cadeler's Chairman. During these weeks, our Corporate Development team led a Group-wide team effort of analysis, diligence and deal-structuring that leveraged the business networks and expertise of our senior leaders across the group as well as the functional and deal expertise of Group Legal, Finance and Asset Management.

BW and Swire: a long history

BW and Swire are no stranger to one another. Swire was one of the main trading groups (or "hongs") of Hong Kong, along with Jardine Matheson and Wheelock/Wharf. The latter groups were purchased in the 1980s by Sir Y.K. Pao, bringing BW's founder into close contact with Swire.

Sir Y.K. was a friend of the Swire principals, John and Adrian Swire, doing occasional ship transactions together. He also served on the Board of Directors of Cathay Pacific for some time. The relationship was tested with some friendly competition as Sir Y.K. was approached by another Hong Kong entrepreneur, K.P. Chao, to come to the rescue of Dragonair, a newly established airline to connect Hong Kong to mainland China following the Sino-British Joint Declaration in 1985. Sir Y.K. bought a 37% stake in Dragonair and Helmut Sohmen became the airline's Managing Director. The involvement in the airline ended when they sold the position to the Chao family in late 1989. The Swire family took control of the airline through Cathay Pacific in 2006 and owned it until it ceased operations by merging with Cathay Pacific in October 2020.

Next steps: growing ambitions

As Cadeler enters its next chapter, it looks forward to further enhancing its capabilities with at least one more newbuild installation vessel, with even higher specifications. The company also plans to build on its high-end segment positioning in Europe, to become a global leader in offshore wind installation contracting, while in the process exploring new business opportunities across the entire offshore windfarm support value chain.

BW and Swire are pleased to work together once again to play a front-line role in accelerating the world's energy transition. **wh**

Ciao to São Vicente

With over 40 years of service, BW Offshore's BW Cidade de São Vicente has completed her assignment for Petrobras. Over the past 12 years, she has been used in fields connected to Pre-Salt discoveries and played an instrumental role in BW Offshore's entry into the Brazilian market.



A long history

The unit was originally a tanker launched as VINCENZIA but completed as UMM SHAIF by Arab Maritime Petroleum Transport Co in 1976. In 1990, she was sold to Morten Werrings Rederi, Norway, and renamed ELLIDA. In February 1995, she was purchased for conversion in Singapore to a Floating Production, Storage, Offloading Unit (FPSO). On 3 May 1996, she was registered in New Zealand at Timaru as WhakaaroPai, and on 13 August 1996, she was connected to a pre-laid mooring system over the Maui oilfield. The first cargo off-loaded to PACIFIC ONYX on 24 August 1996.

BW Offshore purchased the FPSO in 2006. WhakaaroPai was delivered to BW Offshore in May as a 100% owned unit and the FPSO was renamed BW Endeavor.

Trouble in Nigeria

BW Offshore signed a contract with Peak Petroleum Industries Nigeria Ltd and Equator Exploration Ltd for the services of an FPSO at the Bilabri Field offshore Nigeria in October 2006. BW Offshore planned to use the FPSO BW Endeavor, renamed BW Peace, and was expecting to commence operations in Nigeria in August 2007 on a firm 3-year lease contract with an additional 7-year option period. But to the company's dismay, the agreement was terminated before production commenced.

Becoming BW Cidade de São Vicente

In late 2007, Petrobras announced the discovery of a new offshore province crossing the Espírito Santo, Campos and Santos basins which came to be known as the famous Pre-Salt region. In 2008, BW Offshore was awarded a letter of intent with Petrobras for the conversion and operation

of the first production unit to the giant Tupi field (renamed Lula field between 2010-2019) in Brazil. This oil province lies under unusually large layers of salt, up to 2,000m in thickness, and Tupi was the largest of these pre-salt accumulations.

BW Offshore offered Petrobras the converted FPSO BW Peace, renamed BW Cidade de São Vicente. The contract was drafted for a firm period of 10 years, plus five 1-year options.

“ The stories on why the unit got its current name are several, as it received its name from the very first officially recognised village in colonial Brazil, São Vicente. The name was fitting as this was the first unit to operate on the new Pre-Salt discovery, so a first of its kind and with high attention. At the time, Tupi was the largest discovery ever made in the region and was expected to transform Brazil into a global oil giant. ”

Jon Harald Kilde,
former General Manager Brazil,
BW Offshore

BW Offshore, with its technology division APL, was awarded this fast track project by Petrobras for the Tupi field. The technology part of the work was related to the delivery of the mooring system and an upgrade and modification of the existing swivel and turret onboard the unit. The FPSO has two independent mooring systems which gave Petrobras the opportunity to relocate the production unit as often as required to explore the reservoir with minimum downtime between operations.



(Above) Cidade de São Vicente at Keppel Brasfels yard in Brazil, between the two Sete semi-submersible rigs Urca and Frade.

Securing the delivery of the mooring system

The mooring system was delivered for pre-installation ahead of the arrival of the FPSO. The authorities accidentally directed the mooring system to a port in Rio de Janeiro, rather than the designated port in the neighbouring city of Niteroi. Huge tax implications became apparent when the customs agents in Rio marked the delivery as tax liable, due to different interpretation of the rules than the authorities in Niteroi.

Complicated by arriving during the annual Carnival celebration, new arrangements were made swiftly by then General Manager, Jon Harald Kilde, with good help from the Brazilian side. In the end, BW Offshore had to shut down a 13 km bridge at night to transport the mooring system for customs clearance in Niteroi rather than in the Rio region.

Fortunately, it all worked out as originally intended and the mooring system was installed offshore without any delays prior to the arrival of the FPSO.

A record fast modification

BW Cidade de São Vicente was a record fast track project delivered in 11 months from contract signing to arrival at the Tupi field. The unit left the yard in Singapore in February 2009 after a successful conversion, proving BW Offshore's successful strategy of expansion in the Americas. BW Cidade de São Vicente was the first unit to produce oil from the giant Tupi field, with production commencing in April 2009. The FPSO was installed at a depth of 2,170 metres and capacity to produce 30,000bopd.

Excellent collaboration between the different stakeholders made this possible, and the project underpinned the increased presence of BW Offshore's products and solutions in a growing market area. BW Cidade de São Vicente had reached her destination and was successfully in operation.

BW Cidade de São Vicente is not a typical FPSO in the BW Offshore portfolio. While most of the units are fixed on the same field for many years, Vicente has produced oil from over ten different fields during her time in Brazil. Any modifications and repairs were carefully planned and carried out during relocations between different fields. She has operated with an uptime of close to 100% throughout her Brazilian career, mostly in waters deeper than 2000 metres and about 300km from the nearest coast.

Local content

As part of the contract, BW Offshore was required to have 80% of the unit's crew members from Brazil after two years in operation. This was achieved well ahead of the contractual deadline, and it has been a priority for BW Offshore throughout the organisation to develop and train nationals in the countries where we operate. Luiz Inácio Lula da Silva, President of Brazil at the time, participated in person at the first oil celebration, speaking for over one hour to over 400 members of the press and thousands of guests.

