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Economic and geopolitical conditions in Europe and around the world have put the Polish maritime economy in an unprecedented situation. The sea has become the foundation for the supply of raw materials, transport routes, energy resources and security. Polish policy, based on The implementation of strategic investments in maritime infrastructure and superstructure in recent years, on which Polish policy has become based, is a guarantor of the country's economic independence.

The LNG terminal in Świnoujście and the construction of the Baltic Pipe gas pipeline have made Poland independent of gas from Russia. At the same time, the construction of an FSRU terminal in the Bay of Gdańsk will further increase the diversification and security of supplies.

The capacity of marine oil and fuel terminals also covers 100 percent of domestic demand. The expansion of PERN's storage potential and the construction of a sixth reloading station at Naftoport in Gdańsk will allow the reloading of over 45 million tons of liquid fuels annually.

Recent years have also seen the implementation of many strategic investments in the maritime sector that will serve future generations. The deepening of approach fairways, channels and basins, and reconstruction of quays in the ports of Gdańsk, Gdynia, Szczecin and Świnoujście, the expansion of the largest container terminal in the Baltic Sea, Baltic Hub, at the Port of Gdańsk, the construction of a cutting through the Vistula Spit, the construction of a tunnel in Świnoujście, as well as access infrastructure, both by road and rail, to ports from the land side – all these investments will provide the potential for the development of the Polish maritime economy for the next decades.

An example of key completed investments is the modernization of the Świnoujście-Szczecin waterway with a depth of 12.5 m, a project worth almost PLN 2 billion. The main benefits of this particular investment, which is crucial for Western Pomerania, include the ability to handle larger vessels, providing access for vessels with their deadweight capacity actually doubled to approximately 40,000 DWT, and, of course, lower transport costs and shorter ship handling time.

It should be emphasized that the construction and expansion of access infrastructure to the port in Świnoujście

will soon begin. The government adopted the appropriate resolution on May 19 this year and the contractor will be the Maritime Office in Szczecin. It is planned for 2023 – 2029.

In turn, the cost of the investment is significantly over PLN 10 billion (PLN 10,262.463 million). The investment will enable full functionality of the deepwater terminals in the Outer Port of Świnoujście, thanks to which the port in Świnoujście will become a hub port along the Baltic-Adriatic-Mediterranean Sea transport routes. Moreover, the investment will increase accessibility to the ports in Szczecin and Police.

One of the key elements of the Polish energy transformation is offshore wind. The ongoing first phase of the construction of offshore wind farms will provide Poland with 5.9 GW of energy in 2026. The next phases are to increase this capacity to over 20 GW in 2030. The emerging new offshore sector is a huge opportunity for local suppliers and contractors, including Polish shipyards that have unique experience in building vessels for the installation and operation of offshore wind turbines.

It is also worth noting the already initiated program for the construction of three ferries, with an option for a fourth, for Polish shipowners. It is important that modern and ecological units are built in a Polish shipyard.

The events of 2022 have been a great challenge, but also a great opportunity for the Polish maritime economy – an opportunity for further development through continued record increases in transshipment in Polish ports, through the expansion of the Polish ship fleet, and through energy transformation based on offshore wind energy and what is broadly understood as the Polish maritime industry. I therefore cordially invite you to discover the current potential of the Polish maritime industry with the catalog that you now hold in your hands.

Marek Gróbarczyk
Deputy Minister of Infrastructure



Polish ports on the Baltic Sea are a window to Europe, Asia and the Atlantic. At the moment, they are experiencing a boom in sea transport. In terms of development dynamics, the growth rate of this industry is many times higher than that of the entire economy, which is a clear trend also in other European countries. We expect this favorable trend to continue in the coming years, as the global revival of trade in goods does not seem to be coming to an end soon. In 2012, Polish ports handled a total of 63.9 million tons, and 10 years later doubled this result!

The Port of Gdańsk is the undisputed leader in this arena and the gateway for Polish businesses looking towards the world, but also for companies interested in expanding into Europe and within the framework of the Three Seas Initiative. After the first quarter of 2023 we were in the top 10 European ports, ahead of Marseille, Barcelona, Constanta and Valencia. The port of Amsterdam is already within reach. In addition, we still maintain the position of the container leader on the Baltic Sea and 2nd in overall transshipments. We are second only to the Russian port of Ust Luga.

Therefore, we are the largest Polish transshipment hub in the country. We transshipped 68.2 million tons of goods in 2022, which is a 51% share in all domestic transshipments. We can already say that this year we will break this record. We plan to exceed 80 million tons, which is as much as the three largest Polish ports achieved in total in 2016. These successes are, of course, the merit and hard work of the Ports and Operators, and their Partners, operating in this area.

It is worth joining us to become part of the fastest developing and most future-oriented transport industry in the world. You will find the leaders of the sea transshipment market in this catalog. We encourage you to cooperate with the maritime industry, because it is an extraordinary one and will guarantee success.

Łukasz Malinowski
President of the Port of Gdańsk Authority



The Port of Gdynia has been shaping the direction of development of our region and city for over a century. For years, we have achieved successive records in transshipments, while conducting numerous investments in the expansion and modernization of port infrastructure.

Thanks to the cooperation of the terminals operating in the port area, we are on track to becoming a commercial gateway connecting international shipping routes.

We cooperate with other ports and international partners in order to create more effective transport routes, implementing best practices and using global trends.

Bearing in mind how important the port is for the Polish maritime economy, international trade and sustainable development, we are implementing ambitious plans to expand in the direction of the sea to ensure Poland's development opportunities for the coming decades.

Jacek Sadaj
*President of the Managing Board
Port of Gdynia Authority*



The Ports of Szczecin and Świnoujście are universal and companies operating in the ports are capable of handling any type of cargo and vessel.

They are the most westward located Polish seaports on the border between Poland and German, close to the transport route from Scandinavia to Central and Southern Europe, along the Baltic-Adriatic international transport corridor, a part of the TEN-T (Trans-European Transport Network). The location and technological advances particularly make the two ports predisposed to tackle new global challenges.

We are now witnessing historic transformation of infrastructure in the two ports. Together with our partners, we have been implementing a giant investment programme designed to improve the service offering and attract new customers and cargo.

Our top renowned brand is the Świnoujście-based Ferry Terminal providing services to Scandinavia. It has been extended and adjusted to handle intermodal transport. The terminal handles transport of goods from Poland, Austria, Hungary, Czech Republic and Slovakia on the route to seaports of Ystad and Trelleborg, Sweden.

Major projects in progress include the improvement of the rail access to the ports, dredging of the Świnoujście-Szczecin Fairway to 12,5 m, and dredging and building new berthing facilities capable of handling larger vessels calling at

the port of Szczecin. However, the development does not end there. Soon, we expect the building of a modern Deepwater Container Terminal to start in Świnoujście. The terminal will be able to handle the largest ships entering the Baltic Sea. The annual cargo handling capacity of the terminal is expected to reach approx. 1.5 million TEU.

Another project that has been successfully operating is the LNG terminal in Świnoujście, which contributes to Poland's energy security with supplies from the US, Qatar and Norway. We build the third LNG Tank, a quay and infrastructure for loading and unloading of liquefied natural gas.

In Świnoujście will be built the country's first installation terminal for servicing offshore wind farms.

I have always emphasised that cargo is the king ruling in the port. It determines decisions regarding the type and range of investment. Our main objective is to promote continuous growth in cargo volumes. While planning our investment, we always apply a long-term perspective.

Although the current annual volume of cargo handled in Szczecin and Świnoujście seaports is about 37 million tons, our ambition focuses on achieving much more than that.

Krzysztof Urbaś
*CEO
Szczecin and Świnoujście Seaports Authority*



Polish Ocean Lines is a shipping company in existence for over 72 years. At the turn of the 1980s POL was one of the biggest European shipowners of liners and containers. With a fleet of 170 ships calling regularly at 450 ports on all continents, it was one of the most recognizable Polish brands on the world economic map.

From its very beginning, POL was a state-owned company; nevertheless, it was unable to survive the effects of Poland's political transformation in the late 1980s and early 1990s, and martial law. Despite many reforms, deep restructuring and the division of the company into dozens of other companies, and even the transformation into a joint stock company in 1999, the process of degradation of the company and its fleet could not be stopped. Over the following years, the fleet systematically decreased.

Only recently, when I took over as company president, did we manage to stop and reverse this unfavorable trend.

We have replaced the two old, worn-out ro-ro vessels Żerań and Chodzież with new ones, by purchasing much larger and more modern vessels in 2020 and 2021, which were named POL MARIS and POL STELLA.

We now operate ro-ro vessels, manage a container ship and are open to operating LNG carriers, bulk carriers or offshore vessels, as well as shipchandler services. Together with a team of employees and our main shareholder, the Industrial Development Agency, we are making every effort to increase and diversify the company's activity and shipping potential.

Dorota Arciszewska-Mielewczyk
*President of the Management Board
Polish Ocean Lines*

NAUTA



95 years ago, on 7th October 1926 the Town Council of Gdynia passed the resolution for the necessity of establishing a shipbuilding enterprise, defined its shape and the site for its location. That day is the date of establishment of Nauta Shiprepair Yard.

Presently Nauta has become significantly popular busy for performing all type of ship repairs. Not only the docks have been full but the same has applied in finding space along the berths of Nauta. Throughout the whole year of 2021 the Yard performed works on nearly 130 projects ranging from the conversions and special surveys of the vessels through emergency repairs and ending up on simple and fast inter voyage repairs. In addition to our activity on the merchant market Nauta performed work on the military market. It is worth emphasizing that the number of BWTS installations in Nauta is rapidly growing with only 40 installations performed last year.

Looking into the future, with our knowledge, 95 – year experience and the potential, Nauta is ready to assist the shipowners in implementing innovative engineering ideas and green technologies which would help to reduce the carbon emissions of their fleet.

Monika Kozakiewicz
President of the Board, acting
Shiprepair Yard Nauta

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TARGI GDAŃSKIE SA
GDAŃSK INTERNATIONAL FAIR Co



It is my great pleasure to invite you to Gdańsk for the 23rd BALTEXPO International Maritime Fair and Conference. Let us meet at AMBEREXPO, Gdańsk, for Poland's largest and oldest maritime industry event. Scheduled for 13-14 October 2023, BALTEXPO will be the first ever to be organised by the MTG SA Gdańsk International Fair Co.

The BALTEXPO brand has 40 years of tradition. Since 2013, the fair has been held at the AMBEREXPO Exhibition & Convention Centre and, in 2021, the MTG SA Gdańsk International Fair Co. purchased the rights to organise BALTEXPO, including its name. I believe this to be a turning point in the history of BALTEXPO and its next edition will show us the results. The exhibition industry has a future, large events are important and people need to meet but what is vital is an attractive offering for cooperating sectors. BALTEXPO will no longer cover just the shipbuilding and maritime industries. Our dream is for it to match the TRAKO International Railway Fair when six exhibition halls fill up to capacity.

The BALTEXPO International Maritime Fair and Conference will grow, set new trends and expand its scope to cover the entire spectrum of the maritime economy: the shipbuilding industry, offshore wind energy, offshore industry,

port and maritime industry infrastructure, logistics in maritime transport, sea and inland shipping, port and shipping security, environmental protection, technology, labour market and education. Bearing in mind the Miecznik and Batory programmes, we plan to continue our complementary events, i.e. the BaltMilitaryExpo Baltic Military Fair and the InterMarE project which is a trade exhibition for small and medium-sized maritime companies in the Southern Baltic Sea Region. We also want to address the most current and challenging matters, such as the issue of cleaning the Baltic Sea of chemical weapons and the emissions from propulsion systems.

BALTEXPO's brand recognition, the presence at a single venue and time of all contracting parties and potential subcontractors, representatives of administration and institutions with influence on maritime market regulations, alongside the world of science, all provide a genuine potential to result in establishing business relationships and finalising contracts, a better legal environment and stimulated innovation. BALTEXPO is remarkably important to the entire maritime industry, not only in its local and regional dimension but also on a national and international scale. The ambitious goal we have set for ourselves is to make BALTEXPO grow and build its standing as one of the key events in Europe's maritime industry calendar.

Andrzej Bojanowski
CEO of the MTG SA Gdańsk International Fair Co.



CITY OF
GDYNIA



As the Polish city of the future, Gdynia is keeping its course towards new trends set by industry and economy. Today, it is innovation that also determines the potential of the maritime economy, and the growing importance of maritime industries for both individual countries and the international community makes it all the more important to take intensive action for the further development of this sector of the economy.

Gdynia is actively developing, now with the significant use of state-of-the-art technology. It stands out for its high quality of life and is considered the best place to live in Poland. Reasons for satisfaction are provided by the strong position of Gdynia's port and the promising growth dynamics of transshipments, but also by Gdynia's significant contribution to the development of offshore as a new branch of industry, which includes educating well-qualified personnel in Gdynia's trade schools and universities to prepare them for current trends in the maritime industry.

We are extremely proud that Gdynia has been a meeting place for seafarers for many years. The Maritime Economy Forum and the Duck Meeting, organised annually in Gdynia, integrate the environment and allow us to exchange experiences and identify areas of cooperation for the development of maritime business and the city.

Wojciech Szczurek
Mayor of Gdynia



Ladies and Gentlemen!

Gdynia Maritime University, one of the largest maritime universities in the European Union and the world, has been training personnel for the Polish and international merchant fleet and the on-shore maritime support for more than a century.

GMU is based in Gdynia, Poland, a modern maritime-oriented port city, of which the University is an integral part. Gdynia is the home port of the University's ships, most notably the world-famous sail training ship "Dar Młodzieży", as well as modern research and training vessels, Horyzont II and IMOR. Opposite the quay is the GMU Faculty of Navigation, well-equipped with the most advanced simulators and laboratories, including a planetarium, and with direct access to the marina and the University's yachts. GMU's extensive research and educational infrastructure allow us to equip our graduates with both knowledge and practical skills through highly engaging workshops and practical sessions.

The University is continually improving and expanding its range of degree programmes in response to the needs of the national and international labour markets. We work closely with business, offering a wide range of R&D and expert services that meet the needs and expectations of businesses and organisations.



GMU actively cooperates with other maritime universities around the world within the International Association of Maritime Universities IAMU. The pinnacle of the University's engagement in IAMU since its establishment in the year 2000 was the election of the Rector of Gdynia Maritime University as the Association's chair for the years 2023-2025.

Gdynia Maritime University's potential for development is enormous. Our involvement in the offshore industry has led to the construction near the Port of Gdansk of the GMU Centre for the Offshore Industry and the establishment of an Executive MBA in Offshore Wind in English. We work with Poland's leading energy companies – PGE, Orlen, Polenergia, RWE, and Lotos Petrobaltic. The unique competencies of GMU research teams and their ability to effectively combine theory with practice ensure the University plays an important role in the development of the economy of not only Pomerania but also the whole country.

We act conscientiously and consistently, aware of our responsibility to society and the scientific community. We look forward to welcoming you to Gdynia and Gdynia Maritime University.

Professor Adam Weintrit
DSc(Eng), FRIN, FNI, Master Mariner
Rector of Gdynia Maritime University

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POLISH PORTS ARE STILL ON THE RISE

2022 brought new challenges to Polish seaports, but they became a motivation for development. Thus, last year was another year in a row when Polish ports broke their transshipment records.

As every year, for several years now, in January a press conference was convened at the headquarters of the Ministry of Infrastructure, during which three Polish ports of strategic importance to the state's economy – Gdańsk, Gdynia and Szczecin-Świnoujście – presented last year's transshipment results. Although the work of the ports in 2022 was largely affected by the consequences of Russia's armed aggression against Ukraine – the need to focus more on energy resources in connection with the sanctions imposed on Russia, increased grain transshipments from Ukraine, and cutting off goods going to Russia and Belarus via Poland – they showed impressive flexibility and established new records.

Port of Gdańsk never stops

The undeniable leader on the Polish coast remains the Port of Gdańsk, which in 2022 broke another record and handled a total of 68.3 million tons of goods. This is another great result in a row.

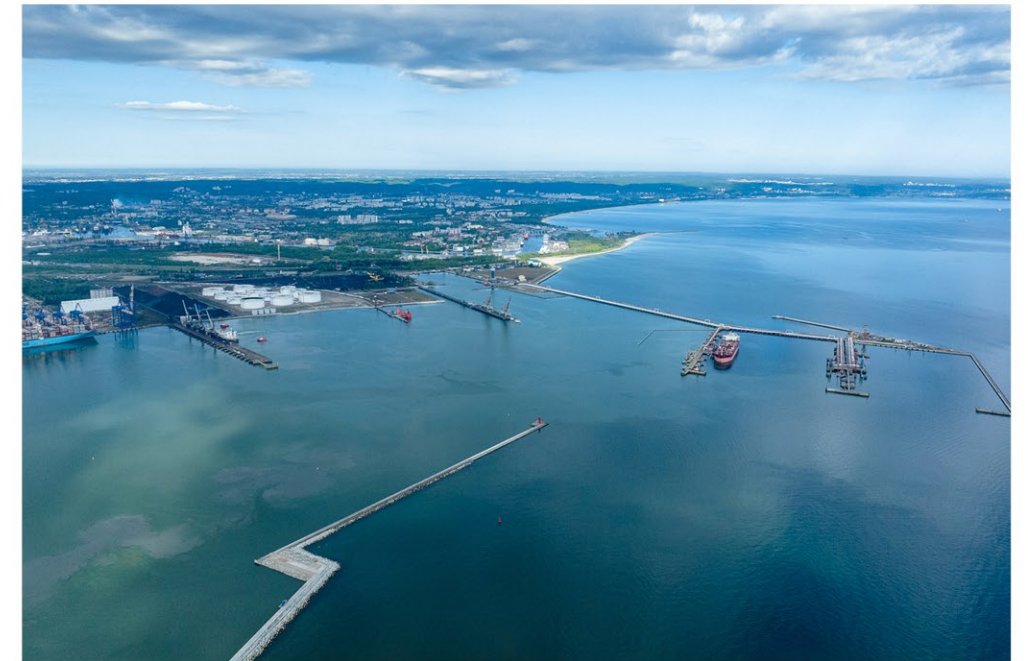
– It seemed that 2021 had already been a very good year for the Port of Gdansk, as it had brought 53.2 million tons. At the moment, there are already 68.3 million tons. These are results that absolutely no one could have dreamed of until some time ago – commented Łukasz Greinke, then president of the Port of Gdansk Authority SA. – This is the result of very hard work, not only by the port authorities, but also by our

operators. We understand each other, and stakeholders from different sides try to meet each other's needs – he added. The key factor that affected transshipment operations last year was the war in Ukraine. It resulted in increased transports of crude oil and coal. Thus, liquid fuels became the dominant cargo group in the port, whose handling increased by 35% to 25 million tons. In addition, there was an increase in coal handling by as much as 175% compared to 2021. Last year, a total of 13.2 million tons were handled, the vast majority of which was imported. Wood transshipments increased by 413% and ore transshipments increased by 133.2%.

– We recorded slight decreases in the group of containerized general cargo, of less than 2 percent. The embargo on goods redirected to Russia had a large impact on this decline – said Greinke during the press conference summarizing the year. – This funnel was replenished with goods in containers to Ukraine. This way of packing goods is the most universal. Trade between the countries is desirable due to the difference in track gauges.

Transshipments of grain increased by 19 percent – over 2 million tons were transshipped, which is a record for the Port of Gdańsk. The Baltic Hub container terminal handled 2.1 million TEUs. According to Greinke, slight declines do not affect investments, and are something normal.

As the president of the Port of Gdańsk assured, the Naftoport terminal, which handles fuel transshipments, still has quite



large reserves, and the transport of goods from the port itself is much easier than in case of other materials, because it is carried out through a system of oil pipelines. In the case of coal, it was necessary to organize the infrastructure – equipment, properly prepared squares and quays.

– We can see that we are able to unload about 400,000 tons of this commodity and export the same amount. This means that we are prepared to reload about 20 million tons of coal annually and not cause congestion at our yards and in the port at the same time – said Greinke.

The CEO also did not hide the fact that before 2022, the Port of Gdańsk Authority assumed that it would be another record year. However, in reality the expectations were exceeded.

– We set a record. Our goal for 2022 was to exceed 60 million tons. However, we estimated that it would be rather 61-62

million tons – reminded Łukasz Greinke.

Finally, about 6 million tons more were handled in Gdańsk.

Moreover, in view of the estimates, 2023 also promises to be a record year – according to the port, approx. 78-80 million tons of cargo will be transshipped.

– We are a dynamically developing port. We aspire to be a leader in European rankings. There is no port that has realized such increases in the last decade. We are constantly strengthening our position on the Baltic Sea – in terms of transshipments we are already in 2nd place – added the then president of the Port of Gdańsk Authority SA.

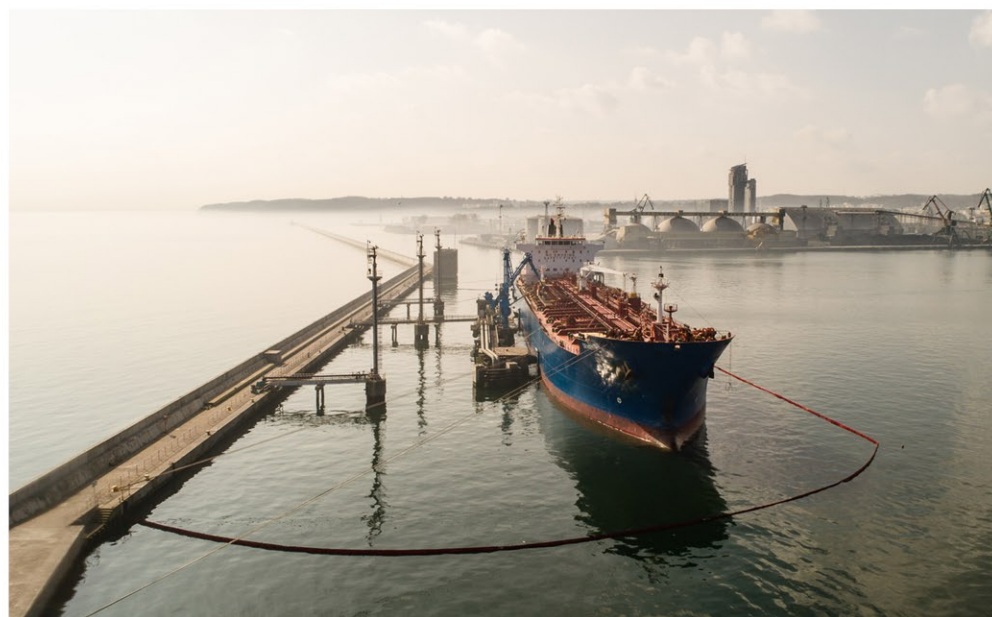
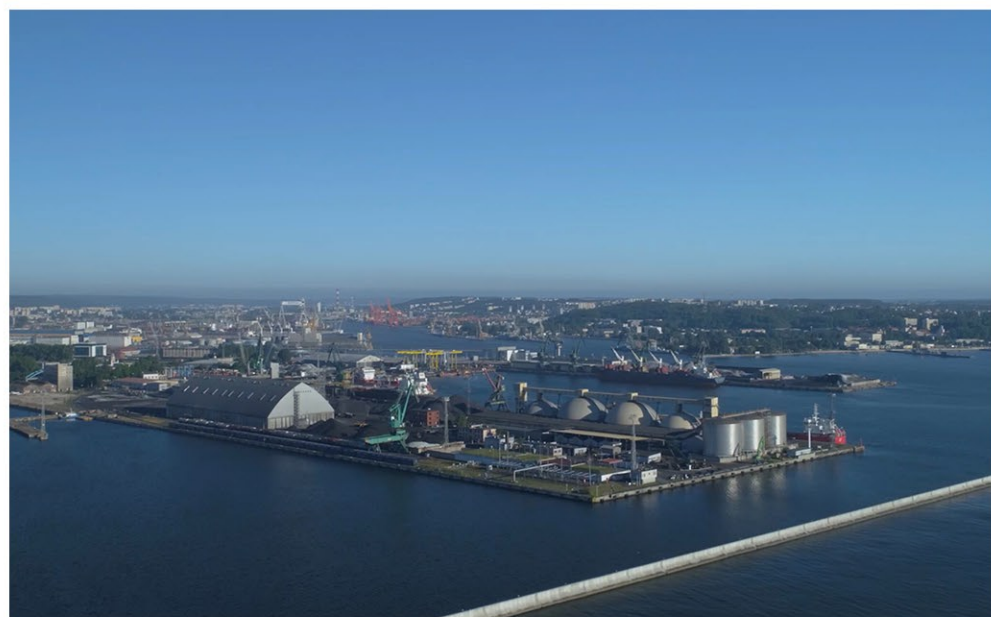


Port of Gdynia showed flexibility

The Port of Gdynia, which celebrated its 100th anniversary in 2022, also had a good year. Total transshipments amounted to 28.2 million tons, 6% more than in the previous year, and at the same time, over 91% more than in 2013.

According to Jacek Sadaj, the President of the Port of Gdynia Authority, the good transshipment results in 2022 were influenced by the consequences of Russia's aggression against Ukraine.

