

PASSION

PALFINGER MARINE MAGAZINE | N°2/17

BUSINESSMAN AND GREENHORN CRABBER

HANDS-ON WITH THE FISHING INDUSTRY

Offshore:

THE WAVE NEUTRALISER

Cruise:

BOARDING A WORLD RECORD



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Bjørn Sturle Hillestad

Dear friends,

Yes, what can we do for you?

A simple question that really makes the difference. For us in the PALFINGER MARINE family, 2017 has been a busy year up until now. Busy, because we have expanded our product offering with a wide range of lifesaving equipment, and busy because of our adaptation to the downturn in the market and our efforts to find new ways to meet our customers' requests with cost effective solutions. Almost all our customers are affected by the downturn in the oil industry in one way or the another, and in such times a service-focused mindset is important to overcome these challenges together. For us, it all starts with a simple: "Yes, what can we do for you?"

PALFINGER MARINE is a global company with a broad segment approach and we try to meet every customer with a deep understanding of their needs and requests. In this edition of our PASSION Magazine, we invite you to meet our Sales Director for Navy and Coast Guard, Tommy Hivand. A dedicated sales guy with a huge passion for the respective industry.

Another deeply passionate colleague is our Business Development Manager for the Pacific Northwest fishery market, Brian Jacob. In order to better understand our customers' needs and expectations, both technically and commercially, Brian signed himself up for duty onboard an Alaskan crab fishing vessel. Now, that is passion! We welcome you onboard together with Brian to share his thoughts and lessons learned.

If you know PALFINGER MARINE just a little bit, you also know we are extremely proud of our products. On pages 16–21 we are happy to introduce you to our AHC offshore crane, taking you through all the phases from design to delivery onboard the vessel *Vestland Cygnus*. We are also eager to give you an insight into our offshore wind business, and you will find the story on pages 12–15. Enjoy!

I also encourage you to check our exhibition list for 2017. We have signed up for many events and there is nothing we like more than to meet up with our clients all over the world. We rely upon you to give us your input, in order for us to improve our services and stay on top of your challenges.

We take pride in building a strong and lasting relationship with our clients and our service will always be personal.

Yes, what can we do for you?

Bjørn Sturle Hillestad
Vice President Sales & Marketing
PALFINGER MARINE





GREENHORN IN THE BERING SEA

Two years ago, when Brian, former R&D Manager for PALFINGER MARINE Offshore Cranes in Norway, was sitting in front of his computer designing new cranes, he had no idea that one day he would embark onboard a crab fishing boat to experience one of the most enriching episodes of his life. Yet in February 2016, Brian packed his stuff and moved to Seattle on the US Northwest Coast. There he won the position of Business Development Manager and became responsible for PALFINGER MARINE's new expansion into the Pacific Northwest fisheries market.

AS A NEWCOMER IN FISHERIES, BUSINESS DEVELOPMENT MANAGER BRIAN JACOB WANTED A BETTER GRIP ON THE INDUSTRY. SO HE CHALLENGED THE BERING SEA AS A GREENHORN CRAB FISHERMAN AND GOT A REAL TASTE OF WHAT CREW AND EQUIPMENT HAVE TO ENDURE.

When thinking of a Business Development Manager, you might picture a strictly serious office guy dressed up in a dark suit, who analyses the market based on figures and elaborates theoretical concepts. That's not Brian Jacob. He's more of a humorous jeans and sneakers kind of guy, with a deep passion for his work and no fear of getting his hands dirty. So, after preparing his move to Seattle from a distance, researching the market comprehensively, elaborating a business plan and hooking up with major industry players via online professional network platforms, his first agenda on US soil was to get out of the office and meet his new customers.

I NEEDED THIS TRIP TO FULLY UNDERSTAND HOW FISHERMEN WORK AND HOW AND IN WHICH CONDITIONS THE CRANES ARE USED.

Brian Jacob,
Business Development Manager

HUNGRY FOR INSIGHT

“As quite a “newbie” in the fishery business, I wanted to get a proper understanding of the market as quickly as possible”, Brian relates.

He started off by participating in different shows and conferences. Then he visited the main Alaskan fishing ports like Dutch Harbor, Kodiak and Homer, discussing deck equipment with the experts themselves – the fishermen. In Seattle, Brian even went onboard a factory trawler visiting the onboard fish processing plant. But all these efforts were not enough for the 28-year-old Frenchman. “I wanted a real taste of what fishermen actually experience at sea and get a feeling of how intensively the cranes are used”, he says.

The opening came with Eric Pedersen, a long-time fisherman and partial owner of the *Bering Star*, who invited Brian to a 50+ hours Alaskan king crab fishing trip in the Bering Sea. Eric was looking for an experienced company to develop an automatic crab pot handling, stacking and securing system to increase safety and efficiency onboard. In the harsh conditions of the Bering Sea, those deck crew members who take care of stacking and securing the crab pots have a particularly dangerous job. Having a crane performing this risky task automatically would increase safety and also reduce labour costs onboard a crab fishing boat. Brian, who developed, designed and brought to market multiple tailor-made solutions for the marine and offshore industry, seemed to be the perfect match for Eric. And as no big surprise: Brian accepted the invitation right away.

THE BERING SEA WAS LENIENT, HOWEVER...