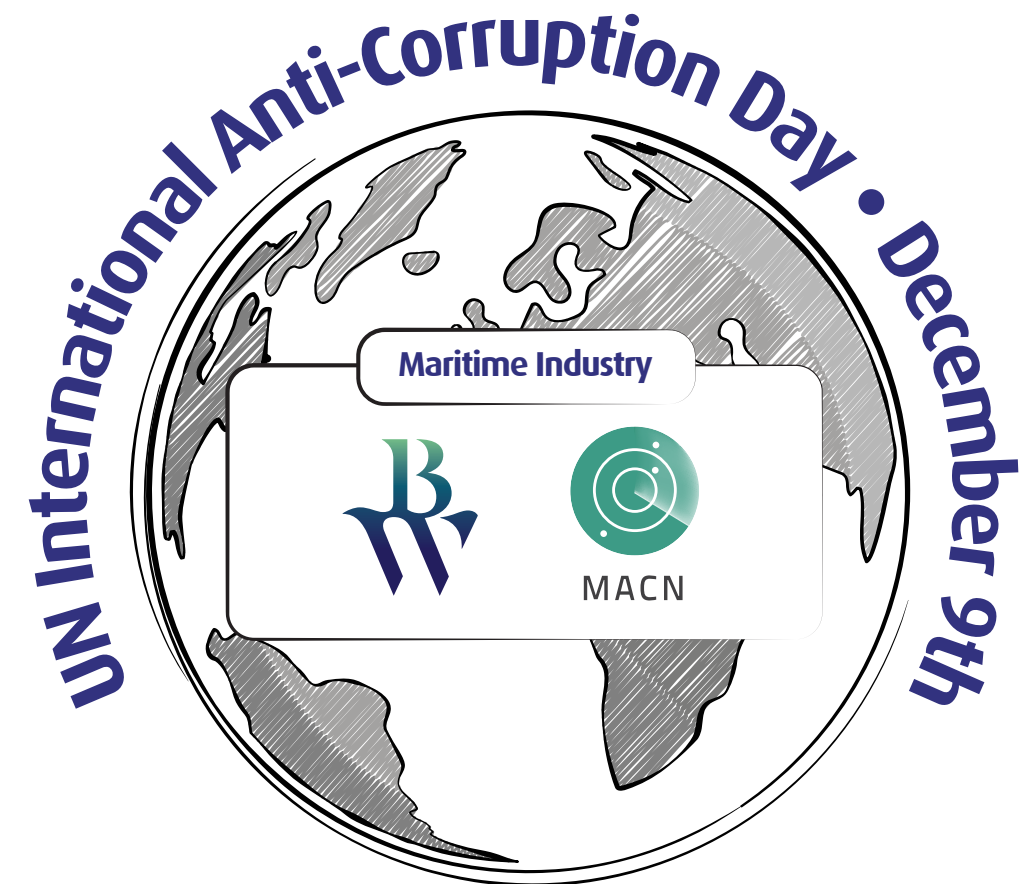
Vicente's story is not over yet

Today, the unit is in layup in the BrasFELS /Keppel yard in Brazil. The last field Vicente operated on was the Farfan field in the Sergipe region in north-eastern Brazil, the only field not included in the Pre-Salt developments, and an opportunity to explore a new exciting oil and gas region in Brazil. The results from this long-term production testing will be used in further planning of the development of the Farfan field.

Since the BW Cidade de São Vicente is built for Brazilian waters and regulations, and well known by the Brazilian authorities, she is currently under consideration for other opportunities in the country. **wh**

Anti-Bribery & Anti-Corruption

Don't ask. We will not pay.



BW is committed to being a leading provider of maritime energy transportation services. To that end, we strive to achieve superior financial results while adhering to safe operating standards and upholding high ethical principles. In order to maintain this, BW supports efforts against bribery and corruption, not least in the maritime sector

where our staff at sea or ashore have to deal with attempts at bribery and corruption on an all too frequent basis.

The United Nations has selected December 9th as International Anti-Corruption Day. Each year, BW joins with the UN and many other organizations to communicate with staff and business partners

to confirm publicly our support for anti-bribery and anti-corruption efforts. According to the UN, every year \$1 trillion is paid in bribes while an estimated \$2.6 trillion is stolen annually through corruption – a sum equivalent to more than 5 per cent of global GDP.

The United Nations Development Programme has noted that funds lost to corruption in developing countries are estimated at ten times the amount of official development assistance. Corruption is a serious crime that can undermine social and economic development in all societies. No country, region or community is immune.

In order to support both BW and maritime industry efforts against bribery and corruption, in 2015 BW joined the Maritime Anti-Corruption Network (MACN), a global business network working towards the vision of a maritime industry free of corruption that enables fair trade for the benefit of society at large. MACN and its members promote good corporate practice in the maritime industry for tackling bribes, facilitation payments and other forms of corruption.

MACN collaborates with key stakeholders, including governments and international organizations, such as the United Nations Development Programme (UNDP), to identify and mitigate the root causes of corruption in the maritime industry.

One of the most critical aspects of anti-bribery and anti-corruption efforts is the reporting of incidents. BW requires seafarers to report all bribery and corruption incidents. Proper and timely reporting allows for the involvement of BW senior management if necessary. It also helps to collate essential information via the MACN anonymous reporting system, so that collective action can be taken and best practices can be shared among our seafarers.

BW requires all staff to uphold our Anti Bribery and Anti-Corruption Policy. Our message to those who would make a request is “Do not ask. We will not pay.” BW encourages staff to report all incidents, as we work with maritime industry partners towards eliminating bribery and corruption. **wh**

In the past few months we have commended the following seafarers for upholding the highest standards:



Capt. Sergey Nalabardin, Master of BW Thalassa

A pilot, who was also a Port State Control (PSC) inspector in a Middle Eastern port, asked for cigarette cartons from the Master. The Master politely refused, explaining the Company’s Anti Bribery and Anti-Corruption Policy. However, the PSC official asked the Master to contact the BW office. The Master called the office and he was informed that he was doing the right thing. The Pilot/PSC Officer was informed accordingly and there were no further demands. The vessel made no facilitation payment.



Capt. Shahrukh R. Talati, Master of BW Neso

A charterers agent boarded the vessel in a port in Asia and started demanding cigarette cartons for immigration officers. The Master politely refused, pointing to the Company’s Anti Bribery and Anti-Corruption Policy and Poster. However, the agent continued demanding and even refused to sign the cargo documents. The Master stood firm and informed the BW office. The office informed the Master that he was doing the right thing. The office spoke with the agent and the matter was resolved without any facilitation payment.



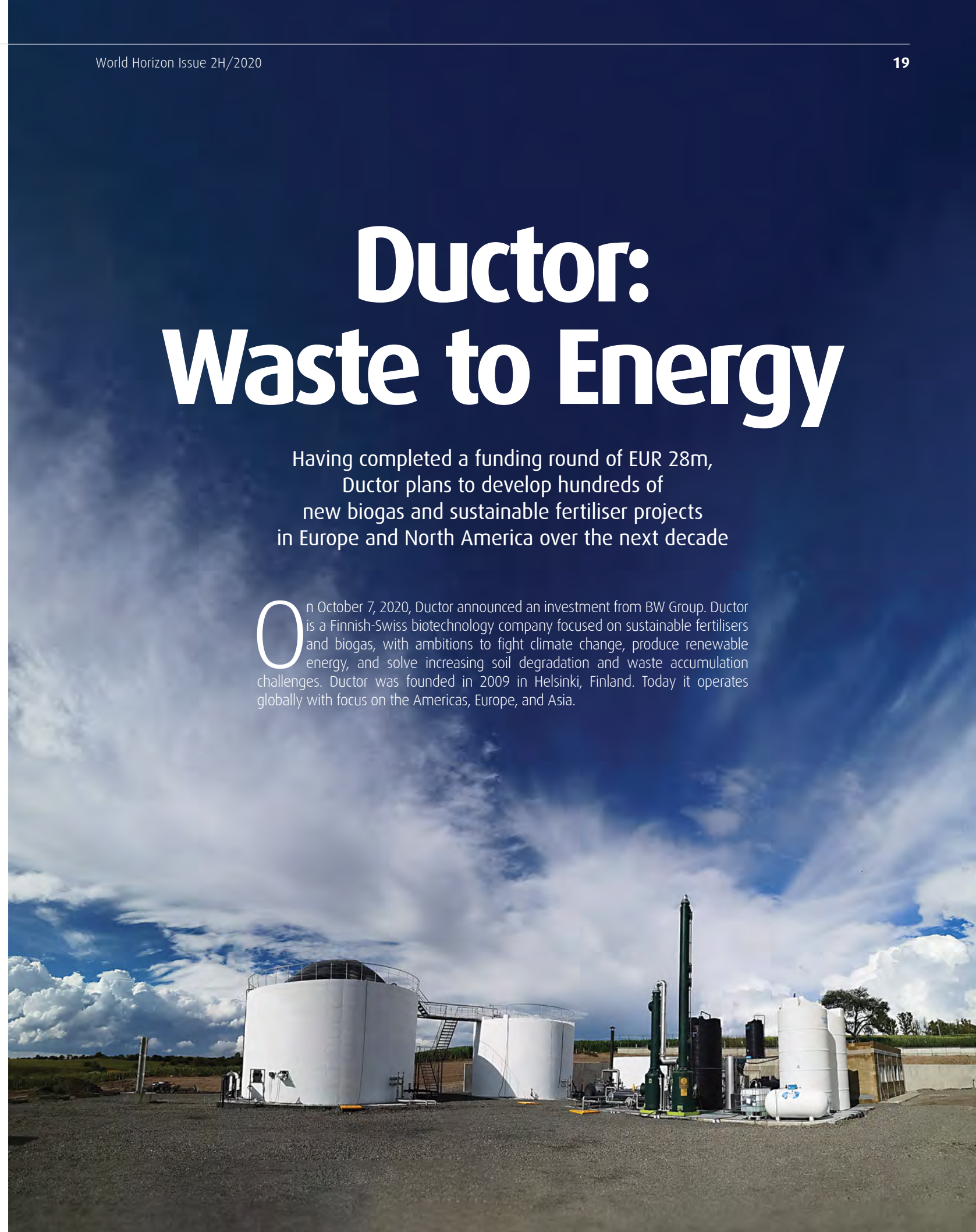
Capt. Anuj Kumar, Master of BW Tagus

At a terminal in Africa, the Master had to face a number of officials from Immigration, Quarantine, Narcotics, MARPOL and other departments. Each of them demanded cash and threatened the Master and his team with dire consequences like delays, fines, and confiscation of passports. The Master and his team stood firm with each official and handled the situation tactfully, coordinating with the charterer’s and owner’s agents. No facilitation payment in cash or kind was made. The whole matter was handled on board without involving the BW office. A report was filed with the details of the incident after departure from the port.