– *Certainly, coal contributed to this result to the largest degree. The terminals handled more than 3.4 million tons. This is a spectacular result, considering that this large mobilization did not last for a full year, therefore we see the potential of the Port of Gdynia here* – said Jacek Sadaj. – *The HES Gdynia Bulk Terminal had the largest share in coal handling, but OT Port Gdynia and the Speed terminal also mobilized at a great pace, thus playing a part in the export of coal from the port* – added Sadaj. President Sadaj admits that the war in Ukraine, which has reshuffled supply chains across Europe, has also made it necessary for the port and the operators operating there to adapt quickly. As a result, in 2022, the largest increases were recorded in the port's handling of coal and coke (a total of 3.4 million tons, 174% more than in 2021). Wood transshipments also increased (by 109.1%, a total of 533.5 thousand tons) and other bulk (0.42% more, 1,716.2 thousand tons).



Grain transshipments have increased significantly, and further investments are to increase the capacity in this group. Thanks to this, the Port of Gdynia is a leader among Baltic ports in handling this cargo.

A total of 4,331 vessels called at Gdynia in 2022, on average, larger than in previous years. On average, Gdynia was visited by a container ship over 300 meters every 2 weeks. The average tonnage of ships in the port has also increased. There were also 8% more ferries calling at Gdynia and the total number of calls was 1,016. The average tonnage of bulk carriers increased by 23%, the tonnage of container carriers increased by 13%, and the number of ro-ro ship calls increased by 32%.

– *Certain optimizations give us the opportunity to continually increase the amount of cargo. Certainly, further investments that we intend to implement will enable an increase in the volume of grain transshipments. This is a type of cargo that has not been properly managed all the time. You have to be aware that coal will not stay with us in Gdynia forever. We also think about parameters related to ecology. New technologies related to the transshipment of grain will further increase the transshipment capacity at the Port of Gdynia* – says CEO Jacek Sadaj.

Szczecin and Świnoujście are also profitable

Transshipments in the Szczecin-Świnoujście port complex increased by 10.8%. In total, they amounted to 36.8



million tons. A total of 6,665 ships called at the ports, and their total tonnage increased by 4.6%.

– *36.8 million tons shows that the Szczecin-Świnoujście port complex was ranked 5th among the ports on the Baltic Sea* – said Daniel Stachiewicz, Vice-President of the Szczecin-Świnoujście Seaports Authority.

Coal handling increased by 50.8%, fuels by 42.5%, and LNG in Świnoujście by 54.6%.

– *Last year, 4.4 million tons of gas were unloaded here. Last year, 58 of the largest gas carriers called at Świnoujście, which is 23 more than in 2021. The plan for 2023 is over 60 gas carriers. As the Port Authority, we are prepared for this. Our*

partner, who is responsible for operations at the base, is also finishing investments that will allow the reloading of over 8 billion m3 of gas in 2023, which is about 1/3 of the gas needed to power our economy – commented Stachiewicz. In 2021, the ports of Szczecin and Świnoujście literally lacked “two ship holds” to break the record. However, they easily succeeded in 2022. The result from 2021 was already achieved on November 30.

An important group of cargo in Szczecin-Świnoujście is coal. It was transshipped almost 51% more than in the previous year, with a total of 4.3 million tons, of

which over 3 million were imported. A significant increase was also recorded in liquid fuels, which were transshipped 42.5% more, the total amount of transshipments of liquid fuels reaching nearly 7.5 million tons. The transshipment of ores increased by 11.4% – a total of 2.1 million tons were transshipped, of which 1.6 million tons were iron ore. The transshipment of goods in the “other bulk” segment also increased by approximately 11% – fertilizers and pig iron from Ukraine dominated the 3.3 million tons.

A slight decrease (-2%) was recorded in general cargo, including ferry general cargo, while container handling decreased by 8%.

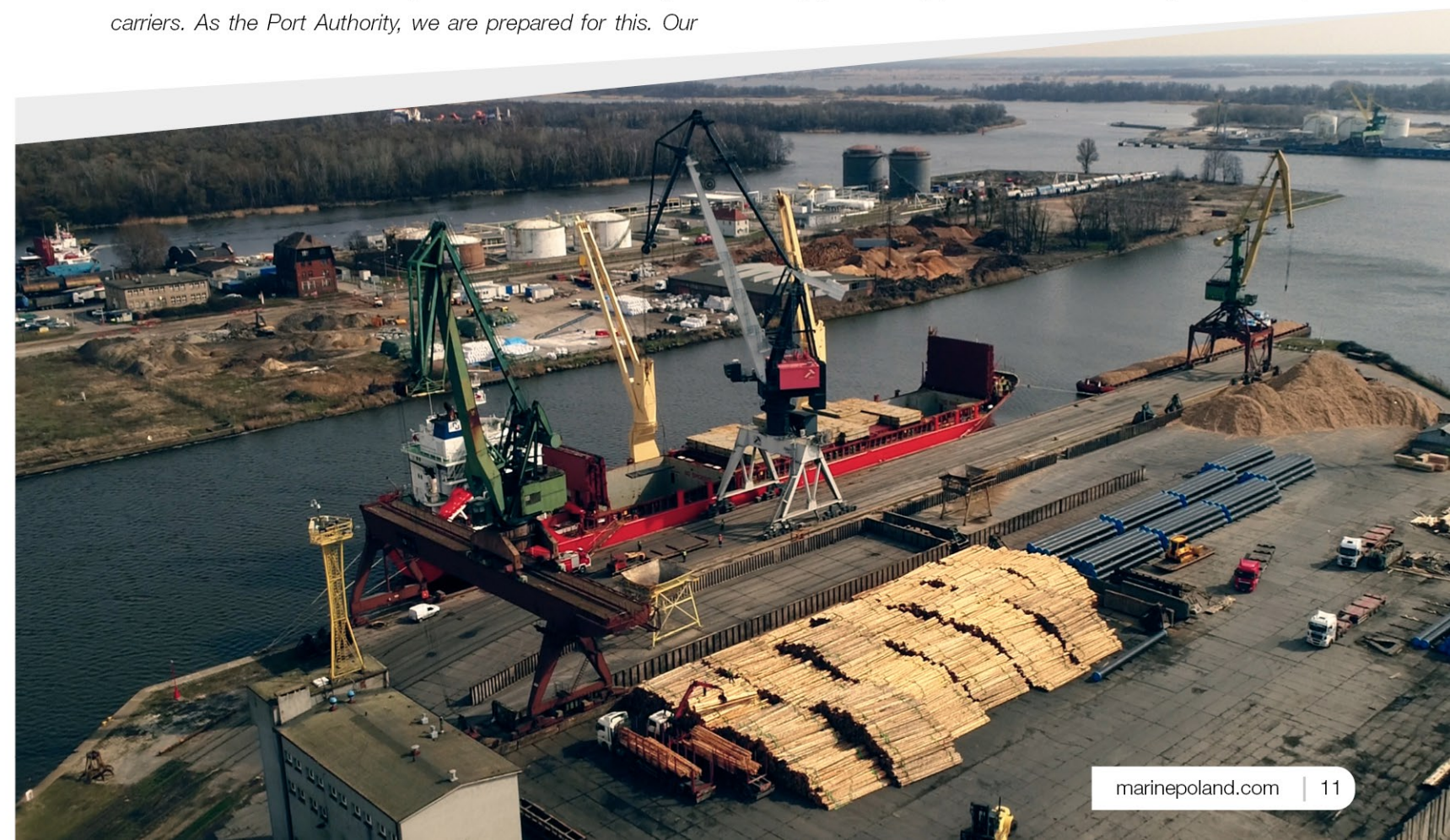




Photo: Cezary Spigarski/www.oficynamorska.pl

POLISH PORTS 2030 CONGRESS

The first edition of the Polish Ports 2030 Congress, held in Sopot on June 1-2, 2023, proved to be a tremendous success. Over 500 people participated in two days of intensive debates about the future of Polish ports. The event gained a positive reception among speakers, industry representatives, and all attendees.

The Polish Ports 2030 Congress was the largest and most significant event in the port industry. Its positive reception and immense interest ensured that it will become a recurring event. – *Being organized for the first time, the event had a very successful debut. 550 registered participants, with over 70 experts discussing topics on 9 thematic panels, all of which indirectly and directly relate to maritime ports* – said the event organizer, Mateusz Kowalewski, the Editor-in-Chief of GospodarkaMorska.pl.

The conference hit the bull's eye and filled a gap on the map of maritime industry events.

– *A high level of expertise, excellent scientific knowledge – this is what the market was waiting for* – admitted Adam Klos, Director of the Commercial Department of the Port of Gdańsk Authority.

Representatives of the largest ports in Poland could not hide their satisfaction with the organization of an event devoted strictly to their activities.

– *It is very important that all these elements constituting the port organism can meet and exchange experiences, and talk about its needs. Thanks to this, we can design our infrastructure for the coming decades* – said Jacek Sadaj, President of the Management Board of the Port of Gdynia Authority.

– *It is evident that this is a success. I am sure it will continue in the years to come. Other events combine everything, but here people came to talk about ports* – added Krzysztof Urbaś,

CEO of the Szczecin and Świnoujście Seaports Authority.

The event was deemed crucial, educational, and indicative of the current situation of Polish ports in the global market. The mutual understanding among all the participants was appreciated, and the congress was seen as a place where everyone could openly discuss their issues and perspectives.

– *When speaking about the maritime economy, we must talk about ports, which, by their nature, are city-forming, region-forming, and industrial. They include many satellite functions related to all units that cooperate with ports* – emphasized Krzysztof Woś, President of the State Water Holding Wody Polskie.

During the event, awards were also presented – the Lighthouses of Gospodarka Morska. The first of them went to the Gdynia Seaports Authority for the implementation of infrastructural investments, including the construction of the Public Ferry Terminal. Another Lighthouse was awarded to the State Water Holding Wody Polskie for creating conditions for the development of inland navigation as a branch of port transport at the mouths of the Vistula and Oder rivers. The Lighthouse of Gospodarka Morska was also received by the Port of Gdańsk Authority for its record growth in cargo handling and advancement in European port rankings in 2022. The award was also given to Balticon S.A. for the construction of an intermodal terminal at the vicinity of the Port of Gdańsk. The main media patron of the Congress was the Polish Press Agency – the largest news agency in Poland. Among the media patrons were also the portals GospodarkaMorska.pl and ZielonaGospodarka.pl, as well as Radio Gdańsk.



Photo: Cezary Spigarski/www.oficynamorska.pl

The second edition of the Polish Ports 2030 Congress will take place in 2024. The event will again address the most important issues concerning the Polish maritime industry and the challenges it faces in the near future.



Photo: Cezary Spigarski/www.oficynamorska.pl



PORT OF GDAŃSK: THE **LEADER** ON THE BALTIC SEA, ALREADY IN THE TOP TEN IN **EUROPE**

– We have to act on many levels and develop our business directions – both to the east and to the west. Today, it is necessary to act flexibly, to build scenarios in the event of various geopolitical events – explains **Łukasz Malinowski**, President of the Port of Gdańsk Authority. – We do not want to look only at China, but also at the rest of Asia, the transatlantic routes, as well as at Europe. We must create a development plan for the port, but also for the entire region, in the perspective of generations.

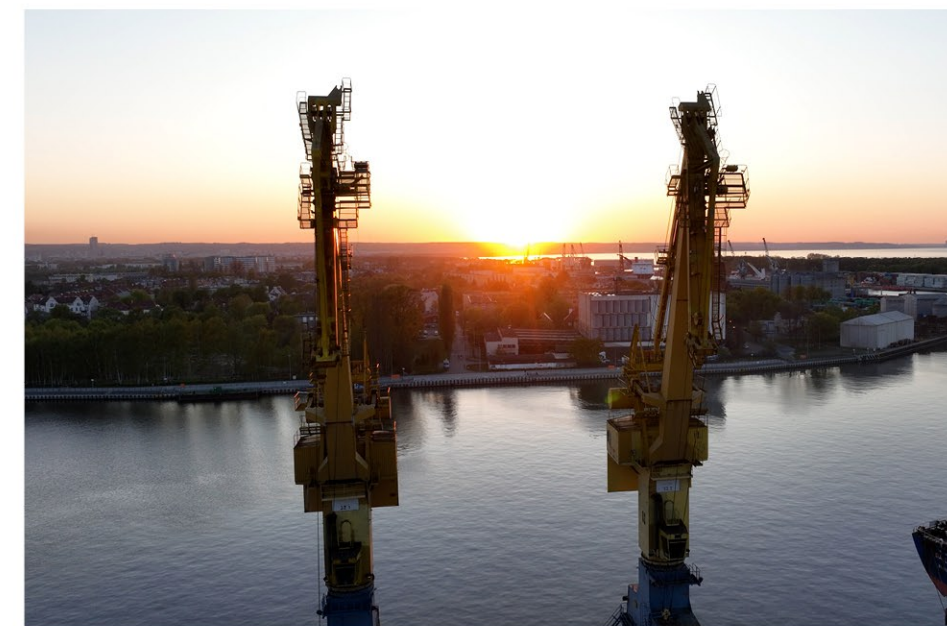
The year 2023 brought changes to the Port of Gdańsk Authority, one of them being a change of president. You have taken on a position in an institution that has been developing very dynamically in recent years and the Management Board will certainly have enough work to do. What are the main challenges for the port management in the coming years?

There are a lot of challenges, because we have ambitious plans. This year, we plan to exceed 80 million tons of transshipments, which is as much as the three largest Polish ports achieved in total in 2016. This year's result will allow us to advance to be in the top 10 European ports. Let me just remind you that last year the Port of Gdańsk was ranked 13th, and after the first quarter of this year we are ranked 8th. We overtook such port giants as Marseille, Barcelona, Constanta and Valencia. The port of Amsterdam is already within reach. Of course, we still maintain our position as the container leader on the Baltic

Sea and 2nd in total transshipments. We are second only to the port of Ust Luga, which is the main raw material window when it comes to Russian oil. The challenges we face are, of course, further investments, which we plan well in advance. Let us remember that the investment process, from the moment of conception or obtaining financing to the completion of construction works, takes 5-7 years. In addition, we are working on a new development strategy for the company, as the current one is largely out of date. It concerns a plan of action that will be more geopolitically effective, and not passive and focused on only one direction. We have to act on many levels and develop our business directions – both to the east and to the west. Today, it is necessary to act flexibly, to build scenarios in the event of various geopolitical events. We do not want to look only at China, but also at the rest of Asia, the transatlantic routes as well as at Europe. We must create a development plan for the port, but also for the entire region, in the perspective of generations, for at least 30 years. This is a task for visionaries, but whose feet are firmly on the ground. The strategy will respond to the needs of the port, our stakeholders, the city of Gdańsk, where we are based and operate, as well as the entire region or country.

Last year once again brought a record of transshipments at the port, which was also influenced by the geopolitical situation. So, from your point of view, how do you assess 2022 at the Port of Gdańsk and what does this year look like in this context?

Last year was record-breaking, but after the results for the first half of this year we can confidently say that we will beat the 2022 transshipment record, and significantly. The latest results clearly show how good the condition of the Port of Gdańsk is. In total, we transshipped 41.2 million tons of goods in half a year, which is 36 percent more than in the same period last year. Grains are a major challenge for the Port of Gdańsk. Within six months, we exported about 1.4 million tons of grain (especially corn), which is an increase of 52 percent. For comparison, throughout 2022, the Port of Gdańsk handled just over 1.9 million tons of grain. Energy commodities recorded the highest increases in Poland. Transshipments of liquid fuels reached 18.3 million tons (an increase of 59%), coal – 8.4 million tons (117% more). General cargo saw a 6% decrease –



but achieved an already good result of 11 million tons. In total, after seven months of this year, we have a volume comparable to the entire 2020.

We often compare the results of individual ports with each other and look at their functioning through the prism of competition between them. However, ports do not function for sport, but to be an important element of the economy of the country and the region. How, then, can the current status of the Port of Gdańsk be assessed for the economy of Poland and Central Europe?

In recent years, seaports have been one of the fastest growing sectors of the Polish economy. The scale of development is best illustrated by the numbers. In 2012, Polish ports handled a total of 63.9 million tons, and more than doubled this result in 2022, handling 133.2 million tons. The Port of Gdańsk, the largest Polish port, alone handled 68.2 million tons of goods, which is a 51 percent share in domestic transshipments. We are a country that has access to the World Ocean through the Baltic Sea. Although it is small, it generates transshipments at the level of 10% and supplies that part of Europe which is the last to have access to the World Ocean. Behind us to the east, is only the vast interior of Russia and China. The geopolitical situation has meant that national economies across Europe have been remodeled in terms of sourcing raw materials. Naturally, as a result of global processes, we have become a key country for this region. Thanks to the fact that we have seaports, our own window on the world, the state budget receives about PLN 40 billion annually in customs duties, excise duties and VAT. The port also generates jobs and is the driving force of the economy.



One of the most important investments, from the point of view of the national economy, that will be carried out at the Port of Gdańsk in the coming years is the launch of the FSRU, i.e., a floating LNG reloading terminal. Gaz-System is responsible for most of it, but the Port of Gdańsk Authority will have to organize appropriate access from land and sea to the terminal. Has any work on this already begun?

Talks with Gaz-System regarding the construction of a floating FSRU-type LNG regasification terminal with the participation of the Port of Gdańsk and the Maritime Office are in progress. The project assumes the location of a floating unit in the Gdańsk area, capable of unloading LNG, and the process, storage and regasification of LNG. This is a strategic investment from the point of view of the energy security of Poland and neighboring countries, connected to our gas network through interconnectors developed in recent years. Gaz-System has started Phase 2 of the Open Season procedure for the FSRU Terminal, which aims to confirm the interest of market participants in the terminal's regasification capacity by submitting binding long-term orders for the use of services. Final decisions are expected in the near future. But we are not the only ones preparing for this investment. Companies servicing port traffic have also reacted to the development plans of Gaz-System at the Port of Gdańsk. WUŻ, when ordering 3 new tugboats, decided on the more expensive antistatic version, adapted for servicing LNG carriers. Two of them have already reached Gdańsk, the third will arrive in the autumn.

A separate topic is the construction of the T3 container terminal, which will significantly increase the reloading capacity of the Baltic Hub. Construction is already at an advanced stage. What will the opening of the terminal change for the Port of Gdańsk?

It will change a lot. Thanks to this investment, the transshipment

capacity of the terminal will increase from 3 to 4.5 million TEU per year. The launch of the first sections of the T3 berth is planned for the first half of 2025, and the completion of the construction of storage yards in the landed part is to take place in 2025. We can already see a lot of interest from potential investors in connection with the expansion of the Baltic Hub. The largest players on the warehousing market are tempted by the proximity of the largest container terminal in the Baltic Sea. CTP has started the construction of an industrial and logistics park at the back of our port.

In addition to large projects, such as T3 or FSRU, smaller ones are also systematically implemented in the port – repairs of quays or investments in superstructure. What awaits us in this regard in the coming months and years?

The port is a construction site. When one investment ends, others begin. Currently, we are starting the reconstruction of four more quays with a total length of nearly 2 km, together with the necessary underground and railway infrastructure in the Inner Port. We received funding for the project entitled "Improvement of the infrastructure of the Port of Gdansk along with an analysis of the implementation of the low-emission OPS system for the sustainable development of the TEN-T network" to the amount of approx. EUR 100 million from the "Connecting Europe Facility" (CEF 2). Currently, we are in the process of three tender procedures for the execution of construction works at the Bytomskie, Rudowe and Wiślane quays, and the announcement of the fourth tender for the Węglowe quay is planned for the third quarter of this year. Together with Naftoport, we started design works for the construction of the sixth berth for the transshipment of crude oil and petroleum fuels. Berth "W" will be adapted to accommodate large VLCC-class ocean tankers – over 300 meters long and up to 60 meters wide. The extension of

Naftoport is not only an increase in fuel handling, but also a guarantee of the country's energy security. The reconstruction of the road and railway system in the area of the Przemysłowe quay is nearing completion – the level of advancement of the road works, reported by the general contractor, the NDI group, is over 90%.

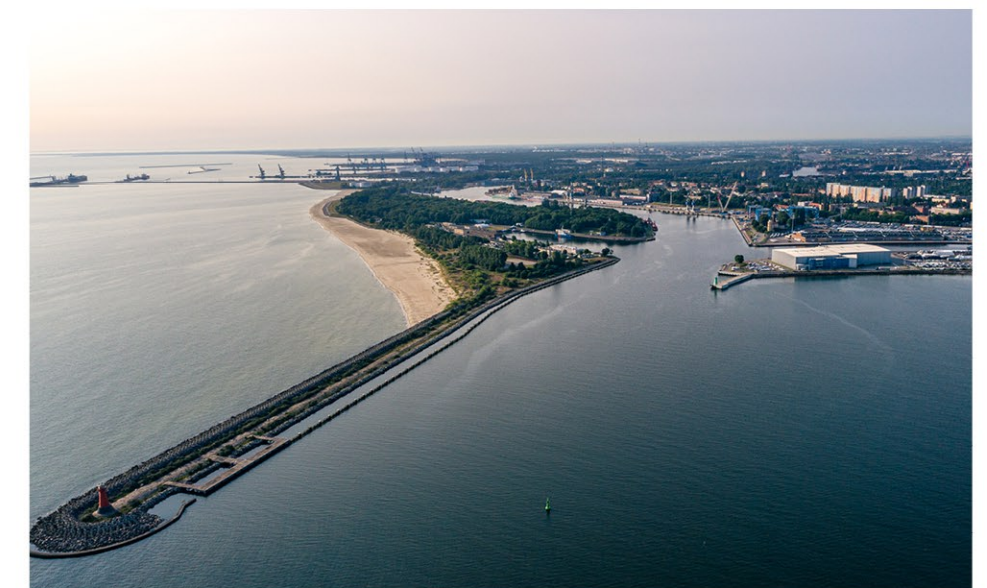
Ecology is a challenge for all ports in the world. What steps is the Port of Gdańsk taking to become a green port?

We undertake a number of pro-ecological activities. We constantly monitor the global maritime market and prepare for inevitable changes in the area of environmental protection and ship propulsion. As the manager of the port, we also take steps to adapt the infrastructure, e.g., to the changing legal environment and observed market trends. Preparing for the imminent need to implement Onshore Power Supply solutions, the Port of Gdańsk Authority, as part of the recent modernization of selected quays, made additional cable ducts for the installation of future OPS power supply points, thus enabling future-proof, efficient execution of high-power electrical connections. Such a solution, if external entities are interested in using OPS systems, will also enable the direct use of transducer stations on quays in the future. Contrary to diesel ship generators, converters will not emit harmful exhaust fumes, nor will they require fuel delivery or technical breaks in operation. The implementation of OPS offers an opportunity to improve air quality, reducing CO2 emissions, one of the main factors contributing to global warming. OPS systems are gaining in importance, and by the end of 2050, it will be necessary to install them in every European port and in most ports in the world. The regulations being processed by the EU will result in a general obligation to power ships from the shore while they are in port. Among other things, it stipulates that, from 2030, passenger or container ships berthed in a port under the jurisdiction of a Member State will have to be connected to shore power to meet all their energy needs. Although the alternative fuels market is at an early stage of development, we see its strong potential. We are conducting preliminary talks with external entities regarding the possibility of implementing hydrogen as an alternative fuel in the areas managed by the Port of Gdańsk Authority – initially in road transport. In addition, last year we completed the

modernization of the lighting system in the port. Until recently, lighting from old technology prevailed in our country, using, among others, mercury, high pressure sodium and metal halide light sources. We replaced over a thousand luminaires with LEDs and nearly 300 poles with extension arms. We also support initiatives regarding electrification and the reduction of exhaust emissions from port vehicles and facilities. We have 6 charging stations for electric cars in the port (including one for internal use). By 2025, we intend to build 2 more charging stations.

The Port of Gdańsk is also to play a role in the development of Polish offshore wind energy. The tender to select the operator of the new terminal is still pending, and inevitably, the deadlines for the implementation of the investment are approaching. Is it possible to effectively combine all of these functions in Gdańsk? Is it still possible that there will be an installation port in Gdańsk?

It is business that decides on the shape of further investments, including the construction of the installation port. We provide the form, and the potential investor fills it with content. The ongoing construction of 36 hectares of new Polish territory, i.e., the expansion of the Baltic Hub, is proof that this model of cooperation works. A tender procedure is under way to select the lessee or lessees of the land that will be created as a result of the landing of this sea area. September 29, 2023, is the deadline for submitting binding offers. Only the outcome of the procedure, the selection of a potential lessee for the future, will make it possible to determine the location of a possible off-shore terminal, its technical parameters and the date of commencement of construction works.





PORT OF GDYNIA: GROWTH AND INVESTMENTS

The Port of Gdynia continues a series of transshipment records, also in the face of changes caused by Russia's aggression against Ukraine, which forced the port to focus on coal, liquid fuels and grains. The year 2022 and the first half of 2023 are summed up in an interview with the President of the Port of Gdynia Authority, **Jacek Sadaj**.

The year 2022 was special for the Port of Gdynia due to the celebration of its 100th anniversary. How do you assess the achievements and position of the port after these 100 years?

The Port of Gdynia occupies a high position on the Baltic Sea at 9th in total transshipments, with the 1st position in grain transshipments, the 4th position in container transshipments, and the 6th position in the coal and coke cargo group. Transshipments increased for another year in a row, this time by 5.6%.

How would you summarize transshipments at the Port of Gdynia in 2022?

The year 2022 brought record-breaking transshipments in the cargo groups of coal, grain and liquid fuels, whose increases compensated for slight decreases in other groups. We ended the year on a positive note.