“I flew to Dutch Harbor in the Aleutian Islands (Alaska) together with Eric and simply landing there took my breath away. The sceneries did not resemble anything I have ever seen before. We met the *Bering Star* crew as they came back from her first Alaskan king crab trip and my first task was to help them offload the catch. This took almost 18 hours”, Brian explains.

Soon after, greenhorn Brian and the crew of seven departed from Dutch Harbor, heading out to retrieve the 90+ pots left at sea. It took them 20 hours to reach the fishing grounds, about 12 hours to finish the job and another 20 hours to return to Dutch Harbor.

“The sea conditions, with wave heights from two to five metres, were actually quite good. At least, that’s what the crew told me. Although to me it felt very bad. When we finally arrived at the fishing grounds I only had about 25 minutes of fame on deck until I started to feel really sick. Your body is simply not used to this: you are wearing heavy warm clothes, there are five guys running around deck and you constantly feel like you are in their way, the crane is handling these massive 350 kilo crab pots straight over your head, and as if that was not enough the boat is constantly swinging back and forth, side to side. It’s the perfect recipe to make you sick like never before”, Brian laughs.

A VALUABLE LESSON

The rookie fisherman found refuge in his bunk, which suddenly felt like the safest place on earth. But not for long.

“As sick as I was, I still wanted to have a full overview of every single part of the operation, so the captain called me on deck each time the crew performed a new task: from unstacking, baiting, launching, retrieving, sorting and stacking the crab pots”, Brian reveals.

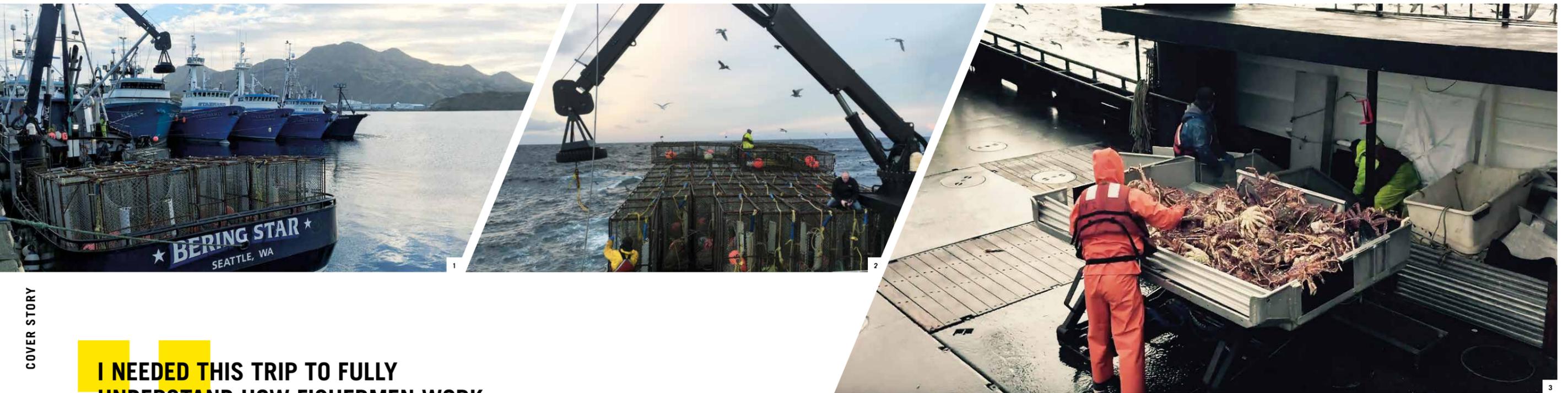
After safely returning to Dutch Harbor, the Business Development Manager truly understood the risk fishermen take to bring the finest seafood to our plates. The working conditions are extremely tough and there are plenty of things to be done in order to improve the safety of the crew and the efficiency of the operation.

“I needed this trip to fully understand how fishermen work and how and in which conditions the cranes are used. Such real-life experiences allow me to design the best products of tomorrow.”

His new experiences at sea led Brian to work on the development of an automatic crab pot handling and stacking system highly focused on safety, reliability and efficiency.

4. The red king crab, also called Alaskan king crab, can grow to a leg span of 1.8 metres. It is one of the most preferred crabs for consumption. Hence it is also one of the most coveted and expensive of the commercially sold king crab species.

5. Brian and the *Bering Star* crew.



1. The *Bering Star* at Dutch Harbor.

2. Stacked crab pots aboard the *Bering Star*.

3. The content of each pot is sorted on a table, ensuring that any crab not meeting the requirements is thrown back into the sea.



4



5

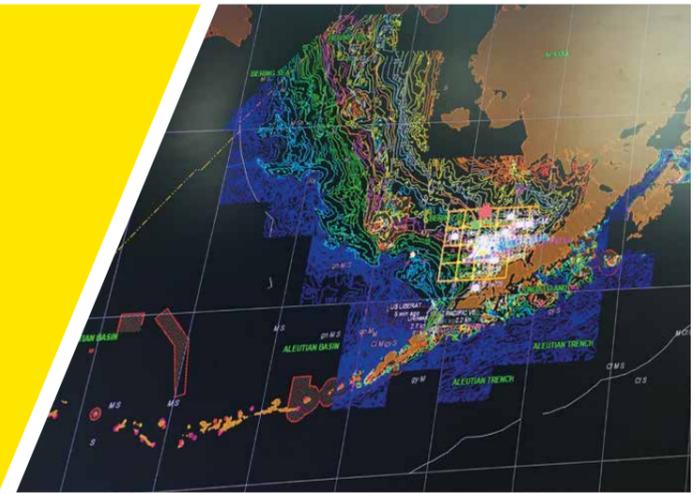


America's Finest, the newest, most advanced US factory freezer trawler, is equipped with cranes and lifesaving equipment from PALFINGER MARINE.