Ductor: Waste to Energy

Having completed a funding round of EUR 28m, Ductor plans to develop hundreds of new biogas and sustainable fertiliser projects in Europe and North America over the next decade

On October 7, 2020, Ductor announced an investment from BW Group. Ductor is a Finnish-Swiss biotechnology company focused on sustainable fertilisers and biogas, with ambitions to fight climate change, produce renewable energy, and solve increasing soil degradation and waste accumulation challenges. Ductor was founded in 2009 in Helsinki, Finland. Today it operates globally with focus on the Americas, Europe, and Asia.





As a result of our investment, BW Group becomes a major shareholder in Ductor as well as a strategic partner. Andreas Beroutos, Managing Director at BW and now a Board Member of Ductor, says:

“Ductor has a unique solution producing two valuable outputs from waste: biofuels and organic fertilisers. We are delighted to be

partnering with Ari Mokko, Ductor’s visionary founder, his team and their existing investors to help Ductor grow and make a positive contribution to resolving some of today’s environmental, energy, land and food challenges.”

Ductor’s technology and what makes it unique

Ductor differs from conventional biogas plants, as its patented microbial technology and proprietary process enable biogas plants to use high nitrogen-content feedstock (such as chicken or fish waste) with much-reduced ammonium inhibition, thereby significantly improving the output and economics. This enables Ductor plants to access a new feedstock market, with additional sources of revenue from the production of sustainable fertilisers. Ductor also generates revenues by licensing its technology to



(Above, Left) Mr. Ari Mokko, Founder and CEO of Ductor; (Above, Right) Ductor’s solution to fertilizers sustainability

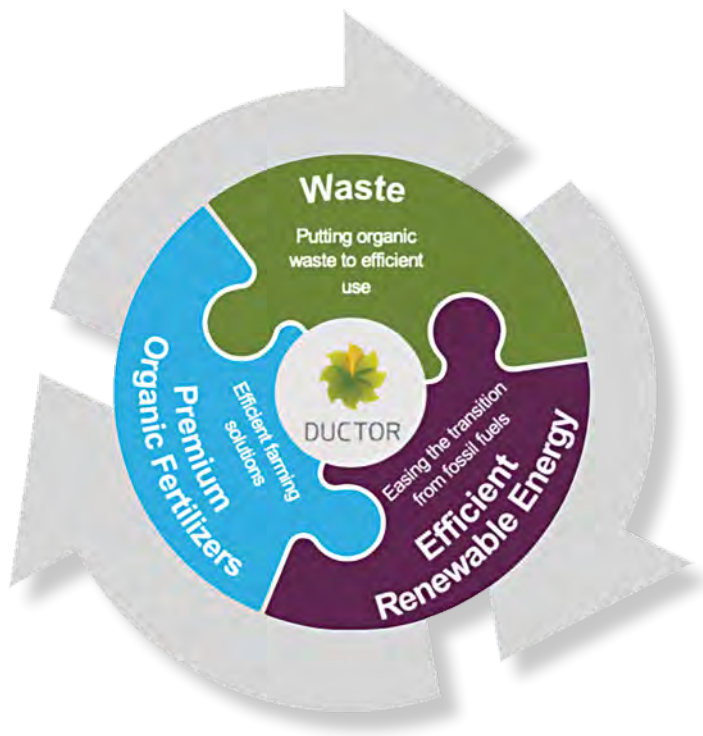
third party investors in the plants, earning development fees from building those plants and participating as capital partner in their successful operation, as well as providing ongoing O&M services.

Ductor has successfully developed its first chicken-manure-based biogas plant in Mexico in collaboration with the country’s leading egg/chicken producer. It also has several other plants under construction in Europe and the US. Ductor’s technology can be applied to both greenfield developments and as an add-on i.e. retrofitted to existing biogas plants to improve plant economics. The retrofit potential significantly expands the addressable market, especially in Germany, the world’s largest biogas market, where permitting for greenfield plants is more onerous.

New funding to be used to scale up operations

With the help of our investment, Ductor plans to develop hundreds of new biogas and sustainable organic fertiliser projects within the next decade in the EU and North America. The new projects will use chicken or fish waste to create two separate products: renewable biogas and sustainable organic fertiliser. This circular economy model will help significantly reduce greenhouse gas emissions from both the energy and agriculture sectors. Building the new facilities will be a clear step in line with the new European Green Deal, with the goal of turning climate and environmental challenges into opportunities.

The new facilities will be built in Norway, Poland, Germany, Spain, France, the United States, and other countries. They are planned



(Above) Ductor’s first facility in Mexico, opened and turned operational in 2019

to be in operation within a few years. “As company owners we need to push and do our utmost to counter climate change. Ductor’s goal is to use the circular economy as a weapon in this fight and now, with the help of BW Group, we can speed up our operations,” Mr. Ari Mokko, Founder and CEO of Ductor, says.

Contributing to the urgent need for sustainable agriculture

In addition to its historical presence in maritime transportation and logistics, BW Group has been focused on the energy transition for some time, with investments in solar energy, batteries, water treatment, and other technologies that aim to address global environmental challenges across Asia, Europe and North America.

In addition to Ductor’s contribution to clean energy with biogas, the transition to sustainable agriculture is similarly driven by new technologies, research and innovation. This “new agriculture” will not only help to slow down climate change but also ensure healthier soils and regenerative farming, and less polluted waters. “Ductor is committed to increasing agricultural biodiversity, enriching soils, improving watersheds, and enhancing ecosystem services. We need to capture carbon in soil and above-ground biomass, reversing current global trends of atmospheric accumulation. Our job is to help nature do its job better by transforming organic waste into carbon-negative fertilisers and renewable energy,” Mr. Mokko says. **wh**

Dealing with the global crew change crisis

World Horizon speaks with Captain Bhatt and Captain Pelagio to understand how they and their crews have coped with the effects of the pandemic



(Above) 1. BW LNG Ondo Shoutout loud campaign 2. BW LNG Ondo elevator procedure 3. LNG Ondo's message to the world 4. BW LNG Ondo Visitor's Guideline placard

1.2 million seafarers across the world have been among those most affected by the Covid-19 lockdowns. Travel bans, cancellations of international flights and closed national borders have made it difficult for many seafarers to return home to their families, leaving hundreds of thousands stuck at sea. At BW we are leaving no stone unturned as we continue to look for safe solutions for our crew to be able to sign off and return home to their families.

We interviewed Captain Bhatt onboard the LNG Ondo and Captain Pelagio onboard BW Paris to share how they and their crews have coped with the situation.

World Horizon [WH]: Can you start by telling us a little bit about yourself?