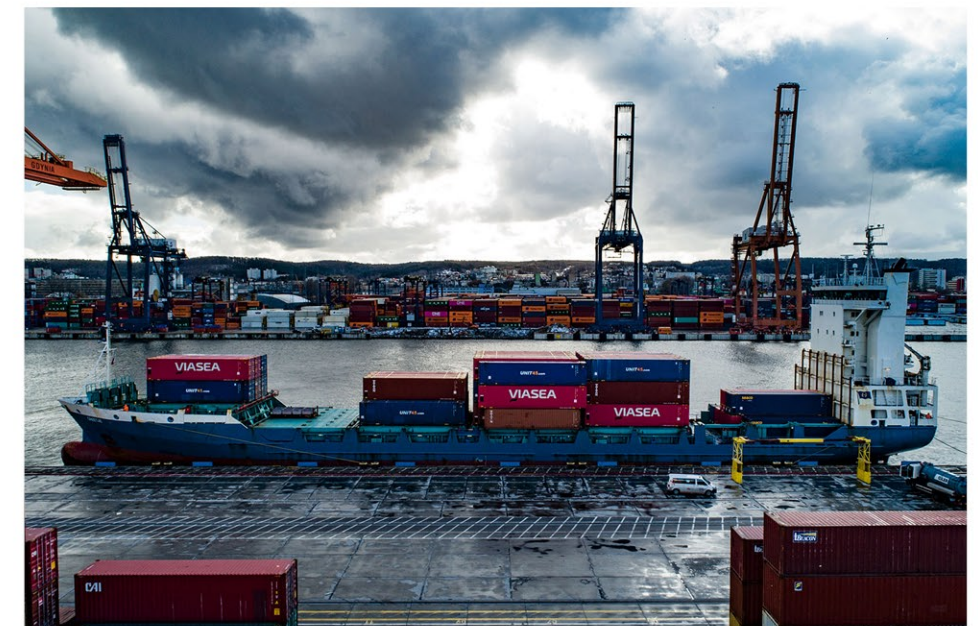
How do you assess the result of transshipments in the first half of 2023? What does this year's market look like?

In the first half of this year, the Port of Gdynia transshipped 14,785.5 thousand tons, which is an increase by 7.88%. The positive result at the end of the first half of the year is largely due to the increased handling of fuels (+80.97%), grain (+49.83%) and coal and coke (+48.40%). There was a decrease in the turnover of wood (-67.35%), other bulk cargo in the group (-37.52%) and general cargo (-10.75%). It is worth noting that at the Port of Gdynia, after a significant increase in the handling of ro-ro cargo between Gdynia and Hanko, due to the increase in the frequency of calls and the introduction of two vessels to the line in January 2022, a significant decrease in the service of freight units can now be observed. The decline is also much more severe due to last year's high base. Taking into account the volumes of containers transshipped in Polish ports, a number of changes that have taken place in the past six months can be noticed. They concerned, in particular, the launch of new container connections, the effects of which should be expected in the second half of the year. Nevertheless, at the Port of Gdynia, container handling decreased by 14.4% compared to the first half of 2022. Decreases were recorded at all container-handling terminals. The most severe was the case of the GCT terminal, which reloaded 152,493 TEU, i.e., 20.68% less than in the period of January-June last year. Also in the BCT terminal, transshipments decreased to the level of 255,819 TEU. The decrease in the BCT terminal was not as severe as in the case of GCT – transshipments decreased by 10% y/y. At the OT Port Gdynia terminal, container handling decreased by 22.56% y/y, to 931 TEU.

The Port of Gdynia is developing rapidly. What investments are currently being implemented and planned in the near future?

The Port of Gdynia Authority S.A. implements an investment plan aimed at adapting the existing infrastructure of the Port of Gdynia to market expectations. The main planned development activities of the Port of Gdynia for the coming years are:

- Completion of the deepening of the approach fairway and internal waters of the Port of Gdynia and completion of the



reconstruction of the quays in the Port of Gdynia,

- Construction of the Outer Port in the Port of Gdynia with road and rail access,
- Construction of intermodal infrastructure in the Port of Gdynia Logistics Center,
- Expansion of the Public Ferry Terminal in the Port of Gdynia,
- Further expansion of the access infrastructure at the Port of Gdynia in basins II, IV, V and VI,
- Development of the "Logistics Valley" multimodal platform in the Kosakowo Commune,
- Expansion of the warehouse and storage area.

It should be emphasized that these plans will be possible to implement if such major infrastructural investments as the construction of the Red Road (Droga Czerwona) in Gdynia and the modernization of railway line No. 201 from Gdynia to Bydgoszcz are implemented by GDDKiA and PKP PLK within the previously declared dates.

Recently, we have received good information regarding the construction of the Outer Port. What is the importance of the expansion towards the sea for the Port and what opportunities will it bring?

In 2023, several important milestones were achieved in the Outer Port project. First of all, the issuance of the first of at least three planned location decisions and the announcement of an invitation to tender in the procedure for the selection of a private partner should be mentioned here.

For the Port of Gdynia, the Outer Port is a natural direction of expansion. The construction of a new pier and the location on it of the most modern terminal in the region will mean not only an increase in transshipment potential, but also a higher quality



of ship and cargo services. It should also be remembered that such a significant expansion of the Port of Gdynia, which is the largest NATO base in the Baltic Sea, has a positive impact on the country's security, both in economic and military terms. An important element of the Outer Port is the construction of breakwaters, which are being prepared for implementation by the Maritime Office in Gdynia in cooperation with the Port Authority.

The recent period is marked by Russia's aggression against Ukraine. This affects the activity of Polish ports. How has this situation affected the handling of raw materials and grains at the Port of Gdynia? Do you see other consequences of these events in the East?

Increased grain volumes (particularly in imports) have made bulk cargo infrastructure a priority for ports. In the Port of Gdynia, the HES Gdynia Bulk Terminal has started investment works at the Śląskie Quay. As part of the project, the company will build a storage area for grain with a capacity of approx. 65,000 tons, along with modern technology of conveyor flyovers, stations for loading and unloading cars and unloading wagons, using the anticipated and effective bottom chute technology. In turn, Mondry Terminal Gdynia is working based on the infrastructure of the Baltic Grain Terminal. This is currently limited in terms of full operation, because the reconstruction of the Indian Quay, where the terminal is located, is underway. The berth of the length of approx. 540 m will be extended by 6 m and deepened to 15.5 m, so as to enable access for the largest bulk carriers entering the Baltic Sea. In the future, the new quay construction will enable the deepening of the basin to 17 m. After the end of 2022, the Port of Gdynia maintained its number 1 position with the largest Baltic transshipments in

the grain cargo group, and this position is unthreatened.

In 2022, coal imports to Poland increased by as much as 61.3% and amounted to 20.1 million tons. While in 2021, most of the imported coal came from Russia (approx. 65%), in 2022, suppliers were more fragmented. The main means of transport by which coal was delivered to Poland also changed. Before the outbreak of war in Ukraine, deliveries were mostly made by rail transport from Russia, while the change of coal suppliers to distant overseas countries meant that in 2022 most of the coal came to Poland by sea. In 2022, the largest shares

of supplies were provided by Australia (15.4% of Poland's total imports), Kazakhstan (14.9% of Poland's imports), South Africa (14.3% of Poland's imports) and Colombia (12.9% of Poland's imports). The volume of imported Russian coal decreased by 68.5% compared to 2021, when Poland imported 8.2 million tons of coal from this country. Most deliveries from Russia took place in the first quarter of last year, as Poland was the first country to introduce an embargo on Russian coal, in April 2022. Such EU-wide bans were only established in August 2022.

The announcements of the Polish government show that in 2023, Poland will continue to import coal for household needs, and the directions of imports will be the same as in 2022. Imports are to continue until the demand is covered 100% by domestic production. Imports of coal from overseas directions will be reflected in port transshipments.

What investments outside the port area are crucial for the development of the Port of Gdynia (Logistics Valley, Red Road, railway infrastructure)?

Logistics Valley is an area of approx. 260 ha, located in the south-eastern area of the Kosakowo commune. This area is the direct hinterland of the Port of Gdynia, under the Regulation of the Minister of Maritime Economy and Inland Navigation of 27 April 2020, on the boundary of the seaport in Gdynia. These are areas constituting an industrial and service zone in the city, with basic road infrastructure, largely undeveloped and covered to a significant percentage by meadow vegetation. The location of the Logistics Valley area will allow the use of a combination of sea, road and rail transport, which will be an important point in the entire logistics scheme of Poland and Europe. The planned project will be located between transport

hubs and infrastructure elements, such as:

- Port of Gdynia, located approximately 1.5 km from the project's borders,
- Railway stations: Gdynia Główna, Gdynia Stocznia-Urząd Morski, Gdynia Grabówek, Gdynia Leszczynki, Gdynia Chylonia and Gdynia Cisowa, Rumia Janowo, Rumia, Reda, Wejherowo,
- Planned road layouts: ViaMaris to Władysławowo, and the Red Road, the most important for the Port of Gdynia and the Gdynia agglomeration, enabling the connection of the Tri-City Ring Road to the Logistics Valley, where a central car park for trucks is planned first, and then to the port terminals. This will make it possible to relieve congestion on the existing Kwiatkowski flyover. This investment, carried out by the Gdańsk branch of GDDKiA, is to be completed by 2030.

The fundamental railway investment for the Port of Gdynia is railway line No. 201 – modernization is carried out by PKP PLK S.A. and the planned completion date is 2027. This will make it possible to relieve the current railway lines throughout the Tri-City, where passenger transport is a priority.

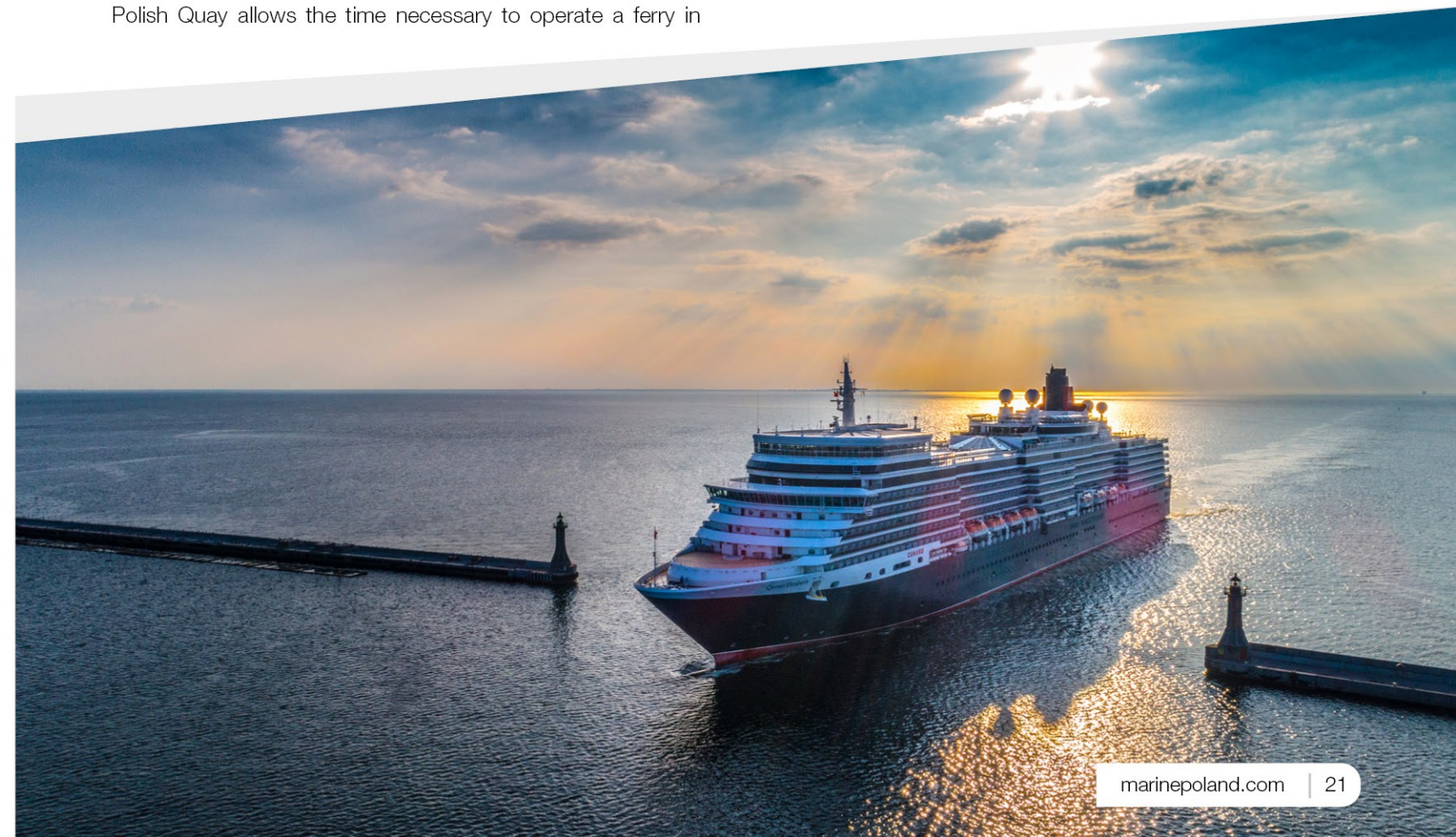
Infrastructural projects are an important element of development. Last year you launched the Public Ferry Terminal. What changes has this investment brought?

The Public Ferry Terminal is the largest investment in the Port of Gdynia in almost 50 years. It has enabled the calls of larger ferries with a length of up to 240 meters, while increasing the port's capacity to handle ro-ro and ferries. Its location on the Polish Quay allows the time necessary to operate a ferry in

the port to be significantly shortened and its safety increased. In addition, the modern terminal allowed for the organization of shipping on new ferry routes from the Port of Gdynia to various directions in the Baltic region. This also enables the servicing of other ferry operators. Due to the location closer to the city center, the accessibility of the terminal for residents has improved.

Many cruise ships from all over the world call at the port. How do you assess the calling of such spectacular cruise ships for the image of the port and the region?

The Port of Gdynia has a significant impact on the economy of the region and the country in the context of cruise ship services. Due to its favorable location, the port of Gdynia is a Polish port adapted to receive the largest cruise ships entering the Baltic Sea. The ability to handle these vessels sailing on the Baltic Sea makes the Port of Gdynia an ideal gateway to the tourist attractions of Pomerania, as well as to other regions of Poland. Thanks to its location, quality of services, safety of the port and the region being attractive to tourists, the Port of Gdynia has been a world-renowned destination for cruise ships for years. The reception of cruise ships by the Port of Gdynia is conducive to the promotion of the beauty of the Tri-City and its tourist attractions among guests from different countries. The hospitality and the rich tourist offer together attract more visitors to our region, not only for short visits, but also for longer stays.





PORT OF SZCZECIN-ŚWINOUJŚCIE: DEVELOPMENT STRATEGY, INVESTMENTS, MODERNIZATION

We discuss the development strategy of the Szczecin-Świnoujście port, plans for the modernization of infrastructure, and adaptation to accommodate larger vessels and service offshore wind projects with **Krzysztof Urbaś**, the President of Szczecin and Świnoujście Seaports Authority.

Last year, the dredging of the waterway in Szczecin-Świnoujście was completed to a depth of 12.5 meters, a significant infrastructure project. What are the next stages and steps in adapting the quays and terminals of the port to accommodate larger vessels, made possible by the deepening of the waterway?

Szczecin and Świnoujście Seaports Authority, in order to harness the potential of the 12.5-meter waterway to Szczecin, continues with the following projects: improving access to the port in Szczecin in the Kaszubski Basin area, improving access to the port in Szczecin in the Dębicki Canal area, and the reconstruction of the Cooperative Quay in the port of Szczecin. We will soon commence another investment task to adapt the Zbożowe Quay to a depth of 12.5 meters. We plan to sign a construction contract later this year, and the work will continue until December 2024. In our long-term plans,

based on the Port Development Strategy until 2030, there is also a project to build the Dąbrowiecki 2 Quay, along with the immediate development of infrastructure in the Kaszubski Basin area.

Recently, there have been two events that significantly position the development of the Szczecin-Świnoujście port towards servicing projects related to offshore wind energy. These events include the construction of the Vestas Turbine Factory on the former ST3 Offshore site and the construction of an installation terminal by Orlen. What are the next initiatives that will help harness the momentum generated by these two projects and further utilize the port's infrastructure for expanding offshore wind farms?

Szczecin and Świnoujście Seaports Authority, in addition to the areas under the company's ownership where the Installation Terminal for Offshore Wind Farms (MFW) is being developed in cooperation with Orlen Neptun, has recently acquired neighboring land totaling approximately 26 hectares. This is in line with the adopted strategy, within which we implement the provisions of the Act on Seaports and Maritime Ports regarding real estate and areas within maritime ports. The entire area falls within the boundaries of the Maritime Port of Świnoujście, with a designated port-industrial function according to the provisions of the Local Spatial Development Plan. Additionally, as part of the shoreline/quay to be connected to the Installation Terminal, an additional 4 hectares will be reclaimed, creating a unified investment area totaling approximately 30 hectares. This substantial potential, along with the construction of necessary facilities and an additional berth for handling WTV (Jack-up) installation vessels, will double the operational capacity of the emerging Installation Terminal (to handle 160-170 turbines annually). The new project of Szczecin and Świnoujście Seaports Authority, titled "Development of the transshipment capacity of the Świnoujście seaport for the needs of offshore wind energy – Phase II", will simultaneously and independently allow the assembly of two wind farm projects, including those in the Polish Baltic Sea. The need for this project arises from the necessity to adapt port infrastructure to the challenges of the coming decade, associated with large-scale investment projects for offshore wind energy. In June 2023, the project was submitted for revision under the National Recovery Plan (KPO) being developed by the Ministry of Finance for REPowerEU support, with a completion period until the end of 2026. Currently, Szczecin and Świnoujście Seaports Authority is in the process of preparing the Functional-Utility Program.

Due to the conflict with Russia, Ukraine has practically lost the ability to operate through its ports. Most shipowners are concerned about using these ports for transshipment. However, Ukraine has not lost its land connection with Poland. Therefore, Polish ports have taken over some of the activities that were previously carried out by Ukrainian ports, particularly concerning the export of Ukrainian goods. How does this cooperation between Poland and Ukraine manifest in Szczecin-Świnoujście?

Despite the better location of the Gdańsk and Gdynia ports, in relation to the border crossings with Ukraine and the main transportation routes, the ports of Szczecin and Świnoujście have also partially taken on the burden of exporting Ukrainian goods. Elevators located in both Szczecin and Świnoujście transshipped nearly a quarter of a million tons of Ukrainian corn and sunflower seeds, mainly to Western European countries, up until July 31, 2023. Our ports exported over 1.1 million tons of wheat (partially of Ukrainian origin) to various destinations such as Morocco, Nigeria, Spain, Germany, Guinea, South Africa, Tanzania, Congo, Liberia and Madagascar from March 2022 to July 2023 (since the outbreak of the war). Ukrainian goods are not limited to grains; we have also handled iron ore concentrate produced in ArcelorMittal facilities in Kryvyi Rih, amounting to over 670,000 tons. Additionally, we handle other Ukrainian products such as steel products and various general cargo. Interestingly, we are also transit ports for goods being imported into Ukraine. We have served, for example, two large LNG tankers on the L. Kaczyński Terminal, which carried liquefied natural gas for the Ukrainian economy, as well as ships carrying coal that was later delivered to Ukraine.

The construction of a deep-water container terminal in Świnoujście is gaining momentum. How do you see this terminal expanding, and how will it impact the activities of the Szczecin-Świnoujście port? Is there a plan for a holistic vision of cooperation among various container terminals in Polish ports to avoid competition between the terminals in the Tri-City area and Świnoujście, and achieve a synergistic effect that enhances the quality of service for container carriers?

The Deep-Water Container Terminal in Świnoujście is a strategic development project led by Szczecin and Świnoujście Seaports Authority. The establishment of the deep-water container terminal will primarily enable better utilization of the port's potential in Świnoujście. The significant strength of this project is its location. Świnoujście's proximity to the

Danish Straits facilitates and reduces the costs of operations for oceanic vessels in the Baltic Sea. The port's location also provides easy access to southwestern Poland and eastern Germany and the Baltic-Adriatic corridor, connecting Slovakia, the Czech Republic, Austria, and even Hungary and the countries bordering the Adriatic Sea. The ports of Szczecin and Świnoujście are on the primary route from Scandinavia to southern Europe. Moreover, the port of Świnoujście is listed both in the core network of TEN-T maritime ports and inland waterways, thanks to its connection to the Odra River Waterway and the Western European waterway system.

Regarding the connection of the port to the hinterland, it is essential to mention the railway and road infrastructure. Substantial investments in the railway infrastructure of the Szczecin and Świnoujście ports, amounting to around 1.5 billion PLN, have been carried out with the aim of improving the connection between the port's railway system and the national railway network. The future terminal will be connected to the national railway transport system via the international railway mainline E59/C-E59. The S3 expressway will soon fully connect the ports of Szczecin and Świnoujście to the highway and expressway network in Poland and Central Europe. The

modernization of the S10 expressway is also underway. All these investments will be completed before the planned launch of the deep-water container terminal in Świnoujście.

The Baltic Sea, with its many surrounding countries and relatively small size, is an excellent location for ferry connections between different countries. Polish ferry operators are currently expanding their fleets. Foreign ferry operators are also coming to Świnoujście with their connections. What prospects do you see for expanding the ferry network, and are there discussions about new destinations and routes, perhaps even in light of the conflict in Ukraine and the isolation of the Kaliningrad region? Is the Baltic Sea highway waiting to be developed?

Indeed, the Baltic Sea is an excellent location for ferry navigation, as exemplified by the Ferry Terminal located in Świnoujście. The terminal handles up to 13 arrivals per day and 78 arrivals per week, making it a key element of the virtual bridge – the maritime highway between continental Europe and Scandinavia. Świnoujście maintains connections with Trelleborg and Ystad. This direction (southern Baltic/Scandinavia) is the primary focus for Szczecin and Świnoujście

Seaports Authority. The authority is responsible for the terminal's infrastructure, and continuous development is aimed at creating the best conditions for operators using the terminal while constantly expanding the infrastructure. The modernization of the terminal to accommodate the largest ferries and enable intermodal transport is currently in completion. The investment is planned to be made available to ferry and railway operators in October 2023. It is important to note that having the right infrastructure is not a sufficient condition to open a new ferry line. The creation of new connections is the responsibility of ferry operators, who, based on market analysis, cargo flows, and their customers' needs, decide on the possible opening of new routes, always taking into account the profitability of the undertaking. Szczecin and Świnoujście Seaports Authority engages in discussions with ferry operators, presenting new possibilities, but the final decision is always in the hands of the transport operator.

Indeed, the conflict in Ukraine presents potential opportunities for opening new parallel connections. However, it should be noted that establishing and developing a profitable new route takes years. Therefore, building a business plan based on variables and crisis conditions would entail significant risks for ferry operators. The port authority has been working on the

idea of a connection between Świnoujście and Klaipėda for many years. Market analyses conducted by potentially involved parties, such as Szczecin and Świnoujście Seaports Authority, ferry operators and road carriers, have indicated insufficient profitability and potential for opening such a connection. Previous discussions with ferry operators have confirmed the sporadic and irregular flow of cargo on this route, and the interest from transport and forwarding companies is insufficient to ensure the profitability of this endeavor. Flexible road transport is generally favored, which further benefits from the continuous modernization of railway and road infrastructure. It is also worth noting the existing routes to Rostock and Travemünde and, most importantly, the fact that one of the ferry operators already offers an indirect Świnoujście-Klaipėda connection via the port of Trelleborg. If there is demand for such a connection from the ferry market, we are ready to start servicing vessels to support such new destinations. We once again emphasize the full readiness of our infrastructure to handle an increased number of connections.