THE PACIFIC NORTHWEST

- > California
- > Oregon
- > Washington
- > West Canada
- > Gulf of Alaska
- > Bering Sea



The Pacific Northwest fishing grounds.

PACIFIC NORTHWEST FISHING FOR MARKET SHARE

According to the market analysis by Business Development Manager Brian Jacob, the Pacific Northwest fishing fleet counts about 400 large scale vessels (60–140 metres) and approximately 4,500 smaller vessels (up to 60 metres).

THE PACIFIC NORTHWEST FISHERIES REPRESENT AN ENORMOUS POTENTIAL MARKET FOR PALFINGER MARINE.

boats with corresponding davit, not only proves that PALFINGER MARINE has been recognised for its high-quality, reliable and safe products. It also opens a lot of gates for the future of PALFINGER MARINE in the Pacific Northwest fishing

“The larger vessels, with an estimated number of 800 to 1,000 cranes, are particularly attractive for PALFINGER MARINE, considering that most of these boats were built in the 1970’s and might require equipment upgrades or simply be replaced”, says Brian.

fleet”, says Brian, determined to ensure that PALFINGER MARINE serves the fishing industry with the best technical support, the fastest response time and the best products.

CHOSEN FOR AMERICA’S FINEST

After a year in charge of the company’s expansion in the Pacific Northwest fisheries, Brian has reeled in significant crane contracts. The deliveries are destined for both fishing vessels and an Alaskan fishing dock.

HIGH QUALITY, LOW COMPLEXITY

PALFINGER MARINE’s core products for the Pacific Northwest fishing market are knuckle boom and stiff boom cranes, with their high quality and reduced complexity as main selling arguments. These qualities fit the need of the fishing industry very well, as the fishing cranes must endure a heavier use than normal – also being utilised for pushing and pulling various loads.

“The one I am most proud of is the contract for delivery of three marine cranes to *America’s Finest*. This was my first big US catch back in June 2016. *America’s Finest* is the newest, most advanced factory freezer trawler currently under construction in the United States. Having these three cranes aboard, as well as one of our rescue

“IT’S ALL ABOUT REPUTATION”

“I often experience that customers know we deliver excellent quality, but assume that our products are very expensive. This is not the case. Compared to our competitors

THE MORE PROBLEMS YOU MANAGE TO UNBURDEN FROM YOUR CLIENTS, THE MORE LIKELY THEY ARE TO USE YOUR SERVICES AGAIN.

Brian Jacob, Business Development Manager

in the Pacific Northwest, we produce significantly larger numbers of cranes every year. This allows us to offer high quality technical products at highly competitive prices”, Brian affirms.

NEW FAMILY MEMBERS

Welcoming Harding Safety AS and its range of lifesaving equipment into the PALFINGER MARINE family last June meant that Brian was no longer on his own as the company’s North American representative.

Providing excellent customer service is top priority – and it pays off. “The more problems you manage to unburden from your clients, the more likely they are to use your services again and promote you to other players. Anybody in the Pacific Northwest fishing business will tell you: it is not about who you think you are, it is all about your reputation. Fishermen are directly influenced by their network’s experience. Even though the Pacific Northwest fisheries includes thousands of different participants, everybody is connected somehow – united by their passion for fishing. This brotherhood is extremely important for them”, Brian explains.

“I profit from the power, expertise and regional presence of the 60+ persons from the former Harding team, including 20 service engineers distributed over seven different locations in the United States and Canada. My new colleagues are knowledgeable, fun and very helpful, so I could not be more blessed. I am looking with confidence into the future. There is more to come”, Brian states with a big smile on his face.



THE MOST IMPORTANT CATCHES IN THIS REGION

Pollock and salmon are the two main species fished in the Pacific Northwest, mainly in Alaska (Bering Sea and Bristol Bay), followed by flatfish, mackerel, Pacific cod, groundfish (halibut, sablefish) and crab. Altogether this represents nearly 3 billion pounds of seafood per year (1.5 million tons) worth \$ 4.3 billion in wholesale value, sold all over the world, principally in the US and in Japan.



Brian Jacob, taking in the amazing view of Unalaska and Dutch Harbor in the Aleutian islands.

TAKING AIM



Tommy Hivand,
Global Sales Director,
Navy and Coast Guard

PALFINGER MARINE STRIVES FOR THE POSITION AS TECHNOLOGY LEADER AND AIMS TO BE THE FIRST CHOICE SUPPLIER IN THE NAVY AND COAST GUARD SEGMENT.

Over the past years, the global naval shipbuilding industry has been greatly impacted by declining defence spending in the United States and Europe. "Military expenditure is expected to increase significantly due to the rapid change of political directions, geopolitical tensions and threats of terror", states Tommy Hivand, Global Sales Director, Navy and Coast Guard. Prior to spearheading PALFINGER MARINE's efforts within the Navy and Coast Guard segment, the Norwegian gained valuable experience working for his country's military forces, NATO, HYDRO, NOREQ and HARDING – in which his latest deployment was in Dubai as Regional Director for Africa, Middle East and India.