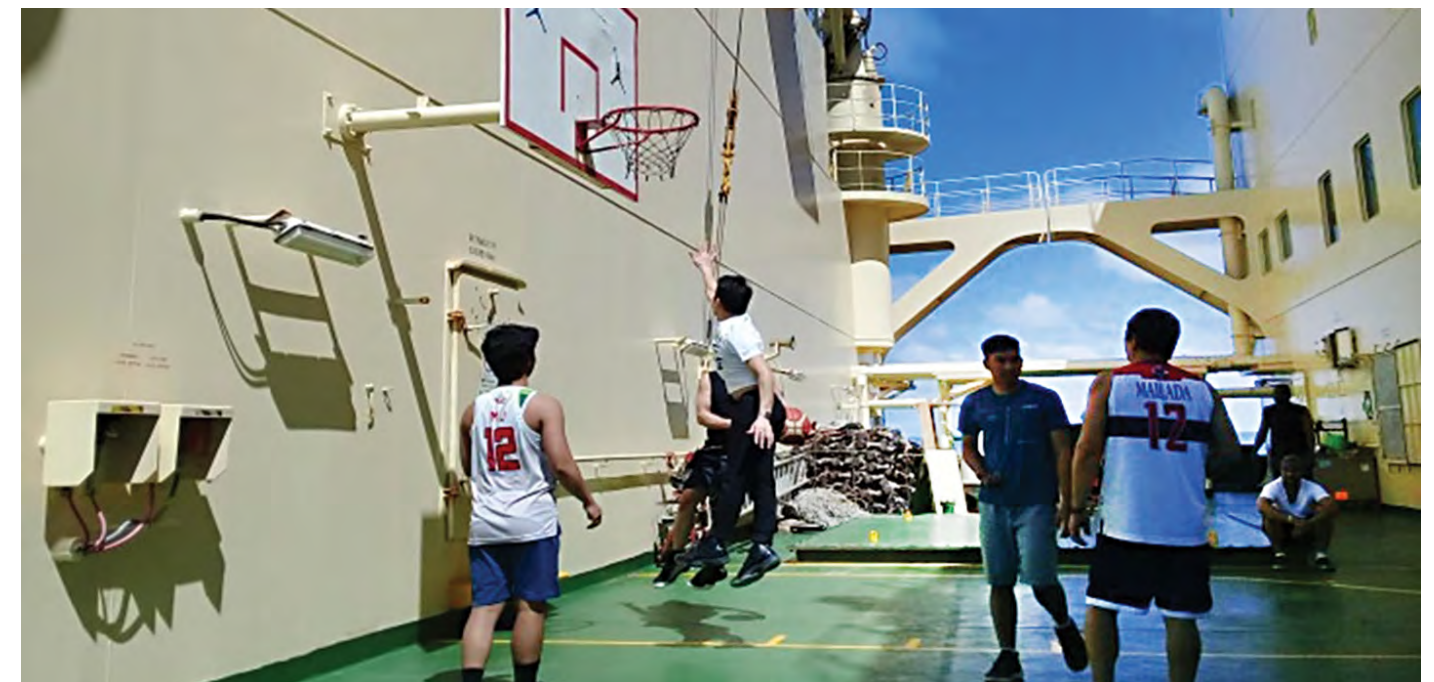
Captain Bhatt [B]: As the son of a commanding officer of an Indian Naval Ship, I was always inclined towards the sea. I am extremely happy to have fulfilled my dream of commanding a ship and taking care of crew with a great company like BW. It has been 22 years of learning since my start as a deck cadet for BW, a challenging but thoroughly enjoyable journey, where I gained rank from Deck Cadet and Officer on various vessels (Dry Bulk, OBO, VLCC & LPG) and ultimately becoming Master on an LNG vessel. In these challenging times my wife is the greatest pillar of strength for me. She is handling this period all by herself as well as taking care of our son. Fortunately, my family understands very well that I need to be here on board and take care of my ship and my crew - my second family.

WH: How are you and your team coping with the operational disruptions from COVID-19?

Captain Pelagio [P]: My team and I follow the safety measures prescribed by BW as well as the guidelines communicated by the WHO. We also make sure we rely on trustworthy and updated information about the COVID-19 situation. Onboard LNG carrier BW Paris we have 35 crewmembers of 5 different nationalities, and we take time daily to discuss the situations in their respective countries. We focus on keeping our physical and mental health in good condition by playing basketball, lifting weights and swimming. We have gatherings twice a week where we talk about things that concern us and watch movies. I have also requested the cooks to have the best meals cooked for us during these times! We use the BW Wellness at sea program and company initiatives such as improved internet availability, which helps the crew stay more frequently in touch with their families.

WH: Tell us about the process of signing off the vessel and getting home to your family.

B: Since we were the first batch of crew on LNG Ondo to sign off from the vessel during Covid-19, it was not an easy procedure and things were quite uncertain until the last few days before our sign off. My total journey from France to Mumbai took me about 48 hours, which included a 22 hour stop at Doha airport. In Mumbai, post-Covid screening and exit formalities took a couple of hours, and I was sent to a quarantine facility that was prebooked by BW's Mumbai team. I had a 7-day quarantine at this facility, followed by seven days quarantine at my house as per local requirements of our State. After this quarantine period of 14 days, I finally met my family (wife and son), which was so comforting.



(Above) Playing basketball onboard BW LNG Ondo



(Above) Social distancing on BW Paris.

WH: Can you recall an experience of exemplary seamanship that stands out? An incident or initiative onboard your vessel that you are particularly proud of?

B: My Chief Cook Mark Moleta and ETO Iver Gaitano were scheduled to sign off and go home in February 2020. Unfortunately, this had to be cancelled due to new quarantine rules at Bonny Terminal in Nigeria. Their relievers had already arrived on board and were in the process of their respective handovers when I had to break this sad news to them. It is a difficult situation to be in as a Master. It was very delicate news and it is always disheartening for a seafarer when his sign off gets cancelled. However, both my crew showed exemplary composure and good seamanship in dealing with it – despite only being able to sign off in July, four months later.

WH: We all manage stress and anxiety differently. What is your advice to fellow seafarers, and colleagues on shore on dealing with the uncertainties from COVID-19?

B: My advice to fellow seafarers and colleagues on shore would be to keep yourself and your colleagues busy and safe through the day with full focus on your work and keeping safety a top priority. Make sure to not keep to yourself in your cabins, but instead go out and meet your colleagues and talk with them. Games are good fun and can easily take your mind off the difficult situation for a moment, especially when there are prizes involved. Remind your colleagues, family and friends of the importance of taking precautions such as washing hands with soap and using sanitisers, as well as self-isolation in case of any symptoms.

P: My advice to our fellow seafarers and colleagues on dealing with stress and uncertainties from Covid-19 is that we should follow prescribed safety guidelines from the WHO and the government. As Master of BW Paris, creating a good atmosphere on board is the key to help stress management. Communication with family and colleagues ashore and daily updates of the situation from trustworthy sources helps reduce anxiety. This is the time to help other people in need, and to look forward and not lose sight of where we are going. Don't lose hope, keep your faith; there will be an end to this pandemic."

WH: Do you think countries could have acted any differently in how they handled the seafarer situation? If so, how?

B: Yes, I believe that seafarers are one of the most essential workers, contributing to more than 90% of global trade. Necessary to keep supply chains intact, they should have been immediately given the status of key workers worldwide – enabling a global crew change corridor. Generally speaking, I believe that the necessity for visas should be relaxed for seafarers irrespective of the pandemic.

WH: Have you ever experienced anything close to this situation before? What has surprised you the most?

B: Definitely not. While we face many challenges at sea, this pandemic is a once in a lifetime situation wherein the whole world has been engulfed in a similar fight. Despite playing a key role in our hyper globalised world, the fact that it spread across the globe so quickly has been quite surprising to me. **wh**

In the Spotlight:



Tai Nguyen and Mike Brugge

World Horizon speaks with Tai Nguyen and Mike Brugge, co-founders of BW Solar

World Horizon [WH]: What is your background?

Tai Nguyen [TN]: I have been in the renewables industry from its infancy and have worked in engineering, government and finance over the last 15 years. I hold a bachelors degree in Power Engineering from the University of Waterloo in Canada, and a Masters Degree in finance from NYU Stern School of business. Throughout my career I have lived and worked throughout the globe performing many different functions within the renewable energy space. I started my career in Toronto as an engineer, I've spent time in Hong Kong as an equity researcher, in Singapore as a project financier, in Vietnam and Toronto as a private equity professional, and most recently in New York as an investment banker. My broad experience in the space has allowed me to look at project development through many different lenses.

Mike Brugge [MB]: I grew up in Windsor, Canada (across the river from Detroit USA). My dad was an autoworker and my mom looked after my brother and I. I always had an interest in puzzles, games and problem-solving. So, unsurprisingly, I studied engineering, with plans to join my father in the auto industry. I found electrical engineering (specifically electronics) much more complicated and exciting. I went on to get a masters degree examining microprocessors closely and trying to apply the concept of large networks to embedded system designs. After graduation, I took a local job as a consultant. I learned quite a bit about the power industry and saw an opportunity in the transition taking place. Honestly, solar generation facilities are not all that complex so I also took an interest learning about the commercial side of the business and eventually decided I'd be more useful in helping a developer make informed decisions for future projects.