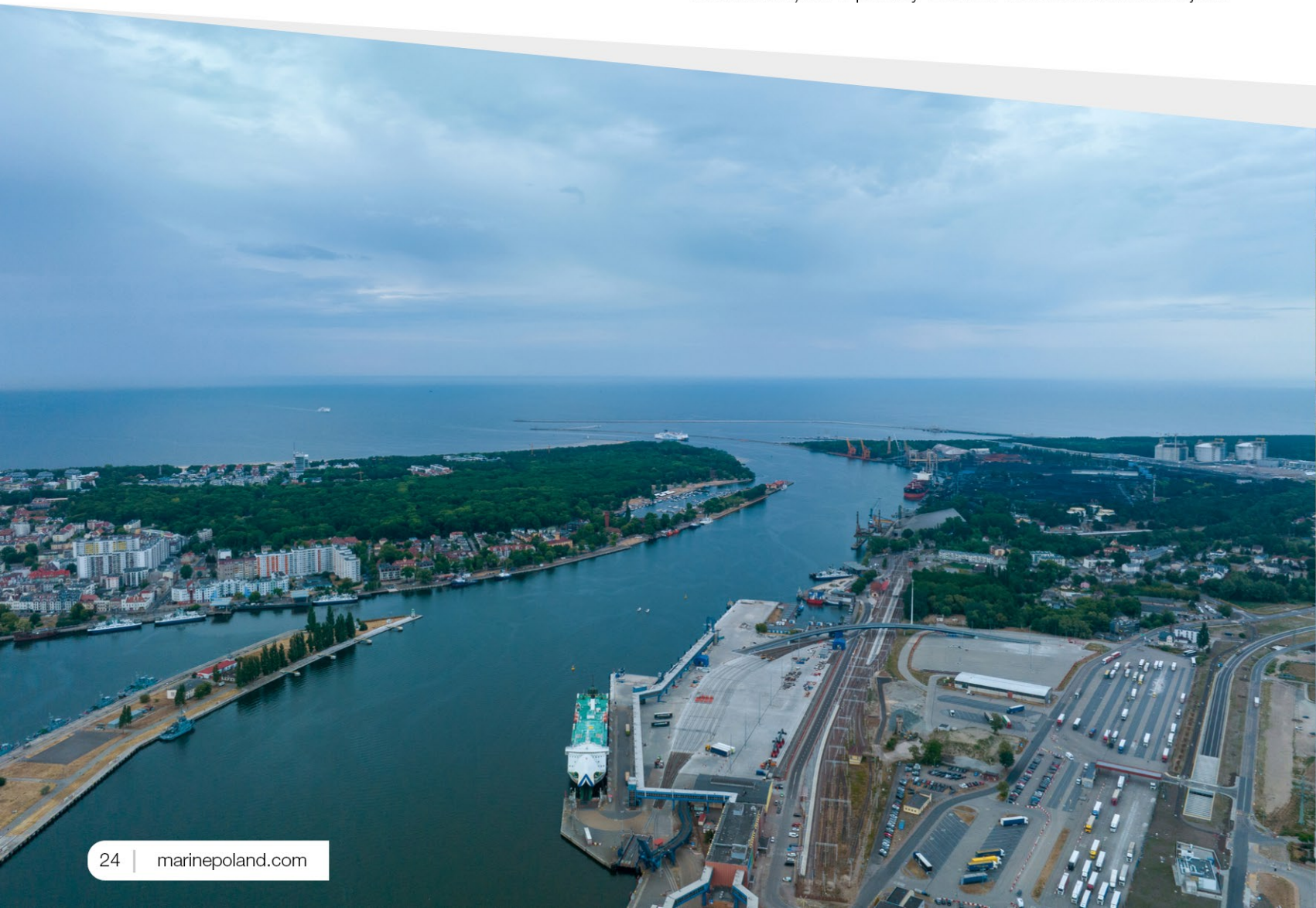




Photo: Szczecin and Świnoujście Seaports Authority

PORT ŚWINOUJŚCIE – THE FIRST INSTALLATION TERMINAL FOR OFFSHORE WIND FARMS IN POLAND

In the early 2025, the port of Świnoujście is going to finalise the first installation terminal for offshore wind farms on the Polish coast. The lease contract was signed in the autumn of 2022, less than a year after the Szczecin and Świnoujście Seaports Authority acquired a new plot of land in the port of Świnoujście. Thanks to this unique project and the cooperation with the RES industry, the Ports Authority will become a leader in the port market.

– *When in December 2021 we acquired new plot of land in Świnoujście to expand port operation, we knew that it would be ideal for an installation terminal, says Krzysztof Urbaś, President of the Szczecin and Świnoujście Seaports Authority.*

– *Soon after that, we announced a tender for the lease of the land. And since we had all documents in place, we were able to complete the entire procedure in less than nine months, adds President Urbaś.*

Ideal location

Świnoujście, due to its favourable geographic location, is ideally suited for an installation terminal. The terminal will be

built on a plot of 20 hectares. Its infrastructure will be capable of handling the largest 4th generation wind turbine installation vessels (WTIV). Such WTIVs have increased lifting capacity of their cranes and handling equipment, suitable to transport key wind farm components, such as turbines, towers, and foundations. More importantly, the port offers unhindered access from the sea, which, in the case of the inner port, supports transport of large wind turbine components and maintain safe navigation clearance. Specialist vessels engaged in advanced construction work will also use the port together with ships responsible for supplies and logistics.

The new terminal in brief

The project includes the construction of new quays of about 485 meters and a permissible technical depth of 12.5 meters. The quays will include ten stations for wind turbine tower pre-assembly. A new approach channel of 12.5 m in depth and 140 m width will provide access to the quays. Every year, onshore storage yards will be built to handle up to 80 wind turbines of 15MW each.

The Szczecin and Świnoujście Ports Authority, a pioneer in the port market for the second time

The Seaport Authority is the first in the country to have an installation terminal for offshore wind turbines (OWT). In a similar vein to the construction of President Lech Kaczyński LNG Terminal, the port has become a pioneer for offshore wind energy industries in the Polish port market.

New terminal brings new jobs

The development of the port of Świnoujście with the new terminal is a tremendous opportunity for the entire region. Studies show that one job in the port can generate eight jobs in port-related industries.

This is also a serious opportunity for the rapid development of the West Pomerania Region, which is already a country leader in RES industries.

– *The port business environment in Poland is highly volatile. This is reflected in our new investment projects, both those already underway and new ones. We are committed to implemented them to create a fully universal port prepared for every opportunity and every cargo type that can go through the ports of Szczecin and Świnoujście, adds Mr. Krzysztof Urbaś.*



Photo: Baltic Hub

BALTIC HUB EXPANDS WITH THE **NEW** DEEPWATER QUAY **TERMINAL T3**

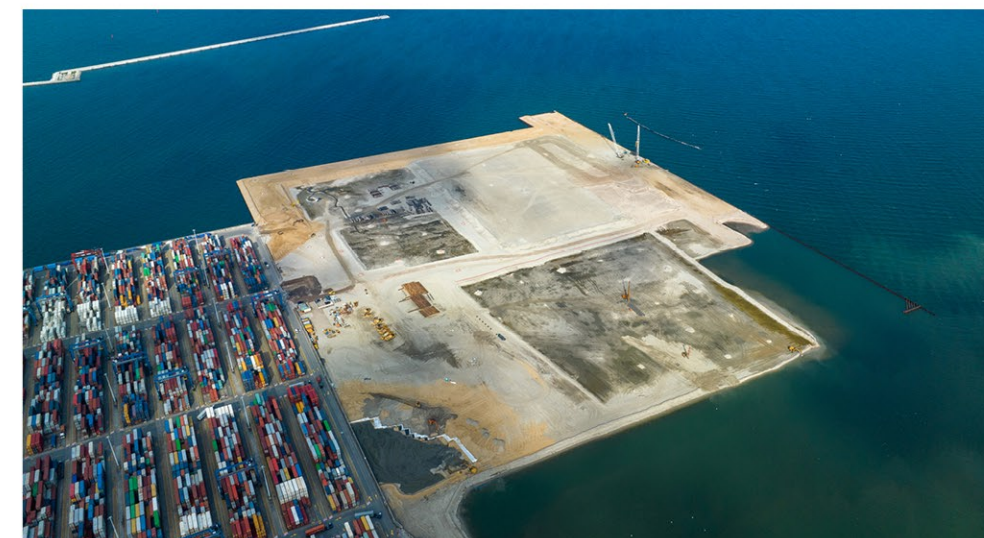
On November 28, 2022, Baltic Hub (formerly known as DCT Gdańsk), the operator of the largest container terminal in the Baltic Sea, ceremoniously began the construction of T3 – the third deepwater quay, in the presence of the Undersecretary of State at the Ministry of Infrastructure, **Marek Gróbarczyk**.

The container terminal, Baltic Hub, the largest of its kind in the Baltic, is expanding with a brand new sea-based quay named T3. This investment will increase the transshipment capacity of the Gdańsk-based company by 1.5 million TEU (twenty-foot equivalent units) to a total of 4.5 million TEU annually. The new quay will be 717 meters long and have a depth of 18 meters. It will also feature a maneuvering and storage area with an operational surface of 36.5 hectares. – *Baltic Hub is a true 21st-century terminal, and the construction of T3 will introduce the most modern low-emission technologies, which any European port would be proud of. Even the concrete used in construction will have a lower carbon dioxide emission impact* – explained Charles Baker, Managing Director of Baltic Hub. – *Baltic Hub Terminal 3 will significantly enrich our service offering for clients and serve as a major stimulus for acquiring new services or shipping alliances, as well as supporting the development of the Polish and neighboring economies.*

Construction divided into two phases

– *This is a massive investment for us, amounting to around 500 million euros. There is a lot of hard work ahead of us to complete Terminal T3 by the summer of 2024* – added the Baltic Hub CEO.

The construction of T3 is divided into two phases. In the first phase, a consortium of the companies Budimex and DEME is building a 36-hectare platform adjacent to Terminal 1 (T1). This platform is being built entirely at sea and is expected to



be completed by the first half of 2024. The second phase of the investment began in early 2023 with the construction of the quay wall. The completion of the works is scheduled for the second quarter of 2025.

The construction of T3 started with dredging operations. Two suction dredgers were used to remove over 5,000 cubic meters of material from the seabed. This material was then used to build the platform that will become Terminal T3.

Simultaneously, caisson works were carried out on the northern section of the quay that closes off Terminal T3, using two working pontoons.

Subsequent dredging operations extended beyond the T3 basin area, to the northern areas near the turning basin and the approach channel. Refilling work was also conducted related to the construction of an overload embankment in the first phase of the investment, as well as the filling of the northern wall and the main terminal quay.

In April, the construction of the sealing wall of the northern quay was completed. This was followed by the piling of the main terminal T3 quay. The sheet piles used for piling are between 35 and 40 meters long. The materials required for building the terminal include 11,000 tons of structural steel and 8,000 tons of reinforcement steel.

Modern, semi-automated terminal

Terminal T3 will be semi-automated, a novelty in Poland and a current trend worldwide. This means that as part of the project, 8 quay cranes capable of loading and unloading the world's largest ships will be acquired, along with 28 semi-automated RMG cranes that will be remotely operated by operators in ergonomically designed workstations. This will create a much safer, more modern, and comfortable working environment throughout the year.

The expansion of the largest container terminal in the Baltic Sea

will bring many economic benefits to the country and the region. Baltic Hub will further increase the flow of goods, and the new quay extending into the sea will facilitate access for the largest oceanic vessels, thereby enhancing connections with other continents.

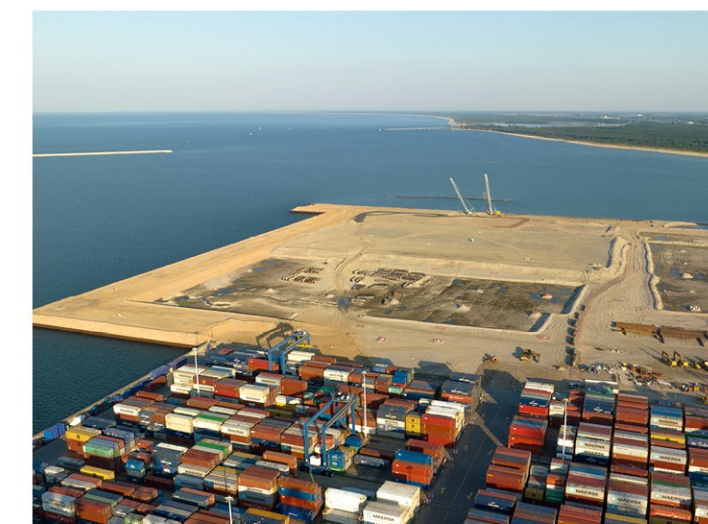
Baltic Hub - the fastest growing container terminal in the Baltic Sea

Baltic Hub, launched in 2007 as DCT Gdańsk, is currently the largest container terminal in the Baltic Sea.

Its current throughput capacity is up to 3 million TEU annually. The total length of the terminal's two deepwater quays is 1.3 kilometers, allowing for the handling of four ships simultaneously. The terminal handles over 700 vessels annually, including 100 calls by the world's largest 400-meter-long container ships.

In 2022, the terminal handled precisely 2,072,727 TEU. Although slightly lower than in 2021 (when 2,092,432 TEU were handled), this is still a very good result given the market situation. It is also a better outcome than expected following the imposition of sanctions on trade with Russia and the termination of cooperation with Russian ports.

In 2022, several records were set at Baltic Hub. In March, the terminal achieved a record throughput of 206,645 TEU, a 9% increase compared to the previous record set in January 2020. In July, the terminal – still under the name DCT at that time – set a record for the highest number of movements during the handling of a single ship. To unload and load the container ship Madison Maersk, exactly 13,172 crane movements were performed.





NAFTOPORT: CARGO RECORDS AND THE PATH TO ENERGY INDEPENDENCE

In our conversation with **Andrzej Brzózka**, the CEO of Naftoport, we explore the significance of this strategic terminal for the Polish economy, and the challenges related to its security and infrastructure.

The year 2022 proved to be a challenge for Naftoport. It was a record-breaking year in terms of cargo handling and a year in which Naftoport had to assume a new role as a guarantor of crude oil supplies to Poland. How do you assess cargo handling in 2023? What is Naftoport's current impact on the Polish economy?

Over the past five to six years, except for the pandemic year, our terminal has consistently increased its cargo handling capacity. This has been controlled, stable growth. However, in 2022, due to the outbreak of war and changing geopolitical circumstances, we were forced to operate under entirely different conditions. We had to adapt to a sudden surge in demand. We prepared organizationally for this situation, but even our boldest forecasts did not anticipate such a jump. In 2021, we reached a record level of cargo handling, totaling 18 million tons and it seemed that this level would be

maintained in the following years. However, in 2022, due to the changing situation, we handled almost 25 million tons of crude oil and petroleum products. But, it does not end there. In the meantime, Europe had practically abandoned supplies of Russian resources, leading to a significant increase in demand for our services. Between February and August 2023, we recorded a 60% increase in cargo handling compared to the previous year. This means we expect to end this year with a result totaling over 36 million tons of crude oil and fuel products. As for our role, since February – through the PERN logistics system – we have been the sole source of crude oil supplies to Poland, and also a crucial, highly versatile fuel terminal enabling supplementary deliveries of finished fuel products. Our role has become pivotal, and our ability to adapt to changing conditions has allowed us to meet current challenges. This ensures the stability of supply for the national economy and the ability to deliver finished fuel products to the global market.

Regarding the 36 million tons, it seems that this was once just a theoretical concept of the terminal's capabilities, but now it has become a reality. How do you assess the effectiveness of your system and your terminal in the face of such a massive load?

Indeed, I consider it a significant achievement for our company. I would like to mention that when I started my tenure on the board over six years ago, we defined our cargo handling capacity as a maximum of 36 million tons of crude and 4 million tons of fuel, exceeding the volumes we were handling at that time, which were around 12-14 million tons annually. At that time, it was challenging to determine how much cargo we could handle. However, based on the parameters of our equipment and installations and the long-standing experience of Naftoport's staff, we adopted these values, which, from today's perspective, have proven to be accurate, as each subsequent year of growth has confirmed. In our strategy, we even assumed the most dramatic emergency scenarios, such as the complete cessation of pipeline deliveries, which, as we now know, has become a reality.

When this happened, we were prepared. Over the years, we have implemented structural and organizational changes in our terminal, increased our human resources, and developed the necessary expertise in the oil industry and regarding

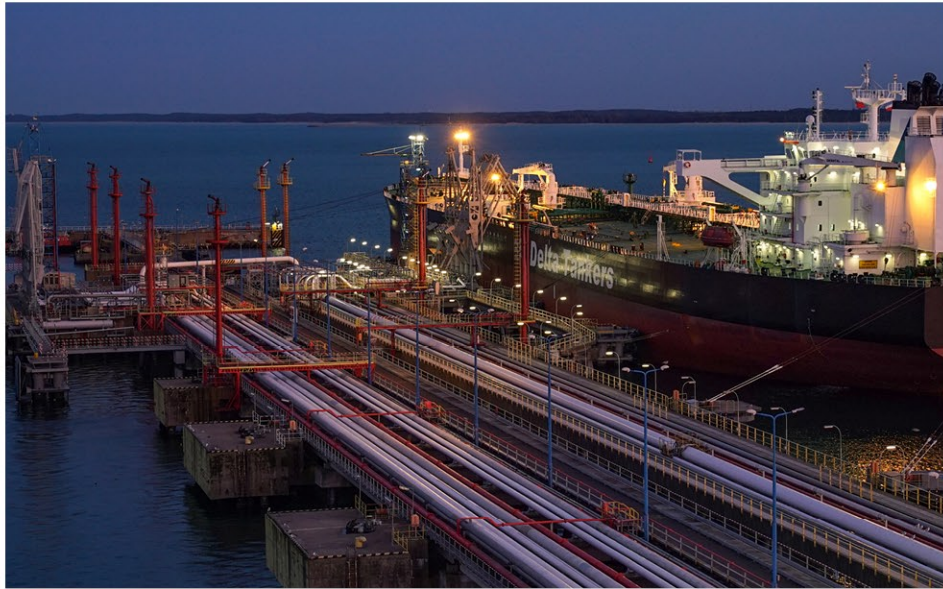


maintenance issues. Our organizational and technical efforts have allowed us to smoothly and efficiently cope with the sudden increase in cargo handling. What was once difficult to imagine has become a reality, and we have maintained operational continuity in the face of a significant load. In August, for example, we had a record number of ships in the terminal – 44 vessels, along with a record cargo handling volume. Our goal now is to maintain the technical efficiency of the terminal and continue its development.

I understand that with this increase in cargo handling, you are introducing another investment – a new loading station. Could you say a few words about this?

Yes, we initiated the investment process in January this year. A few years ago, we had already prepared the concept of this station, considering potential growth in response to future demand. This means that we had a plan and technical solutions in place. In January this year, we began the concrete phase of the investment. Currently, preparations for the investment are underway, including design work and obtaining the necessary permits.

The actual construction of this new loading station has not yet begun but may start in about 2-3 years. The new station will be the sixth at our terminal, the fourth for unloading raw materials, and the second for VLCC (Very Large Crude Carriers). Its primary purpose is to increase Naftoport's future capacity to meet the growing interest of foreign customers in using our infrastructure for deliveries. Additionally, the new station will allow us more flexibility and efficiency in servicing the existing terminal infrastructure. We will have the opportunity for rotation and the availability of stations for work, which will enable us



Baltic Sea. In typical operational conditions, once this station is completed, the terminal's capacity will increase by approximately 9 million tons of crude oil per year.

So this will be an additional 9 million tons. Is Naftoport's current infrastructure theoretically capable of handling 40 million tons?

Yes, our theoretical capabilities are 36 million tons of crude oil and 4 million tons of fuel, as assessed many years ago. Now, after years of operation and investments, we see that we are able to handle these quantities smoothly. When this year draws to a close,

it will allow us to further verify our capabilities. The renovation and modernization work we have undertaken will enable further growth in cargo handling volumes. I believe that, over time, we will start to increase our declared terminal capacity in terms of crude oil handling.

Regarding the ratio of crude oil handled at Naftoport to Poland's demand, can we say that Naftoport now supplies the entire country's needs?

Currently, Naftoport, along with the PERN pipeline and tank system – the major shareholder of the company – covers the entire demand for crude oil for Polish refineries and fulfills all

domestic needs. Additionally, we also provide supplementary deliveries to refineries in Germany.

So, is it safe to say that Poland is now fully energy-independent when it comes to crude oil, and independent of supplies from Russia?

Yes, that can be confirmed. This process was very dynamic and was completed between December last year and February this year. Russian deliveries, both maritime and land-based, were reduced and eventually ceased. Poland is now fully energy-independent from Russia in terms of crude oil.

What security measures does Naftoport undertake, considering its crucial role in crude oil deliveries to Poland?

Of course, for security reasons, I cannot delve into specific details, but I can provide some general information. Naftoport has a long and significant history of security services. As early as 2001, Naftoport received the ISPS certificate, making it the first port operator in Poland to do so. I would venture to say that it is the most secure civilian port facility in Poland, a fact confirmed by maritime authorities and other government agencies through relevant audits. Over twenty-something years of intensive work in this field, we have been able to develop traditional physical protection methods, introduce modern technical means of security, particularly

those related to maritime safety, and, most importantly, build expert knowledge in this area.

Our security covers various sectors – land, sea and, recently, air as well. Naturally, we also comply with all requirements in the field of cybersecurity, essential for such facilities. We operate in all these areas, taking into account current threats, including those related to the use of unmanned vehicles. Our investments in this area are a crucial part of our security strategy. We also collaborate with relevant units to enhance the protection of our terminal infrastructure.

What is the significance of PERN's investments in storage infrastructure for the operational efficiency of Naftoport?

It should be emphasized that all the events of the last six years would not have been possible without the daily work of PERN and effectively implemented investments in our region. Besides the visible TNG oil terminal close by, the storage base for crude oil in Górkki Zachodnie has also increased. This means that on the Gdańsk Coast, we now have a kind of raw materials hub with a capacity of up to 1.9 million tons. This is a massive tank capacity that contributes to the efficiency of our oil logistics system and refinery production. The increase in storage capacity in recent years has allowed the entire system to smoothly transition and adapt to the current intense mode of operation.

to maintain the infrastructure through repairs and upgrades. This means that the terminal will be adapted to the foreseeable needs of the oil industry in the longer term.

What types of vessels will this new loading station be able to handle, and will it increase Naftoport's handling capacity?

The new loading station will be able to handle the largest vessels that enter the Baltic Sea. These are vessels with lengths of up to 340 meters, though they must have a draft of no more than 15 meters due to the limitations at the entrance to the





THE VISTULA SPIT CANAL – AN INVESTMENT FOR THE DEVELOPMENT OF MARITIME TRANSPORT ROUTES

The Vistula Spit Canal is a long-term project involving the construction of a new waterway connecting the Vistula Lagoon with the Gdańsk Bay. It is one of the largest investments in Poland in the 21st century. It holds immense significance for the development of maritime transport routes, improving navigation safety, and increasing the competitiveness of ports on the eastern coast of Poland. Within 10 months of the canal's opening, nearly 1000 watercraft passed through it.

The Vistula Spit Canal is the largest infrastructural investment on the Polish coast, creating a new navigational route by connecting the Vistula Lagoon with the Gdańsk Bay. The location for the canal was chosen at the former settlement (currently uninhabited) of Nowy Świat in the Sztutowo commune. The canal is 1.3 km long and has a depth of 5 meters.

The canal is a part of the waterway project connecting the Vistula Lagoon with the Gdańsk Bay, including the watercourse leading to Elbląg, with a total length of 22.88 km and a depth of 5 meters. It consists of sections along the Elbląg River – 10.38 km, the Vistula Lagoon – 10.18 km, and within the Vistula Spit along with the outer port – 2.32 km.

Investment objective

The investment aims to enhance the economic attractiveness of the Warmian-Masurian Voivodeship, particularly Elbląg and its port, as well as other ports in the Vistula Lagoon. The water

route to the Baltic Sea, previously passing through the Strait of Baltiysk, has been shortened by almost a hundred kilometers. Thanks to the Vistula Spit Canal, ships can reach Elbląg bypassing Russian waters. This new infrastructural solution is intended to drive regional economic development, including tourism – many yachts and sailboats use the canal.

Geopolitical significance

The construction of the Vistula Spit Canal holds significant geopolitical importance for Poland and the region. This new investment will strengthen Poland's position as a key player in the Baltic region, facilitating more efficient trade and access to other countries through the Baltic Sea. Poland will become a more attractive destination for investments and business due to improved port accessibility. The canal's significance is heightened in the context of the conflict in Ukraine, as it allows bypassing hostile Russian territories and evading the issues related to sanctions imposed on Russia. This benefit is particularly leveraged by fishing vessels.

Poland is focusing on diversifying its energy supplies, including natural gas. The Vistula Spit Canal could facilitate access to gas infrastructure and increase flexibility in gas imports, contributing to the country's energy security.

Construction progress

The Maritime Office in Gdynia is the investor of the project, while the NDI/Besix consortium is the contractor. The work took place from October 2019 to September 2022. During this time, a protective port was constructed on the Gdańsk Bay side, while a navigational canal with a lock and closure structures were built, along with waiting positions on both the Gdańsk Bay and Vistula Lagoon sides. A new road system with vertically pivoting steel bridges was also established, enabling passage over the canal. Additionally, an artificial island was built on the Vistula Lagoon.

Official canal opening

The opening of the Vistula Spit Canal occurred on September 17, 2022, with the first ship, Zodiak II, sailing through it. "We are opening the Vistula Spit Canal. We have been waiting for this moment for many, many years. On this symbolic day, we will break away from Russia's dominance in the region. Ships will gain unrestricted access to all ports in the Vistula Lagoon and, most importantly, to the seaport in Elbląg," stated Marek Gróbarczyk, Deputy Minister of Infrastructure.

Elbląg waterway – the second stage

The functionality of the new route connecting the Vistula Lagoon with the Gdańsk Bay depends on the ability to reach the port of Elbląg with large vessels. This requires the dredging of waterways on the Vistula Lagoon and the Elbląg River, as well as the modernization of access infrastructure.

The reconstruction of the Elbląg waterway represents the second stage of the investment, projected to conclude by the end of 2023. It includes revamping the existing waterway along the Elbląg River with shore protection elements, which will ultimately serve as flood embankments. The construction of low ports to facilitate river access is also part of this phase. The opening of a rotating bridge over the Elbląg River in Nowakowo and the deepening of the waterway on the Vistula Lagoon and the Elbląg River are also included.

Concurrently with the second stage, the third stage involves the construction of a waterway on the Vistula Lagoon.

The total cost of the investment is estimated at PLN 2.127 billion and is financed from the state budget.