"Offshore Patrol Vessels (OPVs) are becoming the primary work horses for navies in patrolling their coastlines. These fast and versatile vessels represent a significant market potential for us, and typically match 100 per cent with PALFINGER MARINE's equipment range. Navy and Coast Guard customers can enjoy most of the products within PALFINGER MARINE's product portfolio including cranes, winches and lifesaving equipment as well as smaller military boats and launch and recovery systems. We have every opportunity to succeed as their supplier.

TECHNOLOGY LEADER

He explains that navies and coast guards are perhaps more focused on which supplier they choose than other clients, as they need to be able to deploy raiding, have frequent rescue missions and use smaller crafts in all types of weather conditions – when everyone else has run for shelter. This means an increased focus on highly dependable boats and deck equipment, and this customer segment often works with a preferred choice of brands as well as with naval architects who offer innovations.

"PALFINGER MARINE strives for the position as technology leader of equipment package solutions and to be the preferred choice amongst naval architects, working together with them in providing innovations that enhance vessel designs and operations. Military vessels pose a special challenge for all marine equipment. It must be light, compact, resilient and have a high degree of redundancy, so it will keep working even when parts of the system are immobilised."

The keys are equipment packages, smart and superior product designs, serving our clients with quick response times, ambitious local sales offices and local and global support providing the leanest and best services", Tommy points out.

THE PALFINGER MARINE FLEET

PALFINGER MARINE's boat division serves the military and professional industries: Navy, Coast Guard, Army, Police, Special Forces and Fire Fighting. The company has designed and developed different kinds of boats to support the needs of the respective segments.



PB 1500 A NAVY

FOR DRY AND SAFE MISSIONS



For PALFINGER MARINE's boat division, the Navy and Coast Guard segment is one of the fastest growing markets. The fleet is constantly evolving – and the latest addition is the PB 1500 A Navy.

This 15 metres long aluminium craft, intended for SAR and patrol missions, is designed for maximum performance. Among its key features is a self-righting capability unique for such a large vessel, a special bow shape providing a dry ride, and a deep V-shaped hull for a softer and smoother ride in all sea conditions.

PB 1500 A NAVY

Dimensions	15.05 m x 4.8 m
Material	Aluminium
Capacity	17 persons
Power	400 hp – twin inboard diesel with waterjets (550 hp optional)
Speed range	20–40 knots
Design	PALFINGER MARINE
Production country	The Netherlands
Usage	SAR (search and rescue) / patrol / support missions

"WE ARE HAPPY TO ANNOUNCE THE DELIVERY OF TWO PB 1500 A NAVY BOATS TO OUR CUSTOMER IN THE MIDDLE EAST. BASED ON THE REACTIONS AFTER THE FACTORY TEST, THEY ARE PROUD TO WELCOME THE BOATS IN THEIR FLEET."

Matthijs van der Ham,
Director Special Boats.

KEEP THEM TURNING

"It all started in 2001", Rupert Reischl says, smiling as he reminisces about PALFINGER MARINE's entry into the offshore wind industry. As one of the founding fathers of the company's wind crane business, the current Global Sales Manager was there for the initial steps – almost ten years after PALFINGER MARINE entered the marine business. When developing the first wind crane prototypes, Rupert and his colleagues profited from their extensive know-how in the maritime field. Marine and nacelle cranes – which are placed on top of a windmill in the turbine housing – are quite similar in their design. Their main difference lies in the frequency of use.

A STRONG OFFSHORE WIND IS SWEEPING OVER EUROPE. PALFINGER MARINE IS FULLY RIGGED FOR THE EXCITING RIDE.

turbine manufacturers Senvion, former REpower Systems, and Adwen, former Areva. The prototypes were designed for the alpha ventus project, Germany's first offshore wind farm. In addition to the 12 nacelle cranes, we also designed and delivered 12 platform cranes for alpha ventus. In its role as pilot wind farm, alpha ventus operates two types of wind turbines with two different foundation designs – all equipped with PALFINGER MARINE cranes. Being part of such a prominent project was big honour for us", Rupert proudly states.

"We approached several wind turbine manufacturers and promoted our cranes. In 2003 we were asked to build the first nacelle crane prototypes for the

"BEING SELECTED AS SUPPLIER FOR ALPHA VENTUS, GERMANY'S FIRST OFFSHORE WIND FARM, WAS A GREAT HONOUR FOR US."

Rupert Reischl,
Global Sales Manager

Alpha ventus, Germany's first offshore wind farm, is equipped with platform and nacelle cranes from PALFINGER MARINE.



PALFINGER MARINE has evolved into a complete supplier of deck equipment and services for windmills and service operation vessels.



Work can be undertaken quickly and easily using PALFINGER MARINE's nacelle cranes.

A HUGE TASK

Compared to PALFINGER MARINE's other market segments, the sheer scale of the offshore wind projects means a far more complex and comprehensive sales process – involving almost every department.

“The construction of wind farms may cost 1.5–2.5 billion euros, and can include some 50+ cranes. Preparing tenders for projects of this magnitude is a huge task. In addition to a technical and commercial offer, we must submit a service concept, technical drawings, HSEQ reports, as well as a range of legal documents. Usually these tender processes consist of several rounds, and the average duration from tender until order is about 1–1.5 years. It is definitely no understatement to say that for everyone involved it is highly rewarding when we succeed after such a lengthy and comprehensive job effort”, Rupert smiles.