WH: What are your priorities for the business?

TN and MB: Given the growth of solar and energy storage globally, and how fast the industry moves, it is very easy to get lost in the development world. I believe that to be a successful developer you need to have focus, patience, and have the ability to make data-driven decisions.

Though we plan to be a global developer, our priority this year is to focus on North America, which has one of the fastest-growing renewable energy industries. Many states are implementing revolutionary clean energy policies. New York, for example, has committed to 70% renewables by 2030 and Virginia has committed to 60% renewable energy by 2030 and 100% by 2050. Our strategy is two-fold this year:

1. to build a leading position in the community solar market in the North East U.S. particularly New York; we are already well on our way, and by the end of the year we expect to be in the top three developers in the state.

2. start acquiring land throughout the US to begin development in utility-scale solar and energy projects. We have already begun the development of over 500MW of projects in various states, and by the end of the year we expect to have a pipeline of 1,500MW.

Another priority for us is to build and maintain a good reputation in the market with our stakeholders. We are working to be known as a community-conscious developer, a focused team that makes good decisions with our fellow development partners, and a financially savvy group to our investment partners.

WH: How can BW Solar differentiate itself in a competitive market?

TN: In the world of solar and storage today, there is more money than there are good projects. Given that Mike and I have been in the industry our whole career and have accessed hundreds if not thousands of projects, we recognised that there are lots of sub-par projects out there.

MB: Having designed and built projects, engineers have tremendous insight into what works best and can therefore make for great developers. Tai and I agree on a logical and systematic approach to development that is driven by facts. As a result of this approach, we feel confident that we can originate better projects than the industry norm.

TN: Adding to this, we think that we can take advantage of my experience in development, strategy, and finance and Mike's experience in development, design, and construction to do things better. The industry is still in its infancy, and we want to do something that will have an impact on the world we live in. With new technologies continually being developed, renewable policy and investor sentiment constantly changing, there is a lot to do to help this industry grow. We felt that building a solar business with BW would be the best way for us to contribute to the proliferation of solar and energy storage.

WH: Tell us about the current state of the market. How has covid impacted it?

TN and MB: Despite political roadblocks, renewable energy has continued to be the fastest-growing form of energy. The energy price of solar has continued to drop significantly. In many places, it is the cheapest form of energy, and in most places, it is competitive. With the expected policy changes and actions planned by President-elect Biden, including rejoining the Paris Climate accord, it is likely that the US government will use renewable energy as a means of jump-starting the economy – which is excellent news for BW Solar.



(Above) Bogdan Dinu, Director of Corporate Development, and Mike Brugge, Cofounder and CTO, hard at work on February 4 2020 - the first day of BW Solar. Picture taken by Tai Nguyen, CEO, as they worked out of his house.

We started the company in February 2020 and lockdowns started a month later! We still don't have an office. Everyone is working from home but BW Solar has found a way to operate as normal. The pandemic delayed the construction of solar and energy storage projects, but this did not have much effect on us since we are developing and not constructing at the moment. The other area where it has affected us is acquiring land. Typically our team likes to go out to meet landowners and communities directly to discuss projects but because of the pandemic were not able to do so. We did not let this stop us, and continued to work with communities and landowners by phone, video conference, and email. This helped us to get a leg up on other developers who stopped developing for months.

WH: Tell us little-known facts about yourselves:

TN: I am a very active individual and before the pandemic used to play tennis and mountain bike regularly. I am a person that needs physical activity, so you will usually find me outdoors during my time off. I come from a fairly large family and am very family-oriented. I am close to my brothers and sisters and nephews and nieces (I have 11, as one brother has seven kids under the age of 9!).

MB: I play hockey and ultimate frisbee, have run two marathons, enjoy multiday backcountry hiking trips with COVID-19 limiting team sports. I have recently been getting into mountain biking. I am inspired to travel more, specifically the more remote and naturally beautiful destinations of the earth. **wh**

Around the World

1. Sealing the deal

A seal was spotted celebrating the delivery of World Virtue shortly after she left the yard in May 2020.



2. A new beginning

BW LPG congratulates Sonker Energy on the successful commissioning of the LPG facility at Sokhna Bulk Liquids Terminal in October! We are privileged to have played a small part in the commissioning process.

2



3. Loading LNG at sea with a new partner

BW Paris alongside Golar's Floating LNG (FLNG) unit Hilli. BW Group announced a 7% stake in Golar in March 2020.

3



4. **Pressure to decarbonise is increasing quickly**

BW Group Chairman Andreas Soehnle-Pao spoke about shipping decarbonisation in a panel hosted by the Norwegian Business Association of Singapore.

From left to right: Leonard Opitz Stornes, Managing Director of NHST Media Group Asia, Laurence Odfjell, Chairman of Odfjell SE, Andreas Soehnle-Pao, Chairman of BW Group, Cristina Saenz de Santa Maria, Regional Manager South East Asia, Pacific & India at DNV GL, and Pål Kastmann, Director and Commercial Counsellor at Innovation Norway Asia.

4



5



5. **And we're off!**

On 21 October, BW Gemini officially became the world's first LPG powered VLGC. On 9 November, she began her historic transpacific voyage using LPG propulsion to Enterprise Terminal in Houston. Fair winds and following seas to the Officers and Crew onboard BW Gemini! Captain Vinay Khanna pictured above before beginning the voyage.

6. **Crew change in the time of COVID-19**
Four crew members wearing personal protective equipment who had just signed off BW Canola in April 2020.

7. **Saying hello to a new way of travel**
24 BW seafarers were able to fly out of India to join our newbuilding BW Pavilion Aranthera in Korea. This chartered flight was a critical step towards establishing a crew change corridor for India to facilitate long-awaited crew changes.

6



7



8. **Split teams at the board level!**
 BW Offshore Director Maarten Scholten and CEO Marco Beenen photographed here at the company's August 2020 board meeting, which was supposed to see everyone in person but last minute travel restrictions required a makeshift arrangement.

9a and b. **Strategy Day 2020**
 Hafnia CEO Mikael Skov and EVP Søren Steenberg Jensen participating from Monaco in Hafnia's first entirely virtual annual strategy day.

10. **Staying flexible**
 Crew on board BW Rhine enjoying a yoga class as a part of the BW Wellness Program.

11. **Celebrating outstanding service to BW**
 Procurement Controller Erland Østby retired in mid-September after 44 years with BW. His team in Oslo was able to throw a party to celebrate him and acknowledge his dedication while the virus was under control. We wish him all the best in retirement.

8



9a



9b



10



11



Removable Page (Tear along perforation)



Zero Harm Photography Competition

Contest Details

Theme	Zero Harm: Family values, Life on board and Diversity and Inclusion (D&I)
Entry Period	15 December 2020 - 15 February 2021
Eligibility	Current BW Staff (onboard and onshore) from all Affiliates, including third party managed ships, and their children
Category	A - Family Values (Ship/Shore) B - Life Onboard C - Diversity and Inclusion (D&I)
What can I use	Photographs, preferably unmodified and in digital format (JPEG or PNG). Scanned PDF copies of printed photographs are also accepted (minimum resolution of 300ppi)
Prizes for each category	First Prize: US\$500 Second Prize: US\$350 Third Prize: US\$150

How to enter submissions

- The submitted photograph must have a resolution of no less than 200 PPI (pixels per inch). A good rule of thumb when taking pictures using a smartphone with a 12MP camera is to avoid using zoom function. Walk closer to the subject of your photograph to preserve maximum resolution.
- Submissions must be in JPG, PNG or PDF format, with a maximum file size of 10Mb.
- Fill in the entry slip below and submit with your photograph either via email to ZeroHarmArt@BW-Group.com or mail your printed photograph to any BW office.