Report after 10 months of canal operation

The Maritime Office in Gdynia reported that from September 18, 2022, to June 22, 2023, a total of 991 vessels passed through the navigational canal on the Vistula Spit. These vessels were primarily from Poland, but there were also foreign flags, including Swedish, Norwegian, German and French. Due to the ongoing second and third stages of the investment, involving the deepening of waterways and access infrastructure, smaller vessels such as yachts, sailboats and fishing boats have predominantly used the canal so far. The canal also facilitates the operations of technical craft involved in the subsequent two stages of the entire investment.





ALAN ALEKSANDROWICZ, PRESIDENT OF **INVESTGDA**: THE DEVELOPMENT OF THE **POMERANIAN LOGISTICS CENTER** IS IN ITS FINAL STAGES

We talk with InvestGDA's president, **Alan Aleksandrowicz**, about the development prospects of port-related areas and the company's involvement in the construction of logistics and industrial facilities in Gdańsk.

Recently, the role and importance of Polish ports has increased rapidly, thus increasing the value and potential of the port hinterland areas. How is the commercialization of these areas progressing and what are the future prospects?

With regard to the Pomeranian Investment Center (PIC), we have just finalized a very important transaction. At the back of the Baltic Hub terminal, directly behind the GLP Pomeranian Logistics Center, CTP will implement the CTPark Gdańsk Port investment consisting of the construction of a total of nearly 119,000 m² of modern warehouse space. Two energy-efficient warehouse buildings will have an area of 81,400 and 37,500 square meters, respectively. The roofs of the buildings are to be adapted to the needs of a photovoltaic installation, which

will allow for the production of a total of 11.6 MWp – equivalent to the energy demand of approx. 2,000 residential houses. This is another milestone in the development of PIC following the construction of the Northvolt factory.

We also want to accelerate the implementation and development of the Pomeranian Logistics Center area by GLP, where the main logistics zone is still being built. The project covers over 40 ha in the immediate vicinity of the container terminal, i.e., Baltic Hub. The potential is over 100 ha. I believe that this process should become more dynamic and we are talking to GLP about this. We are trying to create conditions for them to be able to build faster, especially now, when we have our "5 minutes" for logistics, even though other real estate investments have slowed down, especially in the area of apartments.

The Pomeranian Investment Center comprises the Koga office project, the Northvolt factory and CTPark Gdańsk Port. What more potential do these areas have?

There will still be approximately 10 hectares of land left for various types of activities. For PIC's development needs, we also obtained funding from the Regional Operational Program. A storage yard was built from these funds – we hope that another container depot will be opened there, operated by one of the companies from the port area. We have also prepared areas for small and medium-sized enterprises that want to locate there. There is still one larger area left, about which we are in talks with a large global logistics company that would like to locate specific logistics there. And then, basically, PIC's stage I area would be fully developed.

In addition to the road system, we have complete water supply and sewage system infrastructure, and we have built two water reservoirs that help drain this part of the port. One is covered with floating photovoltaics. The second one was implemented in such a way that we could preserve quite a large area of the forest. So it is a water reservoir in a forest area. For this, we received the "Tytan" award, presented once a year to the most innovative and interesting projects in the area of rainwater retention and management.

We also have at least an additional 10 hectares from Andruszkiewicza Street towards Wosia Budzysza Street. There, we would like to further develop the Pomeranian Investment Center (stage II). We intend to develop projects there with partners, but those that would enable us to build universal industrial halls, perhaps with a light office or R&D part. This would close the PIC project. We are currently preparing the areas to be contributed to our company.

PIC is not only the areas that you manage at the back of the port.

We also have the Ku Ujściu area. There is already a Balticon depot there, and quite a large cluster of companies related to aggregates: Hydro-Marpp, Baltex. There is also the Radunia-Containers depot on the premises of the State Treasury, which is leased by one of our group companies. However, in the main area that we would like to obtain in the form of a contribution in kind, we plan to locate a project that would take advantage of the proximity of the railway infrastructure. As we know, huge investments have been made there by PKP PLK, the state railway company, and we have a whole new Port Północny reloading railway station. I cannot reveal with whom we are talking, but it is a company that would like to create a terminal related to this type of infrastructure.

In the areas located at Ku Ujściu Street, we will also participate in infrastructure investments. There, we focused on drainage and pumping stations – this is crucial for achieving full functionality of the railway infrastructure – railway workers even built a new road viaduct over Ku Ujście, and our investments will improve the drainage of this infrastructure – but also of investments carried out by the Port of Gdańsk Authority itself.

The areas near the cable-stayed bridge remain. For now, we are wondering what can be done there. By this I mean mainly the areas between the Sunreef Yachts shipyard and the bridge – some of them are private, while some of them are municipal land. For now, we are conducting conceptual work and planning what functions would be best for this area.

Do these areas have access to the Martwa Wisła river?

Among the urban areas, there is an area with very narrow access to the river, which is also covered with trees. We do not really plan to build a piece of the waterfront there, because the access is too limited. The rest are private plots and I think that sooner or later a shipyard, port or maritime company will develop them.

The last of our areas that gravitates towards the port is Plonia. We focused strongly on the preparation of this area; we even consolidated it, adding private areas to urban areas, with a view to ensuring further development of the refinery complex. We have already secured areas that were taken over by the refinery twice. We currently hope that a petrochemical complex will be built in the future in the area we are currently preparing. A Maritime Transshipment Terminal is already being built in the area and is being implemented by NDI. We therefore hope that future decisions regarding petrochemicals will be easier and positive.

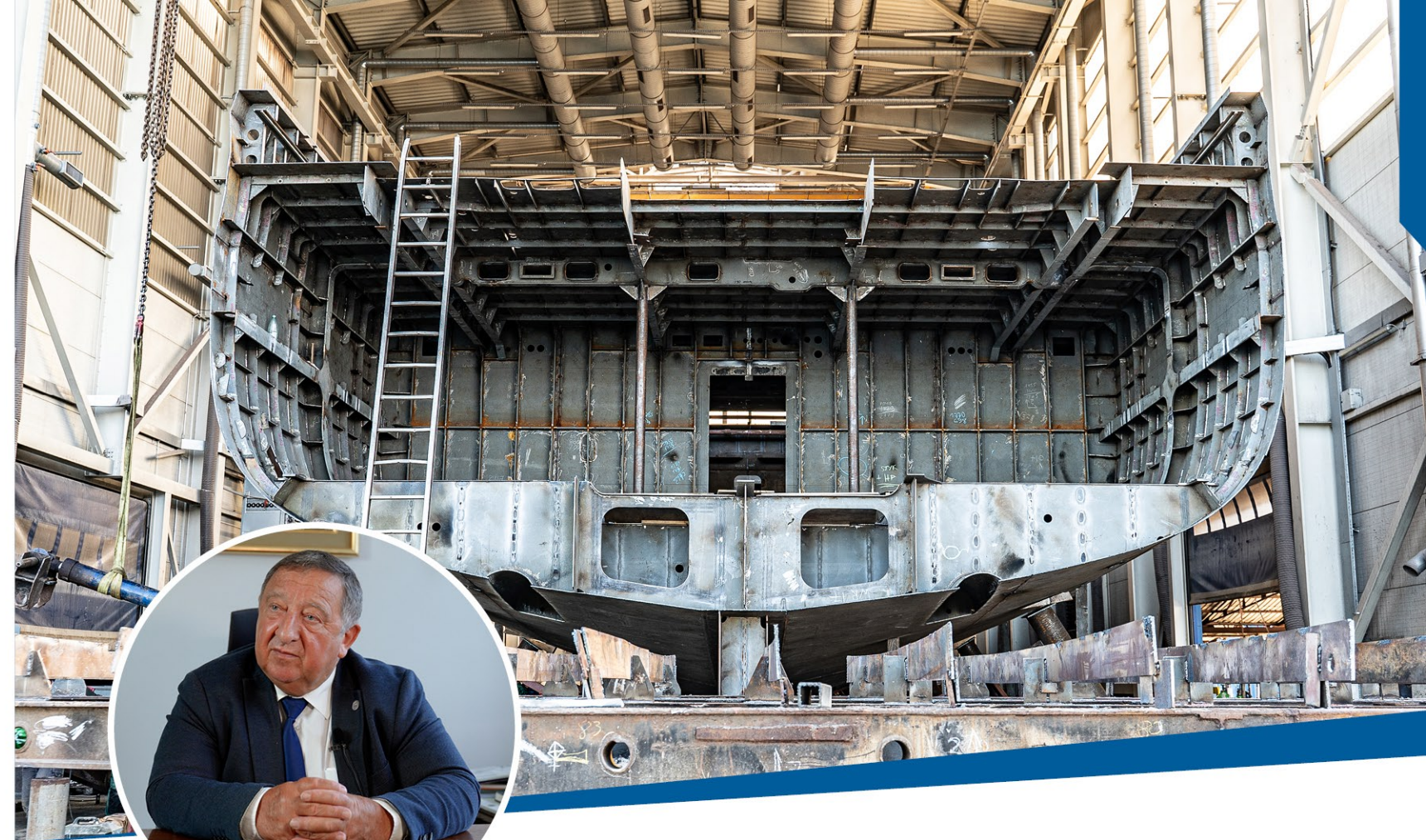
We can see a very dynamic development of the port in Gdańsk. It seems that this will lead to the return of the Central Port concept. How does InvestGDA, as an entity participating in Gdańsk's economic development plans, see this future and what directions are most important to you?

I think this dynamic development cannot be stopped. Projects such as Maasvlakte in Rotterdam or our Central Port are a must. Of course, Maasvlakte was built in stages and the Central Port will probably also be built this way, because the scale of the investment is huge. Offshore wind will certainly bring many changes, because it will create an entire logistics and production chain in Poland, even if it is not possible to build an installation terminal in Gdańsk. The logistics of the construction process of offshore wind farms will require the implementation of certain functions and services, such as assembly plants and storage yards. It seems to me that the Port of Gdańsk should benefit from this, having such excellent conditions in terms of approach fairways and infrastructure. Regardless of what we manage to handle and obtain in our investment areas, we, as a municipal company that supports investors in key industries, will certainly pursue offshore projects. The offshore elements factory on Ostrów Island, carried out as a joint venture by GRI Renewable and the Industrial Development Agency, is entering the implementation phase. We will solve any problems that may arise and ensure that the entire process of implementation, and

all arrangements, communication and permits run smoothly. This is one of our priorities when it comes to this project. What is happening in the offshore sector is causing an influx of engineering centers related to maritime design. I am referring here to Siemens Gamesa or Damen, but also to the development of design offices that have been operating for years. This is also a positive effect of what is happening in the port and maritime economy.

A Central Port will be necessary as a location for these types of operations. Will another container terminal be built? The Central Port's plans also included shipyard-related production space. I just wonder if one railway bridge is a safe enough option for the operation of the port. We have one bridge over the Martwa Wisła river, and at the same time, a large amount of goods travel by rail. If anything happens to this bridge, there will be a serious problem. In the case of roads, if anything happens on one side of the port, we can move traffic to the other side in an emergency. We have no alternative with regard to the railway tracks.

And as we know, some key investments were planned 10 or 20 years ago, before entering the implementation phase. We have to think about these now. We also need to think about the entire multiplier effect – about how many companies and enterprises will continue to use the services and development of the port.

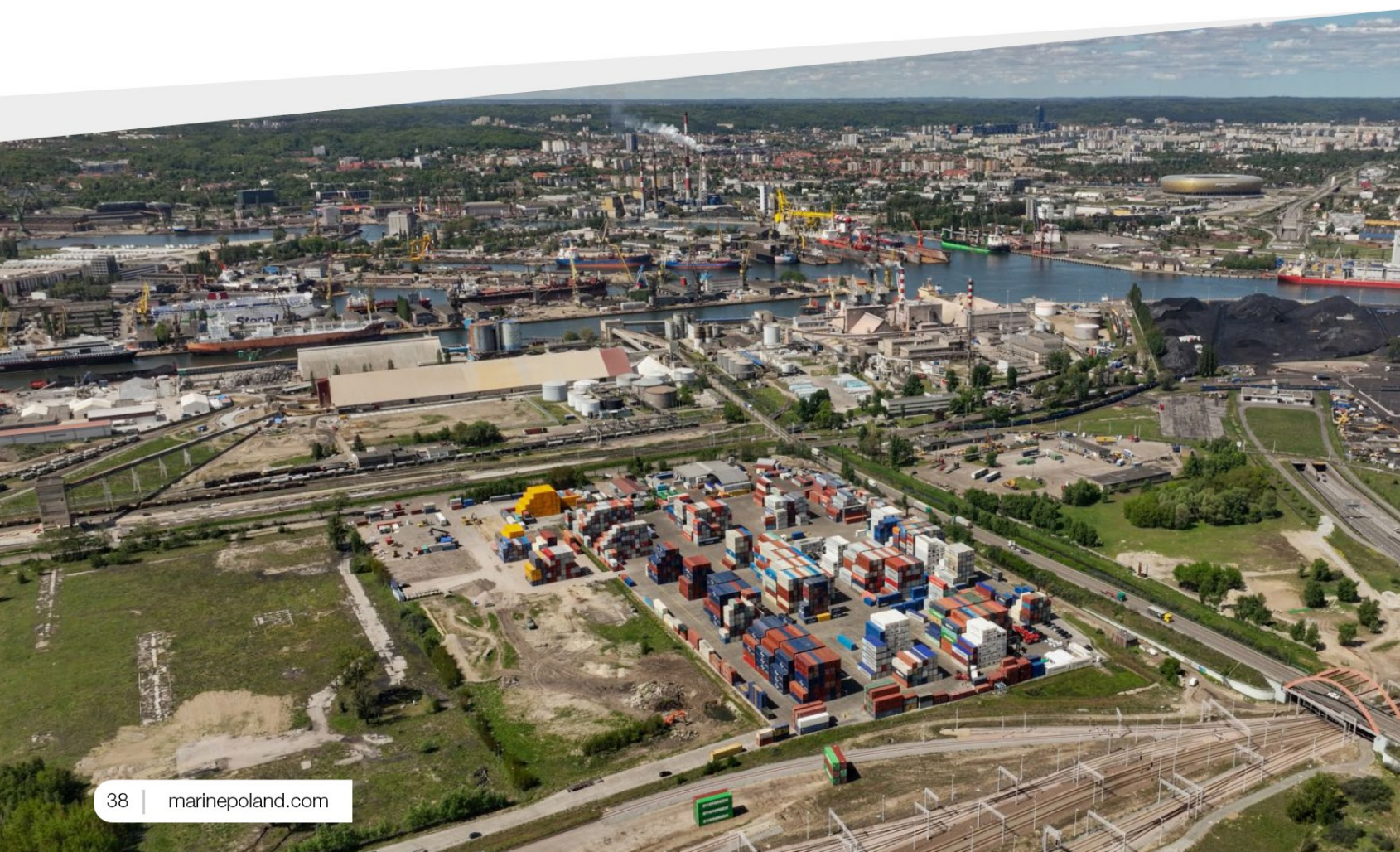


HENRYK ŚNIEGOCKI: PRS PARTICIPATES IN THE DEVELOPMENT OF THE **MARITIME ECONOMY**

We talk about the upcoming challenges for the maritime industry, and the vision for the development of the Polish Register of Shipping with PRS President, Dr. Capt. **Henryk Śniegocki**.

We are living in a time of energy transition, resulting from climate challenges and geopolitical changes in the East. One of the important elements that this has led to is offshore wind energy. PRS has been involved from the very beginning in this energy sector. Your institution is in some way the closest to these investments and naturally must be involved in them. How do you see the role of PRS in the process of the construction, operation and maintenance of offshore wind farms?

The role of PRS is special, because the law under which PRS operates puts us in this role, giving our activities a special character. In return for the fact that we do not pay dividends, we are obliged to invest in or support safety in the broadest sense, especially offshore safety. As far as wind energy is concerned, it is a new thing for Poland, so first of all, some legal requirements need to be created for the possibility of installing and then operating wind turbines at sea. The Polish Register



of Shipping assists the ministry in this activity, of course, to the extent that we are asked to do so. In addition, we ourselves create regulations for the construction and operation or later dismantling of wind turbines in the offshore wind industry. Here, the nature of our activity is similar to in the classification of ships. There, too, we operate under the regulations of the Polish Register of Shipping. Creating regulations is one thing, but we could not undertake this activity if we did not have inspectors who are qualified. In the Industrial Supervision Division, we have a team that has already done a lot of work in this area and is preparing for further activities related to certification and consulting in the construction of wind farms. The scope of this work is so large that our team needs to be expanded. In addition, we will also acquire new competencies – something we do all the time. Our team not only trains itself, but also passes on the knowledge it already has at conferences and meetings, which have been very frequent recently.

When it comes to offshore wind energy, there is a lot of talk about local content. The participation of Polish companies in investments depends to a huge extent on companies like PRS. How do you see the issue of local content and its importance for the Polish economy?

As we know, the funds provided for the construction of offshore wind farms are enormous. However, the developers are the decision-makers. They are the ones who shape local content. It is known that Western companies that have experience will play the main role in the construction of wind farms. This local content will depend on the provisions in contracts with these companies, provisions that developers will negotiate. I only fear one thing – that the provisions in the contracts may be insufficient, and the participation of Polish companies will be limited to using Polish entities to work for large Western concerns. I believe that such large projects should allow competence-building in Polish companies. Participation in the construction of offshore wind farms should give the opportunity to educate new cadres in companies so that in the future our companies will be able to carry out such projects on their own.

You provide a range of classification, certification and consulting services. Which ones should potential contractors pay special attention to now? In which do you see particular added value that you can offer your own clients?

The Polish Register of Shipping has always been seen as an institution that provides services to ships. Someone from the south of the country, seeing our name, imagines that

we simply register ships. What they do not know is that we issue a number of certificates under the authority of maritime administrations – in fact, we have authorizations to do so from more than 40 countries. These documents certify that ships meet safety and environmental requirements. They can safely sail, and carry people and cargo. This is what the Shipbuilding Division deals with. However, we still have the Industrial Supervision Division and the Certification Division. The Industrial Supervision Division is very important. At one time we carried out a lot of supervision of the construction of tanks and pipelines, and even part of the A1 highway, the Karczemki interchange, so important for Gdańsk, was built under the supervision of PRS. So these areas, broadly defined, are construction, engineering, and now offshore supervision. With the Industrial Supervision Division and the Certification Division, we are a serious player in Poland when it comes to certification. We are currently certifying more than 1,200 companies, people, products or management systems in the country. We are intensifying activities in the Training Division, utilizing our personnel resources, sharing knowledge, and reaping profits. Our scope of offerings is expanding. Right now there is a problem with cyber security. We are certifying this. We also have accreditation for flying drones – their activity in the air has to be recorded. At the moment, we already have accreditation from the Polish Accreditation Center for drone certification, although there are no regulations yet from the Polish administration on how this should be done. We are pursuing this. Drones are becoming more and more common, and they pose various threats. It seems to me that an offer of certification in this area will meet high demand. It does not yet exist in Europe. We are trying to be innovative.

And certificates in energy issues such as nuclear investments?

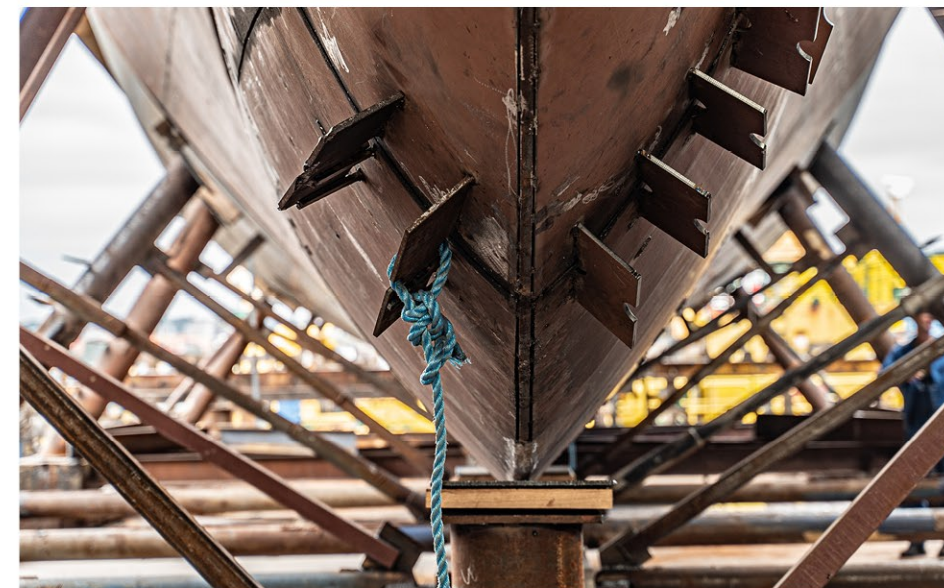
The Industrial Supervision Division at the Polish Register of Shipping was established at a time when the construction of Poland's first nuclear power plant, in Żarnowiec, was planned, but later abandoned. The division was established precisely to handle this construction and its operation. Therefore, we are preparing for such investments. Our employees are gaining knowledge and training. We are also considering sending someone to the United States for training, to gain knowledge at the source about how to build these types of investments and how to later supervise them. I think that once construction takes place, our team will be ready and able to become involved in activities related to project approval, certification, or later supervision of the work.

What are the plans for 2023? In maritime topics, there is the construction of the “Miecznik” frigates or Polish ferries.... You are always in close contact with the Remontowa shipyard, as well as smaller shipyards. What plans does PRS have for the maritime market?

First, we want to attract as many shipowners as possible. One of the main pillars is to expand our network of facilities around the world. To attract ships, you need to provide services. We have offices abroad – in Shanghai, Dubai, Turkey, Greece, Egypt.... However, we are planning to open another one in Venezuela – it is at an advanced stage and we will have an inspector there soon. We are also working on the United States where we have one representative, but employees from Poland often fly there, so the facility will have to be expanded. Then we will get the chance to have more large ships.

As for the Polish ro-pax program, we are after talks with the shipowner. All indications are that we will join the classification of the ferry. What is more, we hope to be commissioned to supervise the implementation of the project, where we would report to the banks on the progress of the work so that the banks can be relied on to pay the shipyard.

As for the “Miecznik” program, remember that up to now all supervision of ships built for the Navy has been carried out by the Polish Register of Shipping. We have a strong unit in the area of warships, which is staffed by experts, retired naval officers. So far, cooperation with the Navy, for example, in the construction of “Kormoran” ships or tugboats, has been excellent. There are some voices that say in the “Miecznik” program the classifier is to be Lloyd's Register, but I cannot imagine that the Polish Register of Shipping will have no part in this project. We are making efforts to participate in the construction, and we hope that these efforts will be successful. I am convinced that there is no other way, looking, for example,



at the war conflict in Ukraine. Poland is arming itself, because it needs to be prepared for different outcomes. Meanwhile, the Polish Register of Shipping is a state classifier – it is a state-owned company. The owner does not have to expect us to be with the navy in the event of a difficult situation – it can be demanded of us, we can even be ordered to do so. That is why I believe that the Polish Register of Shipping must always be included in shipbuilding programs.

What are the natural developments for the industrial division?

Here we have LOTOS Petrobaltic, platforms, but also construction work, especially at sea, all investments of the Maritime Authorities and ports.... We will be very keen to acquire orders for engineering supervision. Above all, however, we are betting on wind energy and green fuels, on creating regulations, expanding our competencies and increasing our team. This is because the needs will be increasing. In this division, we may also win a number of orders from the military sector. The military is also making a lot of investments, and we want to participate in them.

You are an institution that serves as a national partner of the International Maritime Organization.

In the Polish Register of Shipping we have a unit for the IMO. It has been operating for twenty years or even longer. I myself, when not yet in the PRS, was involved in the work of this unit, and I am still the chairman of the seafarers training section. The role of this unit is very big. Everything that happens in the IMO spreads through it to the wider maritime industry. There are a number of sections that hold regular meetings in the building of the Polish Register of Shipping. They are attended by employees of shipowners, shipyards and ports. From

among these representatives, government delegations are formed that travel to meetings and sessions of the International Maritime Organization. The center works very closely with the Ministry of Infrastructure, with departments responsible for creating regulations, and implementing what is happening in the IMO or the European Union both in the area of shipping safety and ecology.



GDYNIA MARITIME UNIVERSITY – KEEPING THE MARITIME SPIRIT ALIVE

The maritime industry in Poland has been developing dynamically in recent years. Is this also felt within the walls of Gdynia Maritime University? Do you see more interest in studying?