Rupert Reischl (left), Global Sales Manager with Gerhard Köppl, Sales Engineer.

WORTH IT IN THE LONG RUN

While marine cranes are normally in use on a regular basis, nacelle cranes in wind turbines are only used once a year for the annual maintenance work, or in case a spare part needs to be replaced. But why purchase a nacelle crane if you are only going to use it once a year?

“Compared with a rope winch or chain tackle, cranes are way more flexible in terms of their operating area and manoeuvrability. Furthermore, our cranes provide man-riding capabilities for inspections outside the wind turbine”, Sales Engineer Gerhard Köppl explains.

“Considering that the entire lifecycle of a wind farm is at least 25 years, nacelle cranes are worthwhile investments as they save time and cost and minimise HSE risks. Let's say a spare part is needed up in the nacelle. The lifting process is fast and easy with a crane. Otherwise a highly expensive jack-up vessel is required and operators cannot react as quickly. These vessels are also in high demand and therefore limited in their availability. In addition, you must consider that turning off a wind turbine for one day represents a substantial economic loss. Time is money and every day counts”, Gerhard elaborates.

EXCELLENT TRACK RECORD

Offshore wind started off as an industry in 1991, when the world's first offshore wind farm was commissioned off the coast of Vindeby, Denmark. Europe now has a total installed capacity of 12.63 GW across a total of 3,589 wind turbines, located in 81 offshore wind farms around ten European countries. Serving about 9 million households with renewable energy, many of the farms are equipped by PALFINGER MARINE.

“We have an excellent track record, with a total of 2,200 platform, nacelle and substation cranes delivered to the industry. And we are staying on track: recently we won the tenders for Borkum Riffgrund II, Rentel, Merkur, Race Bank, Rampion and Gode Wind I & II, to name just a few projects”, Rupert tells us.

Driven by the European Union's push away from fossil fuels toward renewables, along with falling costs, offshore wind is undergoing a boom. By 2020, offshore wind is projected to grow to a total installed capacity of 24.6 GW in Europe alone. When also taking into account the global expansion of the offshore wind business, it is no big surprise that this market segment is highly attractive for PALFINGER MARINE.

SALES FIGURES (2003–2016)

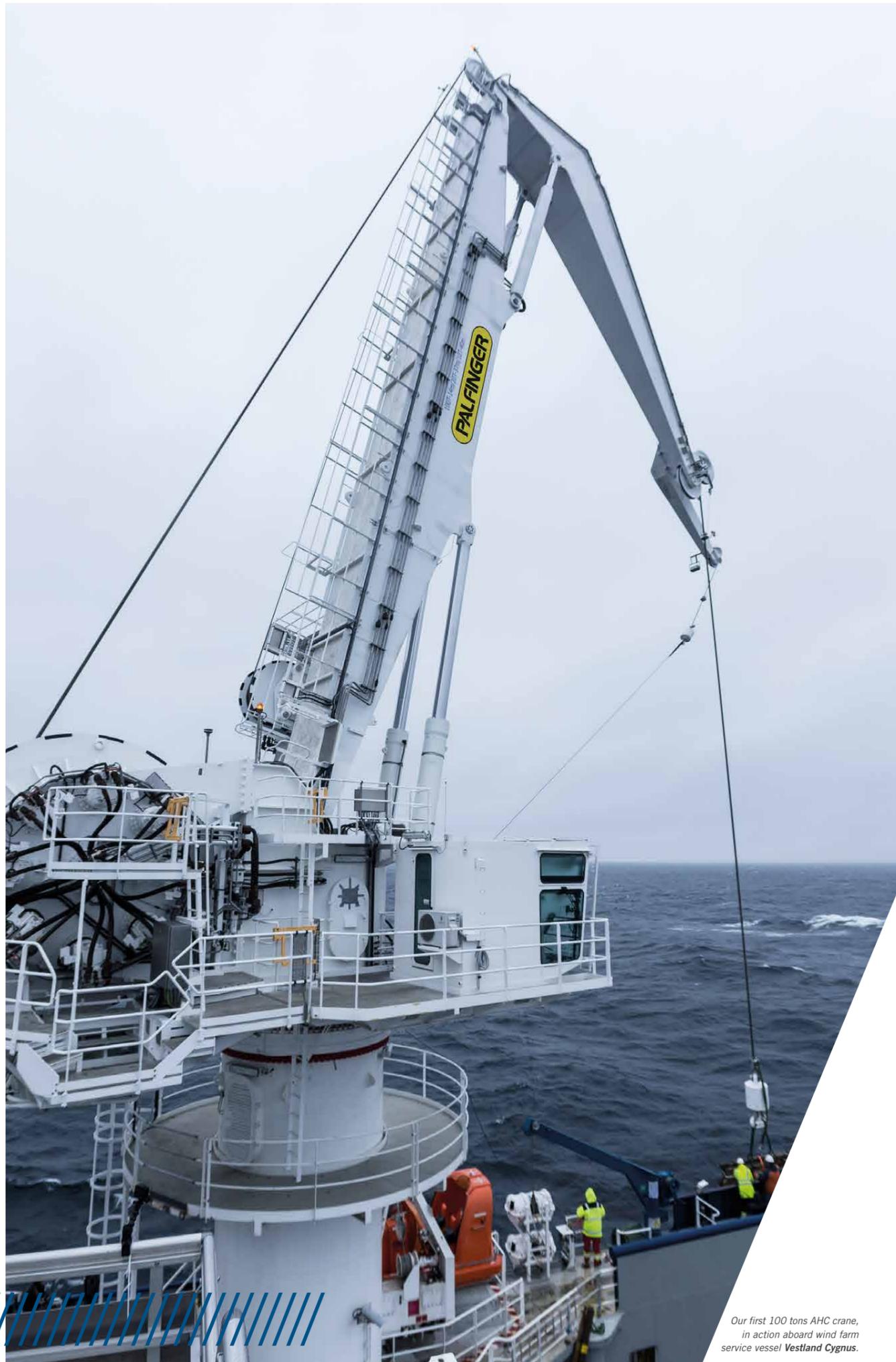
Platform cranes	1,274
Nacelle cranes	904
Substation cranes	26
Total	2,204