Zero Harm Photography Competition Entry Slip

Name of Child (Age) _____ ()

Category **A** Family Values Ship/Shore
 B Life Onboard
 C Diversity and inclusion

Address _____

Telephone No. _____

BW Staff Name _____

BW Staff Email _____

BW Affiliate _____

Description of Artwork _____

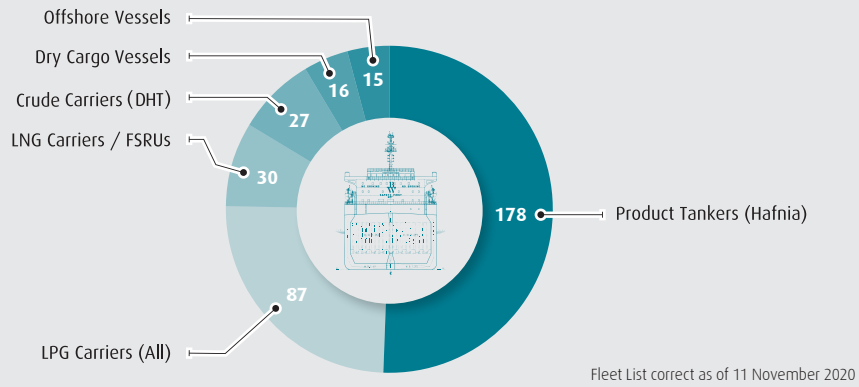
 _____ (Max. 50 words)

Notes

- All photograph submissions must be the original creation of the participant.
- Copyright of all photographs submitted in this competition will belong to BW.
- Open to all staff from all Affiliates.
- Please give your entry well before the submission deadline of 15 February 2021.
- Multiple entries are allowed, subject to a maximum of three entries, but a participant can only win one prize. BW will not be held responsible for lost mail.
- The judges' decision is final and winning entries will be announced by 1 April 2021.
- Should the prize be unclaimed by 1 August 2020, the prize will be donated to charity.
- For questions related to this photography competition, please email ZeroHarmArt@BW-Group.com (with ZH-Photo in the subject line).



Group Fleet Composition



Removable Page (Tear along perforation)

LNG Fleet			LPG Fleet			Hafnia Fleet (Specialised)			Hafnia Fleet (MR)			Hafnia Fleet (Straits Tankers LR)			Epic Gas Fleet		
Vessel Name	Built	CBM	Vessel Name	Built	CBM	Vessel Name	Built	DWT	Vessel Name	Built	DWT	Vessel Name	Built	DWT	Vessel Name	Built	CBM
Berge Arzew	2004	138,061	Berge Nantong	2006	82,244	Amur Star*	2004	13,000	Aegean Star*	2019	50,506	Bluebird*	2016	74,074	Epic Bali	2010	7,200
Berge Boston	2003	138,059	Berge Ningbo	2006	82,252	Chantaco*	2008	18,734	Basset	2019	49,999	Bow Pioneer*	2013	81,305	Epic Balta	2000	6,300
BW Brussels	2009	162,514	BW Aries	2014	84,021	Chiberia*	2007	18,734	Beagle	2019	49,999	BW Amazon	2006	76,565	Epic Baluan	2017	7,500
BW Everett	2003	138,028	BW Austria	2009	84,604	Colorado Star*	2007	18,734	Boxer	2019	49,999	BW Clyde	2004	73,400	Epic Barbados	2001	7,200
BW Integrity	2017	17,365	BW Balder	2016	83,880	FS Clara*	2007	5,717	Buildog	2020	49,999	BW Columbia	2007	76,604	Epic Barnes	2002	7,200
BW Lilac	2018	175,298	BW Boss	2001	84,301	Ganges Star*	2007	13,000	BW Bobcat	2014	49,999	BW Danube	2007	76,543	Epic Beata	2011	7,500
BW Magna	2019	173,400	BW Brage	2016	83,272	Guyenne*	2006	11,345	BW Cheatoh	2014	49,999	BW Despina	2019	109,990	Epic Bell	2014	7,200
BW Magnolia	2020	173,400	BW Carina	2015	84,154	Kongo Star*	2010	13,000	BW Cougar	2014	49,999	BW Galatea	2019	109,990	Epic Bermuda	2001	7,200
BW Paris	2009	162,524	BW Cedar	2007	80,614	Lamenin*	2010	11,320	BW Eagle	2015	49,999	BW Hudson	2007	76,573	Epic Bird	2014	7,200
BW Pavilion Aranda	2019	173,400	BW Conflience	2006	83,270	Mississippi Star*	2011	13,000	BW Egret	2014	49,999	BW Kallang	2017	74,189	Epic Bolivar	2002	7,500
BW Pavilion Arantha	2020	173,400	BW Elm	2007	82,291	Murray Star*	2010	13,000	BW Falcon	2015	49,999	BW Kronborg	2007	73,708	Epic Bonaire	2016	7,500
BW Pavilion Leara	2015	161,866	BW Empress	2005	78,908	Pechora Star*	2010	13,000	BW Hawk	2015	49,999	BW Lara	2004	73,496	Epic Boracay	2009	7,500
BW Pavilion Vanda	2015	161,884	BW Energy	2002	82,551	Shannon Star*	2011	13,000	BW Jaqur	2014	49,999	BW Larissa	2019	109,990	Epic Borinquen	2016	7,500
BW Singapore	2015	170,159	BW Freyja	2016	83,301	ST Marseille*	2010	8,015	BW Kestrel	2015	49,999	BW Lena	2007	76,577	Epic Borneo	2010	7,200
BW Tatiana	2002	135,269	BW Frigg	2016	83,294	ST Sara*	2011	8,019	BW Leopard	2014	49,999	BW Neso	2019	109,990	Epic Burano	2002	7,500
BW Tulip	2016	170,799	BW Gemini	2015	84,134	ST Solene*	2007	5,820	BW Lioness	2014	49,999	BW Nile	2017	74,189	Epic Caledonia	2014	3,500
LNG Benue	2006	145,952	BW Kizoku	2015	83,325				BW Lynx	2013	49,999	BW Orinoco	2007	76,577	Epic Sicily	2015	11,000
LNG Enugu	2005	145,926	BW Kyoto	2010	83,299				BW Merin	2015	49,999	BW Rhine	2008	76,587	Epic Cordova	2009	3,500
LNG Imo	2018	148,455	BW Leo	2014	84,134	No. of vessels	16	191,704	BW Myna	2015	49,999	BW Seine	2008	76,580	Epic Corsica	2009	3,500
LNG Kano	2007	148,565	BW Liberty	2007	84,597				BW Osprey	2015	49,999	BW Shinano	2008	76,593	Epic Curacao	2014	3,500
LNG Lokjoja	2006	148,528	BW Libra	2015	84,148	Hafnia Fleet (Handy)			BW Panther	2014	49,999	BW Tagus	2017	74,189	Epic Madeira	2006	9,500
LNG Ondo	2007	148,453	BW Lord	2008	84,683	Hafnia Adamello	2004	39,807	BW Panther	2014	49,999	BW Tagus	2017	74,189	Epic Sardinia	2017	11,000
LNG Oyo	2005	145,841	BW Loyalty	2008	84,601	Hafnia Bering	2015	39,067	BW Petrel	2016	49,999	BW Thalassa	2008	73,911	Epic Sicily	2015	11,000
LNG River Orashi	2004	145,914	BW Magellan	2016	84,000	Hafnia Bering	2015	39,067	BW Raven	2015	49,999	BW Triton	2019	115,000	Epic Santos	2016	11,000
NB2496 Dsme*	2021	173,400	BW Malacca	2016	84,000	Hafnia Green	2007	39,808	BW Swift	2016	49,999	BW Yangtze	2008	76,593	Epic Sardinia	2017	11,000
NB2497 Dsme*	2021	173,400	BW Messina	2017	84,000	Hafnia Green	2007	39,808	BW Tiger	2014	49,999	BW Yarra	2017	74,189	Epic Seintosa	2016	11,000
NB2509	2022	174,000	BW Mindoro	2016	84,000	Hafnia Hope	2007	39,804	BW Wren	2016	49,999	BW Zambesi	2010	74,995	Epic Shikoku	2016	11,000
NB2510*	2022	174,000	BW Njord	2016	83,266	Hafnia Hope	2007	39,804	Celsius Rome*	2009	45,996	Chemtrans Adriatic*	2005	73,964	Epic Sicily	2015	11,000
Pan Africa*	2019	174,000	BW Oak	2008	82,291	Hafnia Karava	2007	39,825	Chios Star*	2018	50,506	Chemtrans Arctic	2005	73,911	Epic St. Agnes	2015	5,000
Pan Europe	2017	174,000	BW Odin	2009	80,797	Hafnia Malacca	2015	39,067	Dee4 Dogwood*	2008	47,399	Chemtrans Baltic*	2005	73,896	Epic St. Croix	2014	5,000
			BW Orion	2015	84,195	Hafnia Rainier	2004	39,817	FSL Osaka*	2007	45,998	Chemtrans Oceanic*	2005	73,901	Epic St. George	2007	5,000
			BW Pine	2011	80,157	Hafnia Robson	2004	39,819	FSL Singapore*	2006	47,470	Compass	2006	72,934	Epic St. Ivan	2015	5,000
			BW Prince	2007	82,383	Hafnia Soya	2015	39,067	Hafnia Andrea	2015	49,999	Compassion	2006	72,782	Epic St. Kitts	2008	5,000
			BW Princess	2008	82,383	Hafnia Sunda	2015	39,067	Hafnia Andromeda	2011	49,999	Esia	2007	73,711	Epic St. Lucia	2008	5,000
			BW Sakura	2010	78,901	Hafnia Torres	2016	39,067	Hafnia Ane	2015	49,999	Evidiki*	2008	73,740	Epic St. Martin	2008	5,000
			BW Thor	2008	82,302	Hafnia Victoria	2007	39,821	Hafnia Caterina	2015	49,999	Hafnia Africa	2010	74,539	Epic St. Thomas	2014	5,000
			BW Tokyo	2009	83,270	Nordic Agnetha*	2009	37,791	Hafnia Crux	2012	52,500	Hafnia America	2006	74,999	Epic St. Vincent	2008	5,000
			BW Trader	2006	78,631	Nordic Army*	2009	37,759	Hafnia Henriette	2016	49,999	Hafnia Arctic	2010	74,910	Epic Sula	2015	11,000
			BW Tucana	2016	84,000	Nordic Hanne*	2010	38,395	Hafnia Kirsten	2017	49,999	Hafnia Asia	2010	74,490	Epic Sunter	2015	11,000
			BW Tyr	2008	80,657	Nordic Pia*	2006	38,395	Hafnia Lene	2015	49,999	Hafnia Australia	2019	74,999	Epic Susak	2015	11,000
			BW Var	2016	83,260	Nordic Pia*	2006	38,395	Hafnia Leo	2013	49,999	Hafnia Beijing	2019	75,000	Epic Susui	2015	11,000
			BW Volans	2016	84,000	Ocean Dignity*	2006	34,633	Hafnia Libra	2013	49,999	Hafnia Europe	2006	74,997	Westminster	2011	9,500
			BW Kobe	2020	83,325	Seaconger*	2005	32,200	Hafnia Lotte	2017	49,999	Hafnia Guangzhou	2019	74,999			
			BW Matsuyama	2019	81,703	Skyros*	2006	37,562	Hafnia Lupus	2013	52,500	Hafnia Hong Kong	2019	74,999			
			BW Nara	2020	81,759	Tanker Spirit/VS Spirit	2006	34,671	Hafnia Mikala	2017	49,999	Hafnia Shanghai	2019	74,999			
			BW Osaka	2020	81,586	VS Leia*	2006	38,461	Hafnia Nordica	2010	49,999	Hafnia Shenzhen	2019	74,999			
			BW Rye	2020	81,733	VS Lisbeth*	2006	38,492	Hafnia Pegasus	2010	49,999	Jo Redwood*	2013	73,847			
			Meteor	2010	82,589				Hafnia Phoenix	2013	52,340	Justice Victoria*	2010	74,902			
			NB 10976 - Oshima*	2021	61,800				Hafnia Taurus	2011	50,385	Kamome Victoria*	2011	74,908			
			NB 10977 - Oshima*	2021	61,800				Ionian Star*	2019	50,506	Karimata	2019	79,999			
			Sterling Svea	2013	81,510				Kouros*	2008	49,999	Lilac Victoria*	2011	74,913			
			World Crest	2020	61,800				Lysias*	2008	49,999	Mari Ugljanid*	2008	74,997			
			World Diana	2020	82,031				Oinoussian Star*	2019	50,506	Mariann*	2008	74,992			
			World Virtue	2020	62,569				Orient Challenge	2017	49,972	Maribel*	2007	74,999			
									Orient Innovation	2017	49,946	Marika*	2008	74,996			
									Overseas Gulf Coast	2019	50,332	Marleen*	2006	74,998			
									Overseas Sun Coast	2019	50,332	Marlinor	2008	74,997			
									Sanmar Songbird*	2003	47,094	Martina*	2006	74,993			
												Mindoro Star*	2009	73,676			
												Nord Lavender*	2017	74,197			
												Nordic Anne*	2009	73,774			
												Nordmars*	2004	74,999			
												Nordmerkur*	2004	74,999			
												Nordneptun*	2004	74,999			
												Nordvenus*	2004	74,999			
												Norstar Integrity*	2006	74,065			
												Norstar Intrepid*	2006	74,034			
												Norstar Invictus*	2007	73,611			
												Orange Victoria*	2019	74,430			
												Palawan Star*	2008	73,796			
												Peace Victoria*	2019	74,430			
</																	