The maritime industry is future-oriented and we have known this for 100 years. The Maritime School was established in Tczew in 1920, then it was moved to Gdynia. People from all over Poland came to Pomerania to fulfill themselves here. The second wave of interest took place after World War II, when the then authorities decided that we should not only educate specialists at sea, but also those from business and technical backgrounds, related to the maritime economy. New faculties and specializations were established at that time. The peak of opportunity was the 1970s – the heyday of the maritime economy. Polish Ocean Lines was the largest liner shipowner in Europe. Polska Żegluga Bałtycka functioned very well. We had a huge commercial fleet, but also the deep-sea fishing companies Odra, Transocean and Dalmor operated

The rector of the Gdynia Maritime University, Professor **Adam Weintrit**, talks about the unquestionably important role that GMU plays for the Polish maritime economy, but also about its development plans.

very well. The 1980s brought a collapse. We fell to pre-war statistics and only after 1990 did we start to slowly recover. Now, we are really experiencing a third wave. Marine affairs are on top again. This is also related to the fact that we have discovered that there is still a strip between the sea and the land that can be developed. This is the so-called offshore, related to the extraction of raw materials, but also offshore wind energy. Our university has also gone in this direction. We have launched new specializations and academic fields at all four faculties, plus an MBA in English. We have built the Centre for the Offshore Industry in Gdańsk, which will be the new headquarters of the GMU Maritime Institute, as well as the home of the Offshore Wind Energy Centre, and other units that we intend to establish. We operate boldly in the Polish offshore industry and I think it is safe to say that we are perceived as one of the leaders in it. Of course, we are not experts in everything – we will not build and install turbines, but environmental, soil and seabed research can be conducted by our Maritime Institute, which has over 70 years of experience and a well-established position on the market. We have three ships. I will add on a side note that they all sail under the white and red flag, which makes us one of the largest Polish shipowners. Initially, we used only the Maritime Institute's ship "Imor" for research, but we realized that Horyzont II, which is an instrumental ship on which we conduct student internships, can also be involved in research. It is therefore also used for various operations. We are currently implementing a large project for PGE and another for the Chief Inspectorate of Environmental Protection, in which we are to probe the entire Polish economic zone in the Baltic Sea. However, when it comes to recruitment, this year's results are actually better than last year's. The first stage of recruitment has already ended, and in September we will have a second one, but I must emphasize that all places in purely maritime fields and specializations are already filled.

You play a specific, double role, because on the one hand, you are responsible for educating a large part of the staff who will work in the maritime economy on land and at sea, while on the other hand, you are a part of it all yourself – you conduct environmental research, you are part of the supply chain. Do you feel this responsibility?

As rector, I feel that we contribute a lot to keeping the maritime spirit alive in our country. We have been doing this continuously for over a hundred years and have not stopped for a moment. Even when the years of crisis followed, the market slumped, industries were liquidated, and shipowners and shipyards fought

to stay afloat, maritime education remained at a good level. There is the International Association of Maritime Universities, which has several dozen members. It is an elite association, to which only universities that educate at least at the master's level belong. We are the leaders of this association – I have been its chairman for several months. We were not elected a leader because it was our turn, but because we are considered one of the best maritime universities in the world, as evidenced by the rankings, and certainly one of the largest and most dynamically developing in Europe. Of course, we do not compete with Gdańsk University of Technology, the University of Gdańsk, Warsaw University, Jagiellonian University or the AGH University of Science and Technology, because the character of our university is completely different. Our competitors are the Baltic universities in Wismar, Szczecin, Klaipėda, Tallinn, Malmö, Gothenburg, Helsinki, Rauma, Kaliningrad and St. Petersburg, although the latter, of course, not at the moment. There are over a dozen large maritime universities in Europe. When it comes to the European Union, we clearly feel that we are one of the leaders, but that does not mean we have no competition. There are many good maritime universities – the Romanians have a great maritime university in Constanța, the Croats in Rijeka, Ukraine in Odessa, and there are Turkish universities. The Spanish, French, Italians, Belgians, Dutch, Danes and Germans have good maritime universities as well, and there are also good institutions in England and Norway. We all work together within the IAMU. They are our partners. Of course, we cooperate most closely with the Maritime University of Technology in Szczecin (we have a lot in common, we have common goals and interests, but recently our paths have parted a bit). We have close partnerships with Hochschule Bremerhaven, with the Chinese Shanghai Maritime University, and recently we signed a cooperation agreement with another Chinese university, Dalian Maritime University, which I plan to visit later this month. At the same time, our experts – several dozen people – participate as experts in the legislative work of the International Maritime Organization (IMO), in which we co-create standards that are then applicable around the world: conventions, codes, resolutions, circulars, model courses. I myself am a co-author of dozens of such documents, including several pages on ECDIS simulators in the International STCW Convention on Standards of Training for seafarers. We are appreciated and our voice is heard. Our graduates are valued in the world – the paradox is that the farther from Gdynia, the more they are valued.

In the near future, you will be opening the aforementioned Centre for the Offshore Industry, and for some time you have also been running the Executive Offshore Wind MBA programme. What are your plans for the coming years? What else do you want to accomplish?

Offshore is important to us. When, some time ago, during a meeting with the rectors of all the universities in Poland, the Minister of Education asked the question of who would deal with offshore technologies and renewable energy, almost all the rectors raised their hands, and the farther a given university was from the sea, the higher the rector's hand went. You can see that the competition is huge, and the challenges ahead are even greater. Everyone would like to be a part of this, but we have the potential, we have the infrastructure, specialists, experience and not only can we do it, but we know how to do it. Initially, we educated only sea personnel, and then also other specialists connected with the maritime market. Two years ago we decided to enter the third sector – offshore technologies. Today, we are already thinking about the next fourth leg – autonomous shipping. I would like as soon as possible to start educating people at our university who will not sail or work on a ship in the future, but will control it from land. There is a need to identify and create completely new professions. This requires significant changes in the current approach to education. First of all, before we start creating new curricula, we need to make a detailed analysis of which faculty these future specialists should be educated at: the Faculty of Navigation, the Faculty of Mechanical Engineering, the Faculty of Electrical Engineering, the Faculty of Management, or perhaps it will be necessary to launch a new faculty where future multi-operators from the fringes of IT, automation, electronics, robotics, telecommunications, navigation, transport, mechatronics and management will be educated? I would like a new, fifth faculty to be created in the next term of office, where research and the training of MASS (Maritime Autonomous Surface Ship) operators will be conducted. I call it the Faculty of Maritime Information Technology, but I wonder if it would be a better idea to call it simply the Faculty of Autonomous Shipping. In just a few weeks, right after the start of the new academic year, I am going to organize a seminar at the university, a brainstorming session for people who see the need right now. It will be something like the seminar I organized on April 15, 2021, when we decided to enter the university into offshore wind energy. Perhaps we will start more modestly by creating a new specialization, or be a bit bolder, by creating a new field of study, Autonomous Shipping, at the Faculty of Navigation, because that is where the idea came from.

You asked about plans: there are a lot of them, but it has not been the best time to implement them. Let me remind you that this term of office has been a period of pandemic, war in Ukraine and the related crisis. And yet, in parallel to the construction of the Centre for the Offshore Industry, we have managed to implement another huge investment – the construction of the Sports and Recreation Centre. We are also thinking and talking louder and louder about the need to build a successor to the Dar Młodzieży ship.

Returning to the issue of maritime IT: does this also include aspects of cybersecurity in the maritime economy, which has been talked about a lot recently?

The Cybersecurity Center is already operating at the Faculty of Navigation. We cannot escape this. But when it comes to maritime affairs, it is a completely different specificity. Maritime cybersecurity is a whole new industry that really needs to be created. I think that it may be attractive to young people who will feel that this is the direction which they will want to pursue. Cybersecurity is also an integral part of autonomous shipping.

How is an institution like the Maritime University able to keep up with everything that is happening in the industry? How do your specialists ensure that they have up-to-date knowledge at all times?

We have up-to-date knowledge, and you can even say pre-up-to-date, because we co-create new standards. I have already mentioned our work within the International Maritime Organization, which creates conventions, resolutions, codes and circulars, which then apply to everyone, but we are also active in other organizations. As part of the International Association of Maritime Universities, we coordinate matters related to education. The association was established in 2000 as a reaction after the establishment of the STCW Convention, i.e., standards for future officers who will sail on ships. The universities then said that the convention only sets out the bare minimum, and maritime universities must provide something more. Therefore, we invite to our group only those universities that have the ambition to do more than indicated by the STCW. As part of the association, we agree on some moves related to distance learning, autonomous ships, e-navigation, and e-maritime. We discuss these topics for many years before they are taken up more widely on the international forum under the auspices of the International Maritime Organization. Once discussed and adopted within the IMO, it becomes the standard and maritime administrations must implement it. Meanwhile, we know about

it in advance, so we can prepare our students accordingly. Of course, these are not the only associations our employees are members of. One of our employees, Professor Krzysztof Czaplewski, is the chairman of International Association of Navigation. We are also members or experts of the Nautical Institute, the International Hydrographic Organization IHO, or the IEEE – Institute of Electrical and Electronics Engineers, and many others. Thanks to this, before a standard sees the light of day, e.g., before shipowners find out about it officially, we are already prepared for it, because we have been talking about it for years and participated in the preparation of these changes. So nothing will surprise us. Of course we have to look at our possibilities. But the potential, the ideas – they are here. Believe me, there are people of the highest international status among our employees. Perhaps these names are less known in Poland, in Pomerania or even in Gdynia, but abroad in our industry they mean a lot.

What is your cooperation like with other institutions, companies and organizations in the maritime industry from Poland? What relations do you have, e.g., with shipowners, ports or shipping lines?

This cooperation is natural, because the directors of these institutions are our graduates. When I became the rector of the university, I created the position of deputy for cooperation

and development, who makes sure that we have good contact and relations not only with the industry, but also with other institutions, organizations and associations. Recently, we signed cooperation agreements with the largest players in the energy industry, be it PGE, Orlen or other companies such as Lotos, Lotos Petrobaltic, Tauron and others, not to mention Polskie Linie Oceaniczne, Polska Żegluga Bałtycka or Polska Żegluga Morska. Dorota Arciszewska-Mielewczyk, president of PLO, is our graduate, and Andrzej Madejski, president of PŻB, is also our graduate. Mr. Wróblewski, president of PŻB, is not a graduate of ours, but we have excellent relations. Our recently deceased Professor Bogumił Łączyński was the vice-chairman of the Polish Shipowners' Association, and the president of the Polish Register of Shipping, Professor Henryk Śniegocki, is not only our graduate, but also a member of our staff. And we, as a university, are also a large shipowner. As I mentioned, we have three ships that sail under the Polish flag. It is possible that we are the largest shipowner under the Polish flag. During inaugurations or graduation ceremonies, I always wish our students and graduates the honor of sailing under the Polish flag in the future. I will do everything to make this happen.





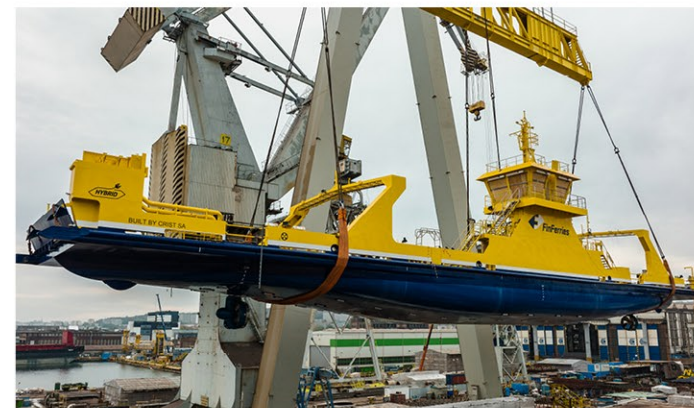
SHIPBUILDING REVIEW 2022/23: HANDS FULL

The shipbuilding industry was deeply affected by all the inconveniences associated with the COVID-19 pandemic. This sometimes meant an increase in production costs and longer delivery times for orders. On February 24, 2022, the whole world had to face a new, unprecedented threat, which was Russia's aggression against Ukraine. The war hit Ukrainian grain deliveries particularly hard, and the maritime economy in the Black Sea, which became a war zone. The conflict also had an impact on the shipbuilding industry. Despite new challenges and threats, Polish shipyards maintained dynamic development, carrying out numerous orders, launching hulls and delivering new ships.

CRIST

CRIST shipyard, operating since 1990, has had another year of many international orders completed for clients from around the world. This also allowed the shipyard to establish itself as a reliable contractor for innovative orders. The company from Gdynia produces, e.g., specialized hydrotechnical equipment and vessels for the world's largest customers. It is the only shipyard in Europe that has already built three vessels for erecting and servicing offshore wind farms. On February 10, in Saint Nazaire, France, CRIST solemnly celebrated its 5-year cooperation with Chantier de l'Atlantique. During the celebration, a contract for another mega-block was also signed. It was the ninth contract signed with the French shipyard for the construction of fully equipped mega-blocks for the largest passenger ships in the world.

The summer period did not mean a slowdown in work. July was associated with the completion of the work on the Altera double-sided hybrid ferry, number P315, which has been ongoing since 2020. The buyer is FinFerries, a shipowner from Finland, well known in CRIST shipyard. The total length of the vessel is 104 meters, the width is 15.2 meters, and the design



draft is 3.5 meters. In total, it can fit up to 92 cars and three trucks, and take 370 passengers on board.

In August, the sheet metal cutting ceremony for a new, second project for the shipowner Femern Ling Contractors (FLC) began. This marked the official start of the construction of a specialized pontoon with the working number NB100. We write more about this project in a dedicated article.

October was associated with the launch of a hybrid ferry for FinFerries with the construction number P317. It is 70 meters long and will be able to carry up to 52 passenger cars or a combination of semi-trailers, trucks, coaches and cars, as well as up to 200 people. The ferry is double-sided, which enables faster loading and unloading.

In November 2022, the construction of a zero-emission offshore wind vessel for Ulstein Verft began. The new vessel, with the working number NB318, will be able to meet the general requirements of the offshore wind industry, such as the transport of personnel, cargo, fuel oil, water in tanks, spare parts and other general cargo under and on open decks. The ship will have a total length of 89.6 meters and a width of 19.2 meters. There will be 91 cabins, which will accommodate 126 people. It will be electrically powered with battery support. A hybrid battery drive and methanol fuel will enable zero emissions. The cargo system will ensure safety and enable the efficient loading and unloading of the ship.

KARSTENSEN SHIPYARD POLAND

The shipyard, operating since 2018, had a year full of challenges related to its planned move from Gdynia to Gdańsk. Nevertheless, it constantly carried out its orders, maintaining production continuity.

September saw the two-day launch of the 79.95-meter pelagic trawler Altaire for the Altaire Fishing Company Limited. The design, specification and arrangement of the vessel are the result of extensive and close cooperation between the owners and the shipyard; all details are adapted and made according to the owners' specifications. During the design

work, emphasis was placed on optimizing fishing hygiene so as to enable the landing of the highest quality pelagic fish. The working environment, safety and comfort of the crew played an important role in the design of the ship.

A month later, another vessel was launched. The Sille Marie ship, with the construction number 471, was ordered by the Danish company Sille Marie AS. The fishing vessel, launched in Karstensen, will be the company's first new vessel and will replace the current Sille Marie, which was purchased in Sweden in 2011. The new Sille Marie has been designed with an exceptional focus on reducing exhaust emissions and ensuring an eco-friendly operating profile. The vessel was equipped with innovative, ecological and sustainable solutions, with particular emphasis on optimizing the working conditions, safety and comfort of the crew. The ship is 65.90 meters long and 14 meters wide.

In June, the shipyard launched two hulls at the same time. These were the fishing vessels Gollenes, with the construction number 468, and Stødig, with the construction number 467. The main dimensions of the vessel Gollenes are: 69.99 meters long overall, 14.80 meters wide, with a protective deck draft



of 8.30 meters. The construction of this ship began in August 2021. It is equipped with a processing plant with maximum emphasis on efficient workflow and the gentle handling of fish. In turn, the construction of the Stødig ship started in October 2021. Its dimensions are 39.30 meters long and 11.50 meters wide.

MARINE PROJECTS

The shipyard has been working closely with partners and clients from Germany, the Netherlands and Norway for many years. An example of the orders it completed is the built and partially equipped live fish transporter Ro Senja, which was delivered in May to the Norwegian shipowner Rostein AS from Harøy. The LFC-type vessel, i.e., Live Fish Carrier, after being towed to Norway, was equipped at the Larsnes Mek shipyard



MARINE SHIP REPAIR YARD GRYFIA

For the shipyard located in Szczecin, the war in Ukraine was associated with the end of cooperation with contractors from Russia. Nevertheless, despite this difficult decision, there was no shortage of new orders, which resulted in a positive financial result for 2022. The queue of orders turned out to be a challenge here, as all the docks at the shipyard were occupied.

In June, the Canopee ship, over 120 meters long, was launched, the hull of which was built by Partner Stocznia from Police, near Szczecin. The vessel is designed for unique tasks, such as transporting the new European space rocket Ariane 6 from Europe to the Kourou spaceport in French Guiana.

There were also other orders related to shipbuilding. Gryfia built and launched, among others, the Nerpa icebreaker for RZGW Gdańsk. It was the second vessel of this type in the modernization of the customer's fleet.

In August, the shipyard management was able to sum up its activities on the occasion of a unique jubilee – the 70th anniversary of the establishment of Marine Ship Repair Yard Gryfia. The largest investment that was carried out this year was the groundbreaking construction of dock no. 8, for which Wulkan shipyard was responsible. Its implementation is likely to make Gryfia a serious competitor for other shipyards in the Baltic Sea basin. At the same time, Gryfia takes advantage of the deepening of the fairway of the ports in Szczecin and Świnoujście, which will allow larger vessels to enter them. This is also an opportunity for the shipbuilding industry, which can thus increase its offer. Gryfia also plans to become a place where it will be possible to repair and overhaul US Navy ships.

NAUTA SHIPREPAIR YARD

The oldest Polish repair shipyard, at 95 years old, entered 2022 with many orders. Nauta implemented, among other things, class and dock repairs, including the modernization and maintenance of equipment. Importantly, these projects were commissioned by companies that have been cooperating with Nauta for years, both domestic and foreign. Up to 17 vessels at various stages of shipyard work could stand at the quays at one time. The most significant projects include the renovation and inspection of the famous school ship Dar Młodzieży, belonging to Gdynia Maritime University, as well as major and docking repairs of three 207P minesweepers, which are in the equipment of the Polish Navy. This project is carried out jointly with PGZ Stocznia Wojenna.

An interesting project was the preparation of the Rusadir ferry for the Balearia line. The ship was built by a German shipyard that went bankrupt. The ferry sailed to Norway, where it was

completed, and in 2022 it was chartered by a Spanish carrier. It came to Nauta as Honfleur, and left its quay as Rusadir. The ship spent nearly ten months in Nauta. During that time, the shipyard workers carried out some of the last works on the ferry, e.g., on equipping the hotel part inside the ship, as well as full painting of the hull in the colors of the new operator.

REMONTOWA SHIPBUILDING

After a very successful year in 2021, the activity of the Gdańsk shipyard Remontowa was dominated by the topic of building ships for the Polish Navy, which was influenced by the war in Ukraine. In June, the Minister of National Defense, Mariusz



Błaszczak, signed a contract for the delivery of three more project 258 destroyers. The prototype ship of the series, ORP Kormoran, which entered service in 2017, also completed operational and military tests, checking the prototype in terms of the usefulness of the series for the Polish fleet. All of them are 58.5 meters long, with 830 tons of displacement, and the crew consists of 45 officers and sailors.

The culmination of the first part of the project was the delivery of two minesweepers to the contracting authority, the Armament Agency. The first flag-raising ceremony on ORP Albatros took place on November 28, 2022, while ORP Mewa was scheduled to enter service in February 2023. Next year sees the beginning of work on the fourth project 258 minesweeper.

The delivery of ships 4 to 6 is scheduled for 2026-2027. They will be part of the 12th Minesweeper Squadron of the 8th Coastal Defense Flotilla, stationed at the Świnoujście War Port. This is not the only shipbuilding project in which the shipyard is involved. On November 25, the Swedish defense company Saab signed a contract with the State Treasury Armament Agency for the design, construction and development support of two signal intelligence (SIGINT) ships for Poland. The total contract value was approximately EUR 620 million. The subcontractor of the order is Remontowa Shipbuilding. On its premises, all works, such as the construction of the hull

and its retrofitting are carried out by both the Polish shipyard and Saab, which will equip them with specialized intelligence systems. The planned ships are to be 74 meters long and 14 meters wide with 2,200 tons of displacement. The crew is to consist of 35 officers and sailors.

The start of construction of the first of these ships is scheduled for 2023. Both vessels are scheduled to enter service in 2027. Remontowa Shipbuilding is also working on the construction of ferries for Polish shipowners. As part of the "Batory" program, three or four ships will be built to be used by Unity Line and Polferries. According to reports, the construction of the first ro-pax is already more than 58 percent advanced and ahead of schedule. In the first stage of work, the hull of the ferry is assembled, which consists of six blocks, made both in Remontowa and by other Polish suppliers. The elements of the ferry's propulsion and power supply system are also to be installed. The unit is to be commissioned at the turn of 2025. In March 2022, the shipyard began cutting sheets for the construction of the second ferry.

In the meantime, at Remontowa Shipbuilding, which is the largest shipbuilding complex in Poland, many other constructions and renovations are carried out on an ongoing basis. One of the most interesting vessels that appeared at the shipyard quays in recent months was the specialist offshore crane vessel Les Alizés. This giant had been put into operation only a moment earlier. She came to Gdańsk to undergo the reconstruction of equipment and on-board machinery.

PGZ NAVAL SHIPYARD

PGZ Stocznia Wojenna (PGZ Naval Shipyard) has had an eventful year. The company actively cooperates in the construction of basically all warships for the Polish Navy, but for the time being, work on them is carried out mainly in other plants. This is because PGZ Stocznia Wojenna is expanding its infrastructure to take over the construction of ships at the right moment.

The most important undertaking is the construction of a new hall in which, among others, the hulls of three multi-purpose frigates of the "Miecznik" program will be constructed. The hull hall of the PGZ Naval Shipyard in Gdynia will be made of a steel structure, 43 meters high. Large-size gates will reach similar dimensions: 43 meters high and 34 meters wide, and the overhead cranes will be able to lift up to 100 tons. It will be one of the largest facilities of this type in Europe. An integral part of the investment is also the project of the Service and Logistics Center for NATO ships, which is to confirm Poland's ability to support allies who also operate as part of the defense

of the Polish coast.

At the same time, work will be carried out on moving the floating dock belonging to the shipyard. This investment, which was very important to the Port of Gdynia Authority, will enable the construction of a larger turntable in the port, and thus accommodate larger ships.

However, the most important moment for PGZ Naval Shipyard last year was the first cutting of sheets for the construction of the first of the three multi-purpose frigates of the “Miecznik” program - ORP Wicher. It took place on August 16. What is more, a new CNC 3D cutter was used in the process along with an attachment for plasma pipe cutting, which was also purchased within the last several months. This is the first device of its type in the country.

MOSTOSTAL POMORZE

From the beginning of its activity, Mostostal Pomorze has carried out specialized and large-size orders mainly for the domestic petrochemical industry, as well as for foreign contractors. Among the completed projects, there are currently mainly those for the offshore industry, mostly for the Scandinavian market, but also for the shipbuilding, petrochemical and refining, construction and infrastructure industries. The company also manufactures crane and specialized constructions.

One of the recent orders involved the production of 95 sets of steel structures, such as boat landing and rest platforms with a total weight of 1750 tons, for an international company with branches in Belgium, the Netherlands, Great Britain and also in Poland. Production of the structure began in May, and the first elements were shipped to the customer in August.

The largest projects in 2022 also included the production of components for a Danish offshore wind farm, located in the North Sea. Therefore, 41 sets of boatlandings, rest platforms and external ladders were prefabricated, totaling over 600 tons of steel.

One outstanding order was also the construction of a 388-ton transformer station, which measures 36 x 21 x 13 meters. It was the largest element that Mostostal Pomorze built in 2022. The scope of work included the prefabrication of the main structure and its assembly, the installation of equipment, i.e., ladders, stairs and railings, as well as anti-corrosion protection.

SUNREEF YACHTS

In 2022, Sunreef Yachts launched, among others, the electric yacht Sunreef 80 Eco, based on renewable energy sources. The pioneer vessel was created for deep-sea voyages in harmony with the natural environment. The yacht's world

premiere took place in February at the Dubai International Boat Show 2022. Soon after, in April, the company presented the Sunreef 60 sailing yacht, which combines the company's know-how in the design of luxury catamarans with the latest ecological-technological solutions of Sunreef Yachts. The new catamaran is equipped with a solar panel system developed by the shipyard, integrated with composite structural elements. Ultralight solar panels are among the most efficient and lightest solutions in the nautical industry. In turn, in November, at the Fort Lauderdale International Boat Show, Sunreef Yachts presented a completely new model: 55 Open Sunreef Power. This luxurious hybrid yacht is part of the company's policy, which, through an attractive offer, aims to direct customers to the path of ecological innovation.

Dubai played an important role in the company's international operations, as it was there that the company's first foreign shipyard, named Ras Al-Khaimah, was established in July. Initially, it is to employ about 50 people, but the company has a plan for rapid development in the coming years and increasing the number of employees to 800.

Another aspect of international activity was the opening of sales offices in other countries in order to be more active in those markets. In October, offices were opened in Turkey, and in November, in the USA.



SAFE

In recent months, Safe shipyard in Gdańsk has focused on the construction of tugs, mostly for the Dutch Damen Hardinxveld. Among them was the Shoalbuster 2711 ICE, launched in April, later named Fairplay-37. We devote a separate article to this vessel specialized for offshore tasks, but just mention here that it was the first Shoalbuster made in Safe from start to finish. In June, the first of a series of three Multicat 3313 tugs, also built for Damen Hardinxveld, was launched. Two more hulls were made and launched at later dates. In the meantime, in August, another 27-meter Shoalbuster 2711 was placed on the water.

Safe shipyard has so much experience in building tugboats that it was entrusted with the task of building the first prototype model of the Multicat 2913 tugboat. The partially equipped hull was launched at the beginning of June, and Damen Hardinxveld was once again the client. The ship is 29 meters long and 13 meters wide. Damen was responsible for the development of the technical design, and the working documentation was prepared by the Safe design office. The tug is being built under the supervision of the BV classification society.