FROM CRANE TO COMPLETE SUPPLIER

“Becoming a complete supplier also for the wind industry allows us to serve our customers in an even better way. Having a single supplier of deck equipment and services for windmills and service operation vessels, means reduced sourcing complexity (one-stop-shop) for our customers and saves recourses and costs along the entire supply chain”, says Bernhard Peintner, Vice President Product Division Cranes. Asked about the future, his view is “that the need to decrease the levelized cost of energy will lead to an increased focus on the lifetime cost of the assets in operation. In this respect, we are well positioned with our product portfolio and the substantially enlarged service footprint.”

Through acquisitions in the past years, PALFINGER MARINE's product range for the wind segment has been extended by heavy lift offshore cranes, lifesaving equipment, winches and handling equipment like for example container and pallet handling systems and onboard slipways. A strong after sales service and training focus rounds off the portfolio.

As offshore wind power evolves, so does the equipment from PALFINGER MARINE. The company is constantly striving for product innovations. Last year alone we launched both PALFINGER Blade Access (PBA), an innovative solution for safe inspection and effective repair of wind turbine blades developed in cooperation with PP Techniq, as well as our 3D compensated cranes. The 3D compensation unit increases the operability of wind farm service operation vessels (SOVs), hence enabling smaller and more cost-effective vessels to be used in harsher weather conditions.



Our first 100 tons AHC crane, in action aboard wind farm service vessel *Vestland Cygnus*.

NEUTRALISING THE NORTH SEA WAVES

After a long and tremendous effort by a team of expert engineers, PALFINGER MARINE in late 2015 proudly introduced a newly developed and highly sophisticated active heave compensated (AHC) crane, which is adapted to the current needs in the market for offshore construction and subsea handling.

KEEPS THE LOAD MOTIONLESS

When operating in waves, the crane tip motion resulting from a vessel's movements will cause great impact when landing a load on the seabed or fixed installations. This impact poses a great risk of damaging the load, the landing area or the crane structure itself. With active heave compensation technology, the influence of the waves during offshore operations can be reduced to a minimum. AHC enables the crane to keep a load motionless during landing on any fixed surface, both below and above sea level. This ability increases the time available for the operator to undertake the planned operation safely and accurately, significantly reducing the risk of damage.

THE DELIVERY OF PALFINGER MARINE'S VERY FIRST ACTIVE HEAVE COMPENSATED OFFSHORE CRANE TOPPED OFF A COMPLETE DECK EQUIPMENT DELIVERY TO OFFSHORE WORKHORSE *VESTLAND CYGNUS*.

FROM SUPPLY SHIP TO WIND FARM SERVICE VESSEL

Together with a heave compensated gangway for personnel transfer between the vessel and wind turbines, as well as an accommodation module, PALFINGER MARINE's new AHC crane played a key role in *Vestland Cygnus*' transformation into a "walk-to-work" vessel contracted by Statoil for work on the Dudgeon wind farm on the UK continental shelf – where the ship is currently operating.

"The main reason we chose the crane from PALFINGER MARINE is the low weight in combination with the low centre of gravity, which makes it possible to install a larger crane than originally planned. Secondly, the innovative technical

Since its introduction, PALFINGER MARINE's new AHC crane design has received a very positive response in the market due to the advantageous features and competitive pricing. By the end of 2016, the first 100 tons crane with 40 metres reach was installed onboard the Norwegian platform supply vessel *Vestland Cygnus*.

1. Harbour testing and preparations in Gdynia, Poland.

2.-3. *Vestland Cygnus* is now equipped with a complete deck equipment package from PALFINGER MARINE, including offshore and marine cranes, anchor and mooring winches, as well as lifeboats.



solutions combined with a competitive price and the fact that the company is located in Bergen was crucial in the decision with whom to sign the contract”, says Hans Martin Gravdal, ship-owner and owner of Norside.

A COMPLETE PACKAGE DELIVERED

“We have a long-standing reputation for delivering robust and reliable offshore equipment in close cooperation with the customer. We have put a lot of effort in making the design as optimised as possible when it comes to weight and operational features. This played a key part in winning this order”, says Jan Silgjerd, Sales Director of the Product Division Cranes in PALFINGER MARINE.