Special Thanks To . . .

40
Years

July

Størseth Martin, Cargo Engineer/3rd Engineer

35
Years

July

Bratland Geir, Master
Johannessen Sverre, Electro Tech Officer

August

Markussen Kurt, Electrical Officer
Sverre Henry Johannessen, Electro Tech Officer

30
Years

July

Anthony Go, Chief Officer
Berglund Ole-Vidar, Electro Tech Officer
Billy Chiu, Executive Vice President
Hardie Keith, Chief Engineer

August

Aurelio Alonzo, Motorman
Joseph Niedo, Motorman

October

Basilio Nestor, Messman
Dela Cruz, Diosdado, 3rd Engineer
Vijay Kumar, Reefer Man

November

Bonifacio Jr. Villacura, 2nd Engineer

December

Campbell Colin, Chief Engineer

25
Years

July

Almendares, Reynaldo P., Engine Fitter
Amador Jesus, Motorman
Bulseco Ramon, Motorman
Corsiga Samuel, Bosun
De Pano Rodrigo, Chief Engineer
Del Remedios Richard Adriano,
PNA Senior Cargo Operator
Iboa Manuel Manny, Motorman
Loyola Wenceslao Jr., Motorman
Molina, Socrates Leo S., Oiler
Pabiolas Robert, Bosun
Perreras Francisco, Able Seaman
Przemyslaw Pszuk, Compressor Technician
Richard Del Remedios, Senior Cargo Operator
Roy Arne Hansen, Senior Technical Manager
Sabordo Sotero, Motorman

August

Balingit Ruben, Chief Cook
Delos Santos Robinson, Motorman
Galope, Angelito E., 3rd Engineer
Javellana, Arnold C., Oiler
Mahesh Negi, Manager, Technical Superintendent
Miano, Ruben Quinatadcan, Pumpman
Rune Ødegaard Bjorbekk,
Chief Commercial Officer
Santos, Rudy R., 2nd Officer

September

Adriano Sudario Seron, Rov Service Technician
Johansen Ole-Anders, Master
Ocfemia Gerard, Bosun
Santillan Restituto, Bosun

October

Baticos Richard A., Engine Fitter
Diaz Neri, Bosun
Guatno Enrico, Motorman
Kandy Vinayaraj Kannothe, Electro Tech Officer
Mek Geir, Chief Engineer
Srimany Sambit, Master

November

Cada Rodel, Motorman
Delgado Marvin, Bosun
Villamor Antonio, Messman

25
Years

December

Joanne Chua, Manager, Claims and Collection

20
Years

July

Armando Tajo, Master
Dcouth Burk, Engine Fitter
Erick John Don, 2nd Engineer
Gilbert Laureles, Chief Cook
Jover Rapadas, Able Seaman
Masajo Christopher, Able Seaman
Praslov Roman, Master
Singh Sri Krishna, Electrical Officer
Steinnes Richard, Electro Tech Officer

August

Cajiles, Christopher M., Chief Cook
Diego, Edwin P, Oiler
Goli Ravi, Electro Tech Officer
Roberto Jr. Fabroa, 2nd Cook
Singh Sri Krishna, Electro Tech Officer
Yves Ranollo, Able Seaman

September

Adolfo Capadosa, Master
Errol Lagura, Able Seaman
Gladys Tan, Document Controller
Goli Ravi Kumar, Electrical Officer
Liwang Francisco, Able Seaman
Pryde Thomas William, Chief Engineer
Puerta, Jose R., 2nd Engineer
Rey Villaluz, Chief Officer
Roy Somen, Master

October

Anilkumar Aninha, Bosun
Briones, Denis T., Oiler
Cabug-Os Michael, Able Seaman
D Souza Prasad Lancy, Chief Engineer
Gireesan Kochukulam Appu,
Mechanical Technician
Knut Georg Kvifte, Technical Lead Network
Loable Cirilo, Electro Tech Officer
Mag-Usara, Bruce B., Pumpman
Malik Purna Chandra, Motorman
Pereira Jerry, Refeer Man