However, Safe shipyard is not only about tugboats - the plant has also completed several other projects in recent months. One of the most interesting was the installation of a special drilling system designed and built in Singapore by Armada Rig Builders on the Sylur ship. The drilling rig is used for geotechnical research and allows drilling a borehole about 100 meters below sea level. This is only the eleventh system of this type in the world. Its installation on the Sylur required quite serious interference with the vessel itself. The system includes, e.g., a 23-meter-high steel tower that withstands over 46 tons of weight suspended from a hook. It is complemented by containers with all kinds of devices, including a power supply, as well as a drilling cabin.

BALTIC OPERATOR

A variety of projects has also been carried out by Baltic Operator shipyard.

In the second half of February, a section of a fishing vessel made by Baltic Operator was loaded at the Kaszubskie Quay in Gdańsk. The midships section of the fishing vessel weighs 184 tons in total. The section was loaded onto the Ostrów ferry, after which the cargo set off on a journey to the nearby Karstensen shipyard, which is the ordering party.

In March, an even larger block left the Baltic Operator plant, weighing as much as 425 tons. It sailed to Germany on a specialized pontoon. In turn, in June, three gas tanks were built at the plant, each weighing 320 tons, 30 meters long and 7.5 meters in diameter. It was the first project of this type implemented by Baltic Operator.

A large project, which was completed in the summer of 2023, was the production of two transformer stations, which were being built in the plants of the Baltic Industrial Group, which includes Baltic Operator. They will soon be installed at the Ocean Wind 1 wind farm off the coast of the United States. Each of the transformer stations is 42 meters long, 34 meters wide and 22.5 meters high, with a weight of 1,150 tons.





THE EVOLUTION OF NAUTA SHIPREPAIR YARD: STRATEGY, COLLABORATION, AND THE FUTURE

In our discussion with **Monika Kozakiewicz**, the CEO of Nauta Shiprepair Yard, we delve into strategic milestones, external partnerships, and the vision for the shipyard's evolution. With a flexible operational model and ongoing modernization plans, the company is shaping a sustainable future and adapting to regulations, environmental considerations and market expectations.

As Nauta Shiprepair Yard approaches the centenary of its existence, can we begin to draw preliminary conclusions? Could you highlight key stages of development and pivotal moments in the company's history? What, in your retrospective view, appears to be particularly significant?

Over the course of nearly 97 years in operation, we have experienced two pivotal stages of development. The first was during our time on Washington Street in Gdynia, where limited territorial space constrained our growth. The second stage followed our move to the former Gdynia Shipyard premises, where Nauta Shiprepair Yard gained access to a larger area and, notably, the SD-I dry dock. This move significantly expanded our production capabilities, allowing us to undertake large-scale ship repair projects. Currently, we are capable of conducting dry dock repairs on ships of the kamsarmax type. Furthermore, changes in our business model led to the establishment of subsidiary companies and the reorganization

of our production processes. Presently, the shipyard employs approximately 300 permanent staff, with an additional 300 employees in our subsidiary companies. Additionally, around 1,500 people from external companies work on our projects, making us a major player in the regional labor market.

What are the advantages of implementing a business model based on a parent company and subsidiaries?

This model offers several advantages, primarily related to cost efficiency and organizational flexibility. The shipyard is susceptible to seasonal fluctuations in production capacity. Spring and summer witness intensive ship repairs, while the winter period experiences reduced demand. The operational model allows us to efficiently adapt to changing market conditions. The transformation of our organizational structure was therefore pivotal in achieving improved efficiency and competitiveness in the ship repair market.

What were the results and effectiveness of the shipyard in the past year and the first half of the current year?

What were the operating revenue figures, and how many projects were completed?

We achieved remarkable milestones in the past year, making it a record-breaking year for our shipyard. Our operating revenue reached an impressive 319 million Polish zloty. In 2022, we completed over 154 projects, focusing primarily on class repairs, intermediate repairs, and the installation of BWTS (Ballast Water Treatment Systems). Our main markets are Germany, Norway and Poland. In the current year, despite conducting class repairs on two of our floating docks, we continue to observe a strong performance. We are persisting with class repairs and BWTS installations. It is worth noting the growing interest from shipowners in conversion and vessel conversion projects, signaling their confidence in our capabilities. In the past, the shipyard successfully executed numerous ship extensions, and we anticipate that we will have the opportunity to undertake more complex projects for our clients.

Could you provide an update on the progress of the acquisition of the SD-I dry dock? Are there plans for further infrastructure development at the shipyard, such as acquiring a larger floating dock?

Thus far, we have been leasing the SD-I dock, and we are currently in the process of acquiring it from its current owner, the Industrial Development Agency. We anticipate finalizing this transaction in early autumn. It is crucial to highlight that

one third of our revenue comes from activities related to SD-I, emphasizing the dock's vital importance to Nauta Shiprepair Yard. Presently, we operate on infrastructure initially built for Gdynia Shipyard, which is now a century old. Given its age and historical significance, this infrastructure requires continuous investment and modernization, which we are actively pursuing. Given our geographical constraints-operating within the boundaries of Gdynia Maritime Port – we are unable to rely on access to additional quaysides. Therefore, the modernization of our existing infrastructure is necessary to enhance its efficiency. Additionally, our plans include the consideration of a larger floating dock, possibly even a covered one, to meet new environmental protection standards and provide better working conditions. We are also exploring modern automation equipment options to expedite and streamline our projects. These developments will undoubtedly open new possibilities for our shipyard and solidify our position in the market.

How does collaboration with external companies impact the shipyard's operations and the local economy?

Collaboration with external companies holds paramount importance for our shipyard and the local region. As mentioned earlier, up to 1,500 employees from local businesses work on our premises, making a significant contribution to the projects we undertake. As an employer for local companies, we contribute to the economic growth of the Pomeranian region. We collaborate with companies specializing in various fields, such as engine repairs, pipe installations, electrical work, and machining. Although we have our subsidiary companies with expertise in these areas, market dynamics create a demand for greater production capacity than our subsidiaries can provide.

What are the long-term prospects for the shipyard in light of regulatory changes, environmental requirements, and rising customer expectations?

Indeed, as we approach our centenary, it prompts us to reflect on continued development to align with new challenges and the evolving expectations of our environment. Changes in regulatory landscapes, including heightened environmental requirements for both the shipyard and our clients, necessitate ongoing adaptation. Close collaboration with our customers and shipowners, and responsiveness to their needs are essential for a sustainable future. The essence of repair activity lies in flexible responses to sudden customer needs, and I am confident that, as an organization, we will adapt to the changes that await the maritime industry and the industrial sector as a whole.



ENGINEERING THE **FUTURE.**

CRIST SHIPYARD'S VESSELS PAVE THE PATH FOR THE FEHMARNBELT LINK

In the field of marine engineering, CRIST Shipyard is renowned for its adeptness and ingenuity. Through close collaboration with Femern Link Contractors (FLC), the shipyard is actively contributing to the notable Fehmarnbelt Fixed Link project, demonstrating a commitment to advancing the industry. This compelling partnership has resulted in two remarkable vessels – NB100 and NB131 – ready to make a lasting impact on the sector.

The driving force behind the immersed tunnel's design is FLC, a consortium of internationally acclaimed civil works companies. This collective expertise includes VINCI Construction Grands Projets, Per Aarsleff Holding A/S, Soletanche Bachy International, CFE, Dredging International NV, Wayss & Freytag Ingenieurbau, Max Bögl Stiftung & Co, BAM Infra, and BAM International. FLC's vision transcends borders, heralding a new era of maritime connectivity.

The **PROJECT**

The tunnel is slated to span 17.9 kilometers, necessitating the precise deployment of 89 tunnel elements. Among these, there are 10 Special Tunnel Elements (SPE) and 79 Standard Tunnel Elements (STE), all standardized to the dimensions of 218 meters in length, 43 meters in width, and 9 meters in height.

Notably, the cumulative weight of these components reaches an impressive 80,000 tons.

CRIST's significant contribution lies in the construction of specialized multi-purpose pontoons (MPPs). These vessels showcase the shipyard's commitment to precision and dedication to quality. For this project CRIST partnered with the local design office StoGda, ensuring meticulous detail in alignment within the project's framework.

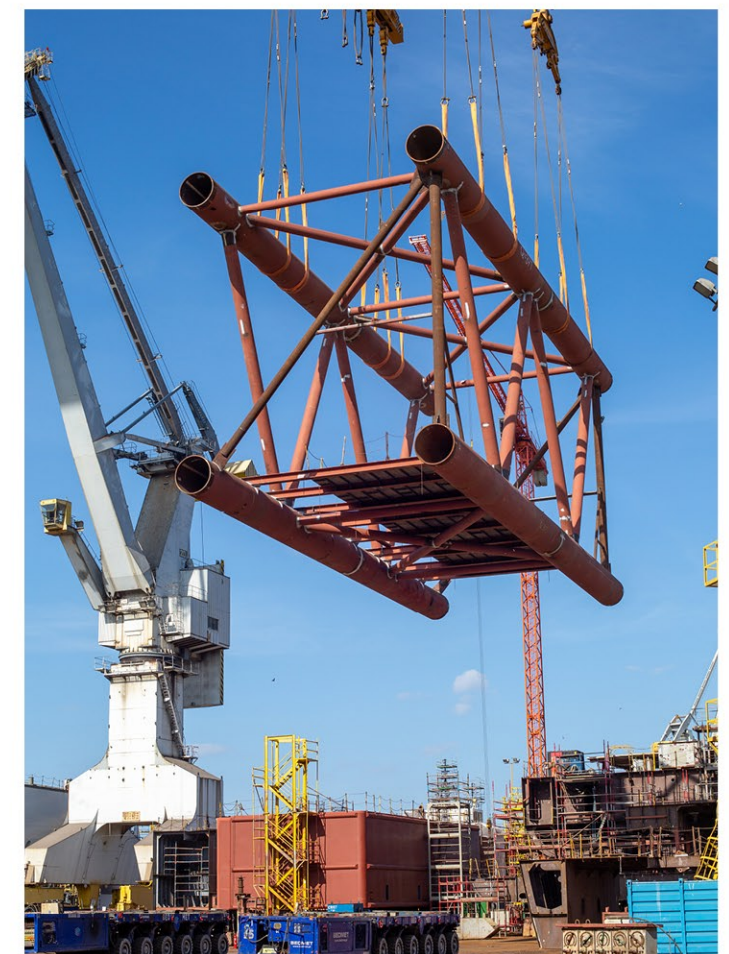
The **VESSELS**

Precision tunneling with NB100

The vessel with the construction number NB100 commenced its journey with a steel-cutting ceremony in August 2022. NB100's significance is underscored by its adaptable design, tailored to accommodate diverse tunnel element configurations. Boasting a crane truss system, winches, lifts, and an array of specialized apparatus, the vessel ensures seamless orchestration of large and small tunnel components. With a hull length of 105.5 meters, it provides the foundation for streamlined operations, making it an indispensable asset for the Fehmarnbelt tunnel project.

The vessel will integrate 22 specialized pontoon modules, which will enhance its load-bearing capability. This adaptability will prove crucial for the precise positioning of tunnel elements, even at depths of up to 40 meters below sea level.

The operational finesse will hinge on a robust mooring system. Comprising 64 guide sheaves, some equipped with real-time load monitoring, and supported by numerous fairleads and robust ropes, this system will ensure precision and stability in maneuvers.



Supported by 58 custom-designed winches, the vessel will wield both power and precision. With a remarkable maximum lifting capacity of 1500kN (150 tons), these winches will play a pivotal role in accurately placing tunnel components.

A truss bridge is a lattice framework of pipes linking pontoons, providing foundational support for tunnel components. Two



of these structures will feature in the project. Each assembly weighs about 780 tons. The largest pipe diameter is 1420 with a 65mm wall thickness. Welding adheres strictly to EN 1090 norms and the demanding EXC4 class standards, symbolizing top-tier welding precision.

The hoisting frame will be equipped with specialized devices that facilitate the precise positioning of tunnel elements on the seabed. The equipment ensemble of the frame includes actuators and load measurement devices. The entire frame, along with its equipment, is tailored for underwater operations. The welding of the frame's structure adheres to the EN 1090 standard and the EXC4 class requirements, signifying exacting welding standards.

NB131: Revolutionizing submersible engineering

The advanced technology and precision engineering of NB131 hold the potential to reshape the future of nautical infrastructure. With a hull length of 130.2 meters, including transmission belts, its total length reaches 149 meters, providing ample space for its vital functions. The pontoon boasts a maximum breadth of 48.17 meters, ensuring stability and efficiency in its operations. At the heart of NB131's innovation lies its groundbreaking underwater SDT frame, with a weight of nearly 800 tons. This fully automated framework submerges to a depth of around 40 meters using hydraulic lifts. The frame houses a rail system on which a cart is mounted, complete with a mini fall pipe. The frame stabilizes itself on the seabed through an arrangement of variable-length legs known as spuds. Significantly, the SDT frame is filled with environmentally conscious biodegradable oil. This structure serves the crucial role of creating leveled gravel beds of varying heights, upon which tunnel components will be situated.



The hoisting frame, a crucial element in the pontoon's architecture, is engineered to raise the SDT above the waterline to its resting position. Constructed using reinforced pipes, the corners of the frame are weighted with gravel and metal to enhance stability.

The fall pipe tower, a vital component, comprises a tower constructed from interconnected pipes. Within this tower, a telescopic pipe measuring approximately 48 meters serves the purpose of transporting gravel from conveyor belts to a mini fall pipe, which moves along a rail system positioned on the SDT. At the top of the tower, a small service crane facilitates maintenance tasks. The tower's height measures approximately 13.5 meters.

The pontoon is equipped with an extensive network of approximately 70 kilometers of cables, facilitating seamless communication and operation throughout the vessel.

Centralized control is achieved through a sophisticated system managed from the Control Room situated atop the superstructure. This central hub governs all devices and machinery onboard, including the two cranes mounted on the gravel tanks, enabling efficient transport of gravel onto the conveyor belts.

The deck accommodates a total of 27 winches, with 8 dedicated to optimizing the vessel's positioning during operations.

The superstructure is composed of five purpose-built interconnected containers. The final container serves as the control center housing essential control equipment for navigation and ship systems.

Sailing toward the future: the Fehmarnbelt Fixed Link

In unison, NB100 and NB131 will play a transformative role in the creation of the Fehmarnbelt Fixed Link, an 18-kilometer

tunnel uniting the ports of Puttgarden in Germany and Rødbyhavn on the Danish island of Lolland. This monumental structure will seamlessly integrate a motorway and a railway line, significantly reducing travel time between Hamburg and Copenhagen.

As the vessels near completion, CRIST's dedication to innovation and excellence becomes evident. The shipyard's involvement in this project positions it as a key player in the industry. Through meticulous engineering and attention to detail, CRIST plays a vital role in shaping the future of maritime craft.



PROSPECTIVE DEVELOPMENT OF **KARSTENSEN SHIPYARD** POLAND, INSCRIBED IN THE HISTORICAL TISSUE OF GDAŃSK

An interview with Tomasz Mulica, director of Karstensen Shipyard Poland, about five years of operation in Poland.

■ *What is Karstensen's history in Poland?*

It is worth mentioning at the beginning that Karstensens Skibsværft A/S is a Danish shipyard with a history dating back to 1917 and specializing primarily in the construction of fishing vessels. In terms of its Polish episode, one has to think back to the 90s, when the company started ordering hulls in domestic shipyards. This very fruitful cooperation with numerous subcontractors lasted for many years. In 2017, however, the management board decided to go one step further and start their own business in Poland. Looking for a place for ourselves, we came across a tender to rent land in Gdynia, at Indyjskie Quay, which we won.

■ *Where did the decision to enter Poland come from?*

The decision to start our own business arose from the desire and need to have full control over the creation of vessels for

ordering parties. In particular, this concerned the certainty of meeting deadlines and maintaining both high quality and customer trust. It is very important for our clients to be aware that the shipyard where they order their ship has control over the entire construction process. Before the decision to start our own production, we created a design office in Poland which for several years prepared the technical designs of our ships.

Behind you are 5 years of activity in Poland.

Karstensen Shipyard Poland was established in October 2018, and this 5-year period of project implementation in Gdynia was a very valuable one. It was also an extremely difficult and challenging time for us, resulting from the COVID-19 pandemic, which started in 2020, and which strongly affected the shipbuilding industry. This involved rising prices and difficulties in accessing materials and in delivery times. Nevertheless, during this 5-year presence in Gdynia, the shipyard launched 24 vessels, with the first launch taking place a year after the start of operations here. We strived to maintain a steady pace of work, trying to deliver subsequent vessels at 10-week intervals. Although it was not an easy time, it taught us even better planning and long-term thinking.

This year, Karstensen Shipyard Poland moved its operations to Gdańsk. Why was such a decision taken?

Our goal as a company is to build ships competitively, and constantly improve the quality of our services. We wanted to create a company that would be able to build new vessels, earning a profit to invest in its development. The past 5 years have shown us that we are able to achieve this. The land in Gdańsk that we managed to purchase is strictly a shipyard area, where slipways and shipyard cranes are located. This will allow us to implement projects even more efficiently. In Gdynia, we operated in a steel structure prefabrication plant that was not built for shipbuilding production on such a scale. Of course, this facility has many advantages, but also some disadvantages such as the lack of direct access to the quay. For us, this meant the need to transport the hull to a submersible barge, which we carried out by use of self-propelled platforms. The whole process of preparing and then carrying out the launch was logistically complicated, and thus also expensive. Due to the number of entities involved, it was not easy to coordinate



everything. In Gdańsk, the launching operation from the slipway has a completely different character. This is just one example. Working in a plant created for shipbuilding is an excellent time-saver for us, allowing us to increase the efficiency and speed of work.

The company took over a historical area, inscribed in the historical tissue of Gdańsk.

The fact that from now on we operate in an area of such importance for the history of the city and the shipbuilding industry is a great responsibility for us. We are aware of its importance. This is where the famous green KONE cranes are located, which are a characteristic sight not only of the shipyard, but also of Gdańsk itself. This place has been under the supervision of the conservator of monuments for two years, thanks to which it has maintained its shipyard character, and our presence is a guarantee that the slipways, cranes and production hall located here will be preserved and used in accordance with their original purpose. In close cooperation with the office of the Provincial Conservator of Monuments, we renovate infrastructure, while maintaining the historic appearance of this area. We carried out maintenance of the cranes, replacing the bearings and doing maintenance and painting work. I think that at the moment I can say that our presence allows us to calmly look ahead in view of preserving this part of the historic Gdańsk Shipyard.

What work is involved in changing your location?

Thanks to advance planning and the great commitment of our staff, we managed to move our business from Gdynia to Gdańsk very smoothly. Other shipyards had already operated in the

new area in Gdańsk, so despite the fact that the infrastructure was heavily exploited, we did not start from scratch. However, investments were needed, such as the modernization and adaptation of office and social space for employees, or the aforementioned repair of the famous cranes. We are working on lifting the production hall and looking for new solutions to improve the functioning of the plant, constantly cooperating with the Provincial Conservator of Monuments. We renovate and repair the infrastructure on an ongoing basis, such as the slipway, which is important for future launches. In the future, we also want to expand our workshop and warehouse facilities. In this way, we strive to increase our production potential.

Does moving change anything concerning access to the labor market?

The new location does not cause major turmoil when it comes to employees, although there are certainly noticeable changes here. There are many shipyards in Gdańsk, including extremely large ones, and you can feel some competition from them here. We plan to increase shipbuilding production in the coming years, but our immediate goal is to maintain the current pace of work that we had in Gdynia. In the future, we will strive to increase employment.

A shipyard is not only the place and the equipment, but also the people.

Together with subcontractors, we employ about 700 people. In addition to the shipyard, we also have a number of other companies cooperating with us. We are a large company operating in the Polish shipbuilding industry, and moving to Gdańsk will help us develop even more. For my part, I would like to thank our employees and associates for these five years

of activity. I am counting on the possibility of this continuing, for the benefit of all of us.

During these five years of the shipyard's operation in Poland, has anything been done that has stayed in your memory?

No. 455 – the pelagic trawler Astrid, which is 92 meters long. To approach the pontoon, we had to turn the ship with the help of SPMT platforms so that it stood perpendicular to the quay. The plot in Gdynia was about 76 meters wide, so after turning, the hull protruded a lot from both sides. In April this year, we carried out a double launch of the almost 64-meter-long vessel Ginneton and the slightly longer, 70-meter vessel Havsnurp. In the conditions in which we operated, it was quite a challenge for the entire staff, which will stay in our heads for a long time.

What kind of shipbuilding projects can we expect in Gdańsk?

Our production profile has not changed; we continue to specialize in fishing vessels. Just as in Gdynia, we aim to maintain subsequent launches every 9 to 10 weeks, which means at least five to six such events a year. We are also starting the construction of a series of small units that will be launched not from the slipway, but with the help of floating cranes or a pontoon and a dock. Having our own land allows us to think about expanding the scope of work we do on ships. Much depends on what happens in the maritime industry market. Although we focus primarily on larger RSW trawlers, we also build smaller vessels. We remain close to the fishing industry and local companies, which are our main customers. If the market changes and other interesting projects appear, we will become involved in them. We cannot lag behind, and the shipbuilding industry today is very dynamic.

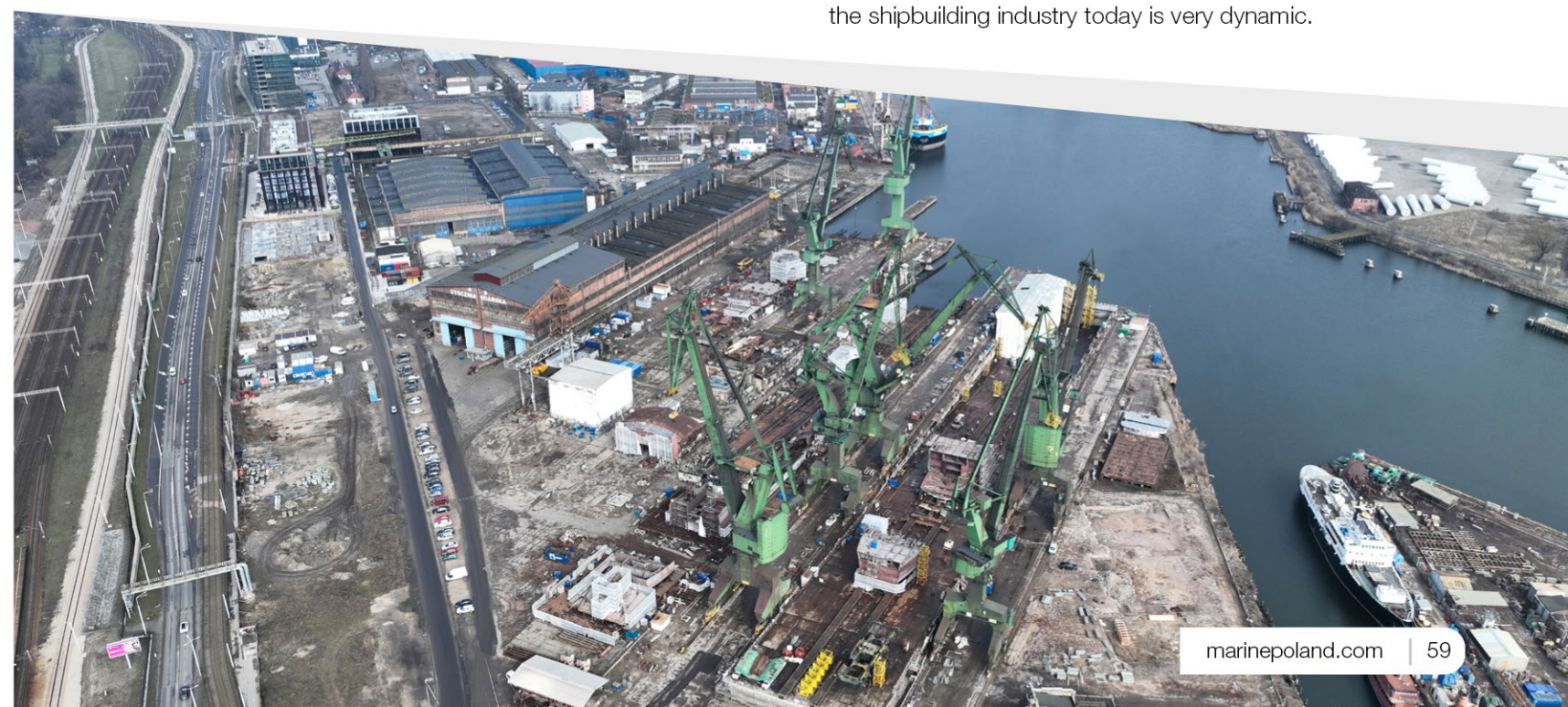




Photo: Fairplay Towage Polska

OFFSHORE TUGBOAT FOR FAIRPLAY TOWAGE POLSKA BUILT IN SAFE SHIPYARD

Along with the development of Polish offshore wind, Polish companies from the maritime sector are also preparing for new tasks. Among them, are shipyards and shipping companies that will cooperate on new investments. In light of this, an interesting event in 2022 was the commissioning of a new tugboat for Fairplay Towage Polska, built for offshore operations by Safe shipyard in Gdańsk.