With the addition of the 100 tons AHC crane onboard *Vestland Cygnus*, the vessel is now equipped with a complete deck equipment package from PALFINGER MARINE. The package further includes smaller marine cranes, a complete winch package with anchor and mooring winches, as well as lifeboats.

“This major delivery once again proves PALFINGER MARINE as the complete deck equipment supplier for the maritime industries. Having all equipment from one supplier and getting access to the industry’s largest global service network means added value for our clients, as it saves them time, resources and service visits”, Jan states.

ACTIVE HEAVE COMPENSATION (AHC)

- > AHC technology is used on lifting equipment to reduce the influence of waves upon offshore operations.
- > Its purpose is to keep a load, held by equipment on a moving vessel, motionless with regard to the seabed or fixed installations.
- > AHC differs from passive heave compensation by using a control system that actively tries to compensate for any movement at a specific point.
- > The control system uses real-time data from a Motion Reference Unit (MRU), position sensors and load sensing devices to calculate and compensate any displacement in a matter of milliseconds – ensuring a steady load regardless of the swell conditions.



THE AHC CRANE

A CHALLENGING DESIGN TASK

“The development was carried out with a maximum focus on safety for cargo, equipment, personnel and environment. All the latest technology and smart system design is used to optimise the crane’s performance. The reduction in crane tip movement with up to 98 per cent, place PALFINGER MARINE’s AHC cranes in the absolute top level with regards to compensating performance”, says Design Engineer Morten Søvik. He was PALFINGER MARINE’s designer responsible for the AHC crane, leading the expert team of engineers through the development process.

“HOW MUCH CAN WE PLACE INSIDE?”

One of the design challenges was to ensure that the crane got a low weight and low centre of gravity, as this gives the crane high lifting capacity compared to its weight – making it possible to increase the loading capacity on the vessel deck.

“To achieve the low centre of gravity for the crane we needed to place as many of the components as possible inside the crane column/slewing house and at the same time allow for access to all points of maintenance, inspection and service. This turned out to be a major challenge, but we managed to solve it in the end”, says Morten.

PROVIDING FOR THE OPERATOR

Another key focus during the entire design phase was to make the operator environment as optimal as possible with regards to ergonomics and easy to use systems. The result was a comfortable state-of-the-art operator cabin with superior control system and operator screen showing interactive load charts, mode selections, a comprehensive monitoring system and automatic detection of component maintenance needs – allowing the operator to focus entirely on executing the crane operations safely and precisely.

TO ACHIEVE THE LOW CENTRE OF GRAVITY FOR THE CRANE WE NEEDED TO PLACE AS MANY OF THE COMPONENTS AS POSSIBLE INSIDE THE CRANE COLUMN/SLEWING HOUSE.

Morten Søvik,
Design Engineer

TRICKY TRANSPORT

UNDER THE BRIDGE

The 100 tons AHC crane for *Vestland Cygnus* was assembled at PALFINGER MARINE’s modern production site in Gdynia, Poland. After a year in the making, it was ready to be transported to the harbour for installation onboard the offshore vessel. But getting a 38 metres long, 10 metres high, 8.5 metres wide and 250 tons heavy crane the roughly one kilometre distance to the sea, is definitely not just a walk in the park.

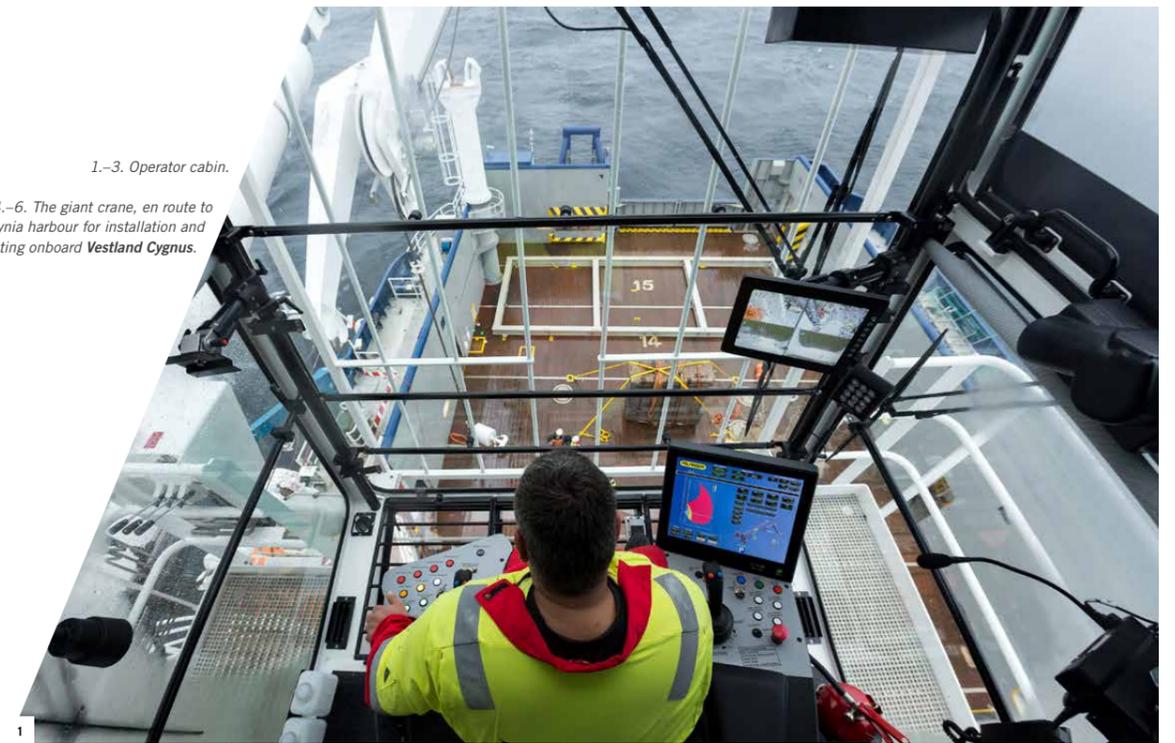
“We planned for the upcoming transport during the entire design of the crane, due to limitations in height. Not only did the multi-wheel transporter carrying the crane need to pass under a motorway bridge, we also had to dismantle the overhead traffic signs along the way in order to pass by. The transport company did a fantastic job. The crane