20
Years

November

Abdul Rasheed, Cook
Barreto Moises, Chief Officer
Joshy Joseph, Engine Fitter
Krishnan Maruvan, Electrician
Kurup Kesava, Electro Tech Officer
Lagua, Arnie D., Able Seaman
Malik Purna, Motorman
Pador, Edwin P., 3rd Officer
Torre, Wilfredo T., 3rd Engineer
Urban D'souza, Mechanical Supervisor

December

Almirol, Gary G., 3rd Engineer
Banagan Ronaldo, 2nd Officer
Chee Emmanuel, Chief Engineer
Domingo, Edgardo A., Pumpman
Dsouza Anil, Able Seaman
Michael Johnson, Production Superintendent

15
Years

July

Alay Emmanuel, Chief Engineer
Byle Somanna, Able Seaman
Choudhry Namit, Master
Enrique Gacutan, Chief Cook
Johnly Christy, Production Superintendent
Karthikeyan Balasubramanian,
Senior Operations Engineer
Katinskis Igors, Master Trainee
Magallona Alberto, 2nd Engineer
Manan Dhruv, Chief Officer
Natarajan Vimalnath,
Cargo Engineer/3rd Engineer
Pereira Fandry, Motorman
Priya Ranjan, Master
Prodyut Banerjee, Vice President, Operations
Ramasya Ajay, 2nd Officer
Ticar Rodel, Chief Officer

August

Catherine Ottem, Senior Purchaser
Hans Høegh-Omdal, VP Turret & Mooring Projects

September

Cherukkal Veettil Sumesh, Motorman
Kombila Jean Christian, PNA Oiler
Josephine Goh, Executive Assistant

15
Years

Kouerey Pierre Manex, GP Operator
Ruman Fernando Starluck, Bosun

October

Abrantes Jose Ramil Abundo,
Senior Maintenance Engineer
Bartolome Aaron, Able Seaman
Brahim El Maghevry, Field Operator Utility
Calasin Eduardo Que, Fitter
Charles D'cruz , Mechanical Technician
Cherukkal Veettil Sumesh, Motorman
Hernandez Julieto, Cargo Engineer/3rd Engineer
Koffi Trinite Kouame, GP Operator
Lim Eder, Chief Officer
Owen Amadi, GP Maintenance
Ruman Fernando Starluck, Bosun
Seron Adriano Sudario, Mechanical Technician
Sibal Jansen Gomez, Marine Superintendent
Tan Yen Ting, Manager, Business Controlling

November

Balan Santhosh, Able Seaman
Briones Jimmy Ismael, Pumpman
Caramay Ariel, Able Seaman
Chew Hui Yen,
Senior Manager, Business Controlling
Diplo Rose Georgina, Logistic Coordinator
Francis Chidozie Akubue, Marine Operator
Franco Francisco Dubria, Bosun/Crane Operator
Joseph Usman Ademu, Mechanical Technician
Sitchon Eduardo Jr. Aguilar, GP Marine

December

Bature Jonathan, Chief Officer Jr.
Dissamoussa Patrick, PNA Process Operator
Edewor James Eko, Maintenance Engineer
Enyenihi Emmanuel, Chief Officer
Okwoche Joseph, Chief Officer
Onyike Henry, 2nd Engineer
Ortaleza Rolando Branzuela,
Maintenance Supervisor
Seron Maximo Sudario,
Senior Mechanical Technician
Walter Albert, 2nd Engineer

July

Claus Wistrom, Senior Manager, Finance HM
Cuevas Glyde Anthony, 3rd Officer

10
Years

Deanna Miller Pitre, HC & Payroll Coordinator
Dileep Kizhakke Puravilmeethal,
Control Room Operator
Jerome Jeroham Charles Petersen,
Senior CCR Operator
Jose Luis Mota Mota, HSE Superintendent
Liu Zhengang, Chief Officer
Magoudou Mbouga Esdras Simon, PNA Cabin Boy
Martin Houlberg, General Manager, TC
Meena Ashok Kumar, 2nd Officer
Mfoumbi Gabin, PNA Assistant Process Operator
Ner Joseph, Electro Tech Officer
Peter Sebber Larsen,
Executive Vice President, Commercial
Randi Puggaard Pagels, Manager, Claims
Sagulin Karl, Chief Engineer
Shola Benson Ikuepenikan, GP Marine
Singh Prashant, 2nd Officer
Singh Prashant, 2nd Officer
Soren Steenberg Jensen, EVP, Asset Management
Tahadlangit Clifford, 3rd Engineer
Waklatsi-Zeyi Elesesi Komlan Nestor,
Airport Assistant
Wang Huan, Chief Officer

August

Baradji Salim, Marine Superintendent
Edson Batista De Carvalho, Operations Engineer
Ellen Monique Altena, Officer Manager
Gellamucho Bernie, Able Seaman
Meena Ashok Kumar, 2nd Officer
Mikael Skov, Chief Executive Officer
Naijo Varghese, Production Operator
Piotr Zdzislaw Jamroz, Marine Superintendent
Radhakrishnan Eratta Parackal,
Marine Superintendent

September

Anne Katrine Larsen, Manager, Finance HM
Diwakar Tiwari, Medic
Itacy Borges, Mechanical Technician
Marta Alexandre Quintanilha, Production Operator
Navik Neeraj, Motorman
Peteris Ribalcenko, Senior Mechanical Technician
Rajesh Sapre, Senior Manager,
Technical Superintendent
Rodrigo Coelho Ferreira, Control Room Operator

10
Years

10
Years

Susanne Hjorth Christensen,
Manager, Finance HM
Vladimir Vladimirovich Lymar,
Operations Superintendent

October

Antonio Omar Santiago Lopez,
Production Operator
Everton Silva Gonçalves, GP Maintenance
Hector Uriel Enriquez Rivera, GP Maintenance
Henry Uche, GP Marine
Jesper Mortensen-Mouyal,
Manager, Chartering (MR)
Navik Neeraj, Motorman
Noe Arturo Cruz Gomez, E&I Supervisor
Ross Patrick Johnson,
Senior Engineer Instrumentation

November

Ahmadu Paul, 2nd Officer
Antonio Bispo Guanabara,
Offshore Material Coordinator
Enjang Ruhiat, E&I Technician
Folarin Johnson, Chief Officer
Jose Alfredo Guzman Perez,
Maintenance Supervisor
Kingsley Charles India, GP Marine
Okon Emmanuel, 2nd Officer
Usman Bitrus, 2nd Officer
Yngvil Åsheim, Managing Director

December

Adefuwa Babadehinde, 3rd Officer
Adegeebo Oluwatobi, 2nd Officer
Costillas Albert, 2nd Cook
Darren Low, Senior HSEQ Advisor
Dmitrijs Zaicevs, Field Operator Utility
Dokyoung Bulus Moses, Motorman
Ebu Etteobong, 3rd Engineer
Farooq Ahmad Inayatullah, Fitter
Fatoyinbo Adegoke, 2nd Officer
Geir Joar Hoem, Maintenance Superintendent
Ibrahim Gaius, 2nd Officer
Igbozor Osondu, 3rd Engineer
Ijoma Bright, 2nd Officer
Iulian Moldoveanu, E&I Supervisor
Jagat Warsol, Mechanical Technician

10
Years

John Nelson, Fitter
Kalu Obasi Kalu, Fitter
Macadan Mircea, Master
Peter Fernando Antony Dasnavis, Able Seaman
Rodrigo Da Silva Carvalho, Logistics Coordinator
Rommel Mabalot Dela Cruz, Utility Operator
Sawyer Temisan, 3rd Engineer
Shanmugavel Thirumurugan, Motorman

Retired

Akpan Tim Akpan, Senior Mechanical Technician
Elise Storaune, Manager HC & Admin, USA
Erland Ostby, Procurement Controller
Sharma Hansraj, Cargo Engineer/3rd Engineer
Stig N. Solheim, Technical Superintendent



H E R I T A G E

Sir Keith and Lady Sabine Whitson, CEO of HSBC Group,
with Dr Helmut Sohmen and Mrs Anna Sohmen, and
Mr Andreas Sohmen-Pao and Mrs Doris Sohmen-Pao
at the naming of product tanker World Trumpet in 2000

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