was transported to the harbour without any problems and the whole operation took less than four hours. This proves that we can transport huge cranes in one piece from our factory to the harbour area, which is a great advantage as it allows us to assemble, test and transport directly without dismantling anything – saving time and reducing the risk of errors”, says Trond-Eirik Hasselø, Project Manager, Cranes.

After the voyage on land, the crane was lifted onboard the *Vestland Cygnus* by the crane vessel *Maya*. The crane was then successfully installed and tested in port, before it left for the full offshore test in the Baltic Sea, off the Polish coast.

1.–3. Operator cabin.

4.–6. The giant crane, en route to Gdynia harbour for installation and testing onboard *Vestland Cygnus*.



WORLD RECORD LIFEBOAT BOARDING



In 2015, PALFINGER MARINE won the impressive contract for delivery of 24 tenders, 12 lifeboats, 36 davits and six rescue boat stations to a series of cruise ships being built by STX France. The complete lifesaving package is now in production, and April 20 marked a huge milestone for the project: the crucial full-scale boarding test of the new MPC 49 – the world's largest and PALFINGER MARINE's flagship lifeboat.

THE FIRST FULL-SCALE BOARDING TEST OF THE WORLD'S LARGEST LIFEBOAT, PALFINGER MARINE'S NEW FLAGSHIP FOR THE CRUISE INDUSTRY, LANDED THE COMPANY A NEW WORLD RECORD.

The test commenced on Factory Manager Arvid Skogseide's instructions. From an ad-hoc muster station, placed exactly the same distance from the lifeboat as on a real cruise ship, the "passengers" moved to the MPC 49 in an orderly manner, entered through the four entrances on two deck levels, and took their seats. The MPC 49 is the world's first lifeboat with seating on two decks.

SEATS MORE THAN A JUMBO JET

Measuring an impressive 15.5 metres in length and 5.5 metres in width, the highly innovative lifeboat has a massive capacity for 440 people. It offers more seats than a jumbo jet. However, size does not matter in an emergency if the cruise passengers cannot get aboard in time, and classification society DNV GL has set the time limit to 10 minutes.

Tension was noticeable as 200 employees and 240 local volunteers, aged 15 to 80, gathered inside PALFINGER MARINE's fabrication hall at Seimsfoss, Norway. Failing the test would be a huge setback for the project.

SUCCESS AT FIRST ATTEMPT

"Overall, the boarding test proved a huge success for the project. We set a record time of five minutes and 21 seconds, well within the time limit", Global Products Director Arild Lokøy reports.

"Before testing we were quite convinced that we would make it on time, but I must admit it is a huge relief to have actually demonstrated it to DNV GL and STX! Now we look forward to delivering these high-end lifeboats to the customer, and hope they are satisfied with our new flagship", Lokøy adds.



"OVERALL, THE BOARDING TEST PROVED A HUGE SUCCESS FOR THE PROJECT. WE SET A RECORD TIME OF FIVE MINUTES AND 21 SECONDS."

Arild Lokøy,
Global Products Director

1.-2. The last preparations at the fabrication hall, Seimsfoss, Norway.

3. Test passengers have taken their seats inside the MPC 49.

4. Styrk Bekkenes, President of PALFINGER MARINE, cheers for the record time of 5:21.

5. We say "Thank you!" to all the 440 employees and local volunteers, who contributed to the new world record!

MEET US

UPCOMING EXHIBITIONS 2017

SEAWORK

13.06.-15.06. | SOUTHAMPTON, UK

WARSHIPS & OPV

27.06.-29.06. | VIÑA DEL MAR, CHILE

OFFSHORE EUROPE

05.09.-08.09. | ABERDEEN, UK

DSEI

12.09.-15.09. | LONDON, UK

NEVA

19.09.-22.09. | ST. PETERSBURG, RUSSIA

OFFSHORE PATROL VESSELS (OPV)

26.09.-28.09. | ROTTERDAM, THE NETHERLANDS

INMEX

03.10.-05.10. | MUMBAI, INDIA

KORMARINE

24.10.-27.10. | BUSAN, KOREA

ADIPEC

13.11.-16.11. | ABU DHABI, UAE

PACIFIC MARINE EXPO

16.11.-18.11. | SEATTLE, USA

INTERNATIONAL WORKBOAT SHOW

29.11.-01.12. | NEW ORLEANS, USA

MARINTEC

05.12.-08.12. | SHANGHAI, CHINA

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