The new Shoalbuster 2711 ICE was named Fairplay-37. On one hand, it is just one more ship of this type built in Gdańsk shipyard on behalf of Damen Shipyards Hardinxveld, where Fairplay Polska placed an order for the ship. On the other hand, for the first time, Safe shipyard built a Shoalbuster type tugboat from start to finish, as previously, only partially finished hulls were built in Gdańsk. In addition, Fairplay-37 is to play a special role in the Fairplay Towage Polska fleet as it will be used in the construction of offshore wind farms.

– When we set the parameters that the vessel should meet, one of the priorities was a low draft. The maximum draft of Fairplay-37 is three meters, while the working draft should oscillate around 2.80 meters, which should allow it to enter all Polish ports, including the smaller so-called fast response ports, i.e., Łeba, Ustka, Władysławowo – says Arkadiusz Ryż from Fairplay Towage Polska. Thanks to its parameters, the vessel will also be able to perform tasks, e.g., on drilling platforms. It will be the first such powerful tugboat able to call at smaller Polish ports, including Elbląg, following the launch of navigation through the Vistula Spit.

– At the customer's request, an ice class was added due to the planned operation of this ship in areas of our ports where water is sometimes frozen in winter – confirms Andrzej Łuczak from Safe. Thanks to this, the tugboat will be able to work 365 days a year. Its target waters are to be the Baltic Sea and the North Sea, where it is to be used in the numerous offshore

wind farm projects being developed there. However, due to its versatility, the tugboat can also perform other operations, as well as work in ports in the traditional merchant ship service.

The 27-meter Fairplay-37 is distinguished by its large, over 70-meter free deck, useful for, among other things, handling anchors. It has an open stern with a special roller for hauling in buoys and anchors. It is also equipped with a crane with a reach of 14 meters and a lifting capacity of up to 8 tons, as well as a hydraulic winch with a steel rope. Fairplay-37 will also be able to transport up to two 10-foot containers and up to 12 people. The tug also meets the IMO Tier III emission requirements.

The laying of the keel for the construction of the offshore Shoalbuster for Fairplay Towage Polska took place on September 29, 2021. The launch took place half a year later – at the end of April 2022. Another milestone was September 23, when the official ceremony of naming the tug Fairplay-37 took place at the French Quay in the Port of Gdynia.

– This is a project we are proud of because it is basically a Polish project. Of course, we contributed by providing the shipyard with the project and assisting in the construction. Nevertheless, it is important for everyone to realize that this



is a Polish project because the ship was built here, delivered here and will operate here – explained Joschka Böddeling, Sales Manager at Damen Shipyards Group, during the naming ceremony.

Fairplay-37 and its crew are unlikely to complain of boredom in the coming years.

– We can see that in the near future there will be a lot of interest in renting this vessel. We are not worried about its future and employment in projects in the Baltic Sea – assured Arkadiusz Ryż, Offshore Wind Project Manager at Fairplay Towage Polska.

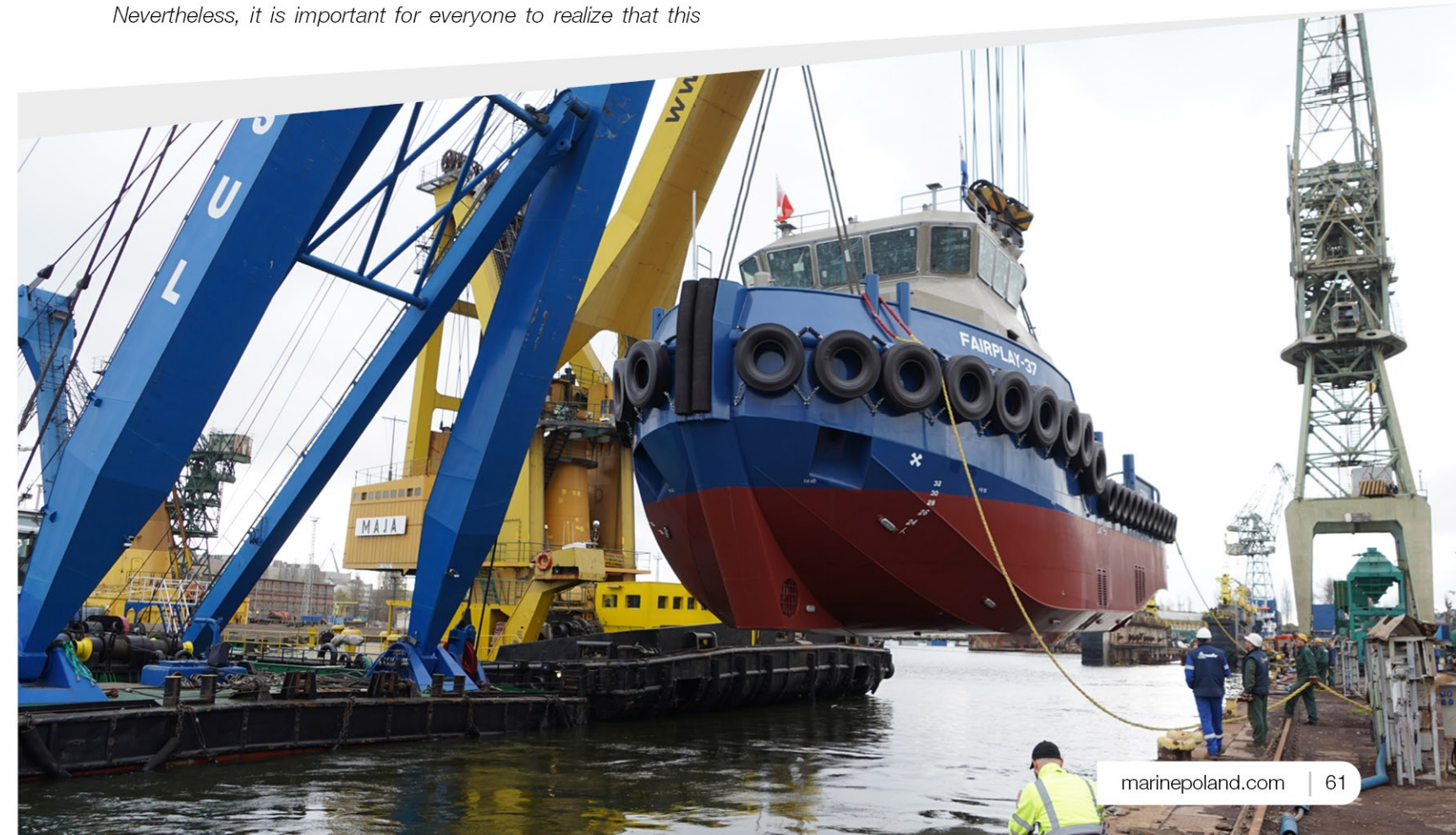




Photo: Tom Van Oossanen for Conrad Shipyard

C144S ACE: REDEFINING LUXURY AND INNOVATION

In the realm of maritime opulence, ACE stands as the pinnacle of ingenuity and elegance. It emerges as the flagship gem of the pioneering C144S line, pushing the boundaries of innovation and luxury. It serves as a testament to the artistry of Conrad Shipyard, a Polish establishment renowned for crafting boats that defy convention. ACE not only encapsulates the zenith of luxury design, but also establishes a new benchmark in nautical engineering. This is the captivating tale of a vessel that embodies lavishness in every curve.

ACE's story is a collaborative symphony orchestrated by seasoned professionals. The creative ingenuity of the Reymond Langton Design Studio sculpted its exterior, giving it a distinct presence on the water. Renowned for its naval architectural prowess, Diana Yacht Design shaped the vessel's form, ensuring unparalleled performance. The heart of ACE's opulence, its interior, was curated by M2 Atelier, a Milan-based studio famed for impeccable designs.

Unveiling the allure of ACE

Measuring over 44 meters in length and 9 meters in width, ACE's grandeur is matched only by its innovation. The vessel's three decks accommodate vast spaces, including a cinema, two bars, two dining areas, a sauna and a pool. With accommodation for 10 guests and a crew of 9, ACE offers an ultra comfortable experience, while its top speed of 13,8 knots and a range of approximately 5100 nautical miles at 10 knots make it a vessel of exploration and adventure.

Imposing, graceful, and unparalleled in its class, ACE is not merely a yacht; it's an embodiment of artistry and maritime craftsmanship. Designed to astonish, every inch of ACE exudes sophistication and grandeur. Its pristine white aluminum superstructure and glossy black accents create a captivating interplay of light and shadow across its curved surfaces, showcasing a harmonious blend of modernity and timeless allure. ACE's exterior reflects an unyielding passion for design

that has materialized through collaborative efforts of industry luminaries.

This opulent vessel first graced the Motlawa River in Gdansk, Poland, in late 2022, captivating the maritime community and enthusiasts alike. ACE's awe-inspiring exterior design, meticulously crafted by the British studio Reymond Langton, seamlessly blends modernity with timeless elegance. The vessel's white hull and aluminum superstructure, accentuated by glossy black bulwarks, showcase a design philosophy that transcends trends and ensures its enduring beauty.

Awards and recognition

ACE's brilliance has not gone unnoticed; it has garnered prestigious awards that celebrate its stature in the maritime industry. ACE has been awarded with the Judges Commendation at the World Superyacht Awards. She has been recognized with two statuettes at the Deisgn et AI – International Yacht and Aviation Awards and with the Design Elite Award.

Navigating new horizons

ACE is an outstanding example of Conrad Shipyard's unwavering commitment to innovation and luxury. From the vessel's meticulously guided construction process to the realization of a vessel that transcends the ordinary, ACE redefines the very essence of maritime extravagance.

In an era where luxury knows no bounds, ACE sets an unprecedented standard for marine excellence. It not only embarks on the open seas, but also navigates the uncharted waters of design innovation. As we sail into a future where opulence continues to evolve, ACE leads the way. This is



Photo: Tom Van Oossanen for Conrad Shipyard

a manifestation of the intricate interplay of engineering, design and passion. In the grand tapestry of maritime ingenuity, ACE emerges as a masterpiece – a harmonious blend of elements that epitomize luxury, innovation and unrelenting dedication. As ACE plies the waves, it takes its rightful place as a vessel of distinction and an emblem of the nautical domain's boundless potential.

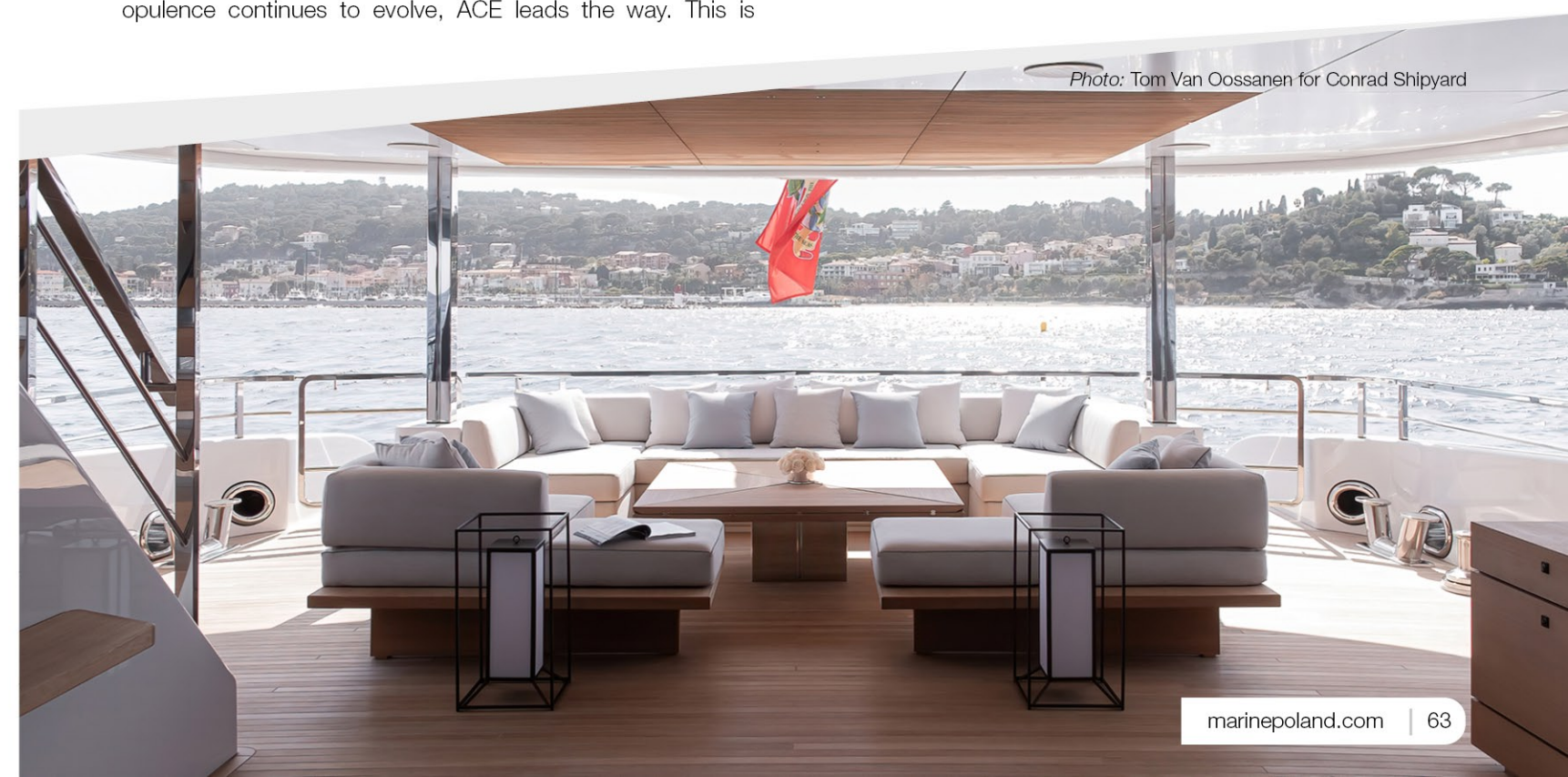


Photo: Tom Van Oossanen for Conrad Shipyard

DEVELOPMENT. PASSION. EXPERIENCE

Projmors is a design office with 75 years of tradition. Since the beginning of our activity, we have made key changes and delivered many spectacular investments that have permanently become integrated into the landscape of the northern part of the country.

We have offices in Poland, India and Nigeria. Our presence in foreign markets poses new challenges for us and provides new opportunities to offer our services at the highest level around the world.

We provide a wide range of services covering all phases of a project; we are able to carry out comprehensive studies, from feasibility studies, through concepts and designs, to the site supervision and turnkey construction of entire facilities. Projmors excels in obtaining all administrative and environmental decisions, preparing project information sheets, water law reports and environmental impact reports.

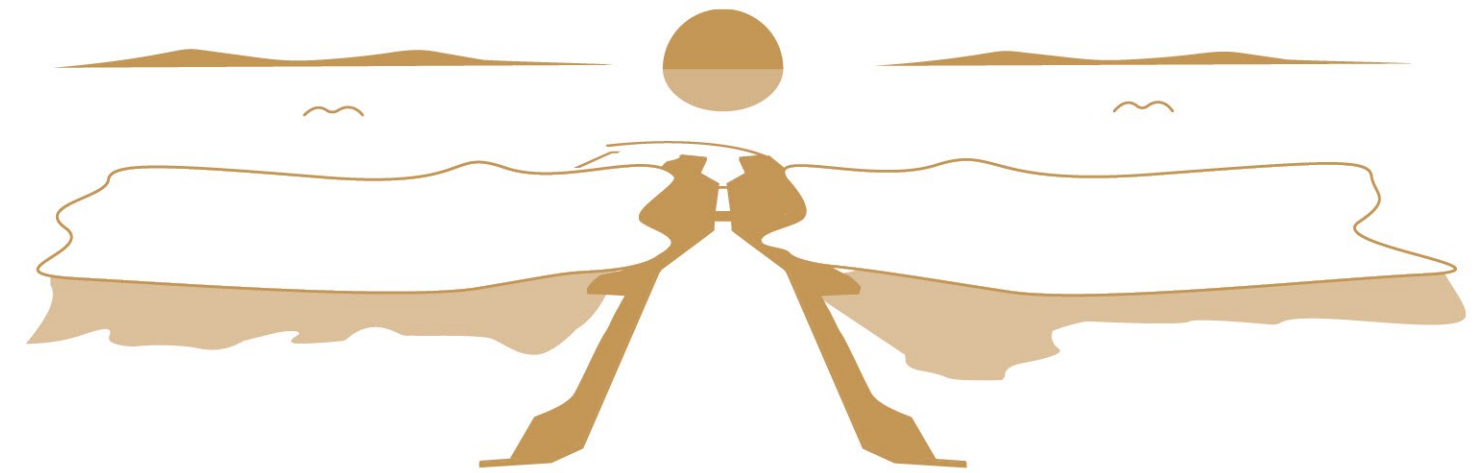
We do not shy away from demanding projects and approach each one professionally, providing unconventional and functional solutions.

We are specialists with comprehensive competencies who are full of energy, enthusiasm and passion. We achieve goals together, inspire each other, help and support mutual development. Thanks to this, we achieve more.

We specialize in hydrotechnical, industrial, military and public utility projects, and since 2018 we also have been participating in the development of offshore wind energy.

Offshore wind energy is one of the fastest developing renewable energy technologies in Europe. Therefore, seeing how necessary and future-oriented this direction is, we actively contribute to the transformation of the energy system in Poland. In addition to the design work we carry out, we are also a member of the Polish Offshore Wind Energy Society and the Polish Wind Energy Association. Thanks to this, we have an influence on shaping sector strategies and provisions of legal acts regarding wind energy in Poland.

Projmors has a 1st degree Industrial Security Certificate authorizing us to process classified information up to and including the "secret" clause. This gives us the opportunity to implement projects that are particularly important for the country's security and defense.

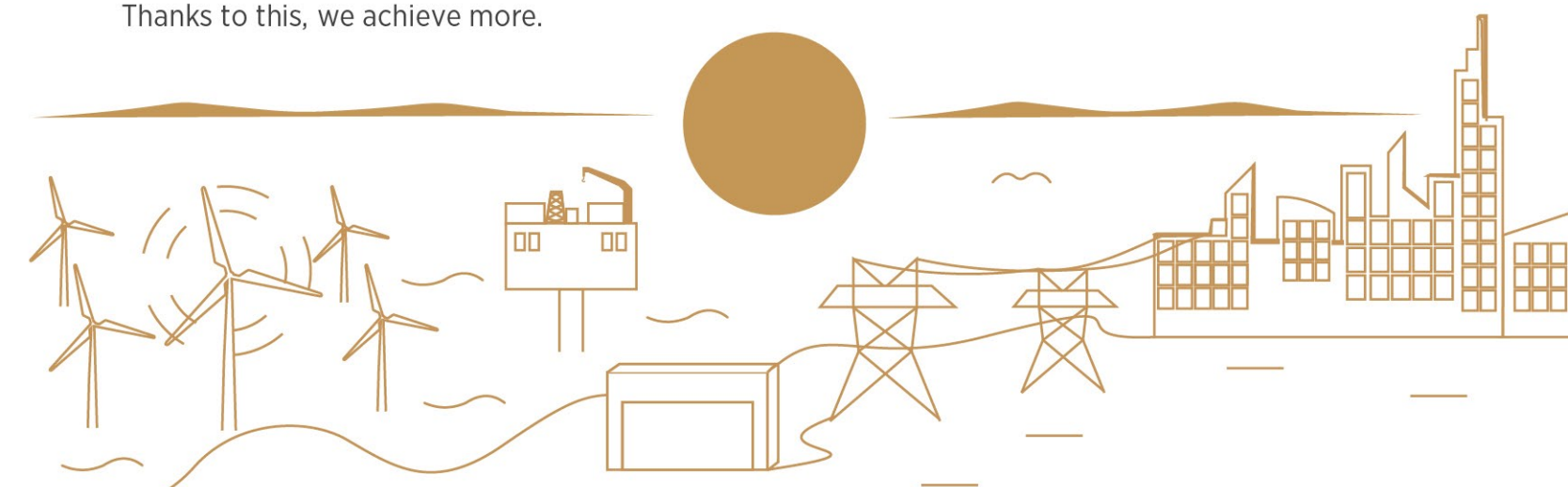
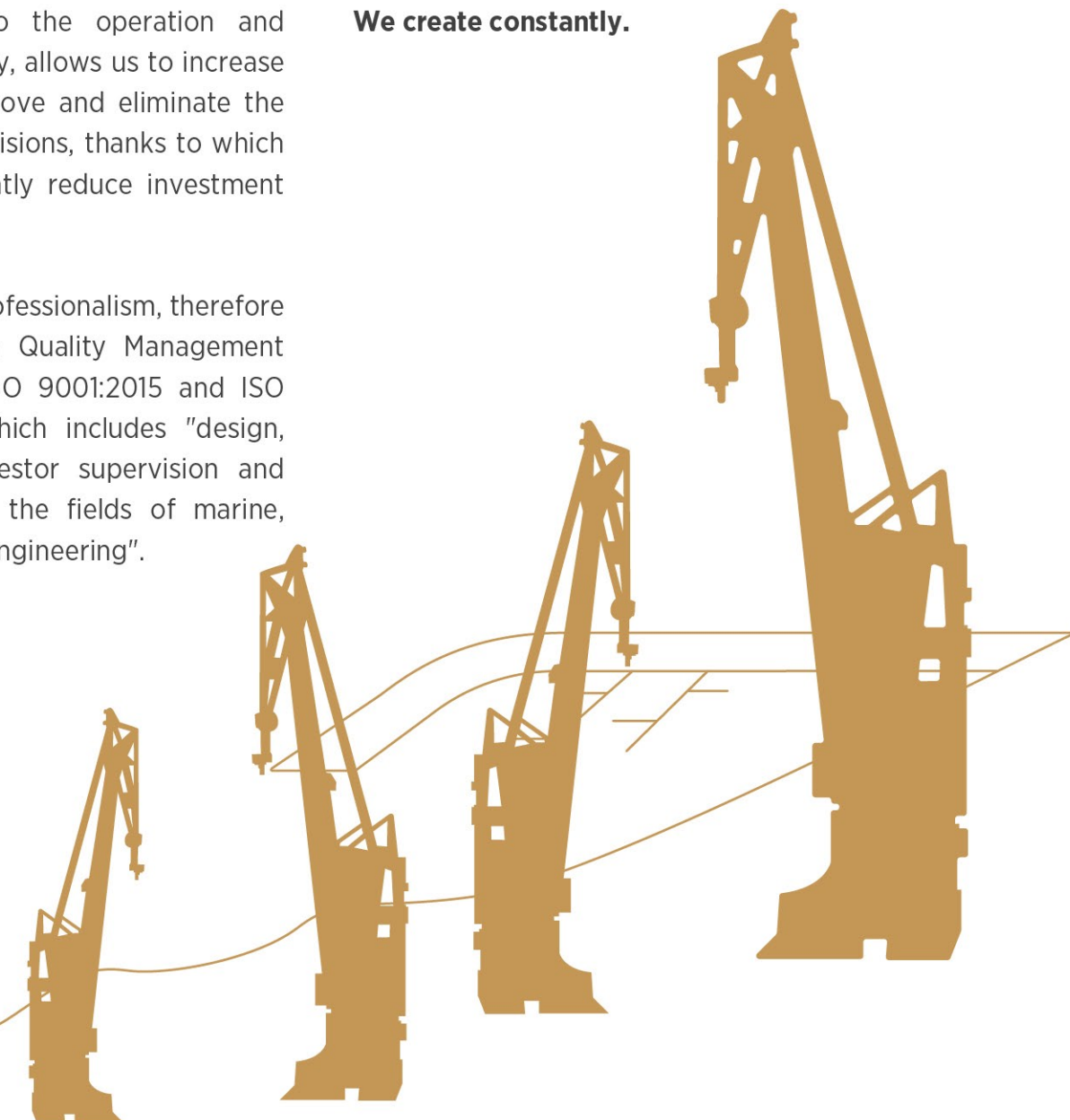


We believe in continuous development, constantly widening expertise and improving our activities by using new technologies such as building information modeling (BIM). The BIM methodology implemented at all stages of the facility's life cycle, from design and planning, through construction, to the operation and maintenance of the facility, allows us to increase work efficiency and improve and eliminate the number of errors and collisions, thanks to which we are able to significantly reduce investment costs.

We ensure quality and professionalism, therefore we have implemented a Quality Management System based on the ISO 9001:2015 and ISO 14001:2015 standards, which includes "design, technical consulting, investor supervision and project management, in the fields of marine, offshore, water and civil engineering".

We make every effort to develop and strengthen what we have achieved so far. Another anniversary only confirms that we are a stable and trustworthy company. It is a time to sum up our activities and expand plans for the future.

We create constantly.





A NEW GENERATION OF MINE COUNTERMEASURE SHIPS – KORMORAN II-CLASS MINESWEEPERS

Recent years have seen a significant strengthening of the Polish Navy's anti-mine forces. Between 2022 and 2023, two ships of Project 258, ORP Albatros and ORP Mewa, entered service, and the delivery of three more is planned for the period 2026-2027. They are proof of the design and construction capabilities of the Polish shipbuilding industry.

The story of the Kormoran project began in 2012, when the Polish government decided on solutions to modernize the navy, which was then in a difficult situation. Due to financial problems and cost-cutting at the Polish Army, a number of ships were withdrawn from service, resulting in significant downsizing. The age of the remaining ships was also a cause for concern. The three minesweepers of Project 206FM, ORP Czajka, ORP Flaming and ORP Mewa, had been in service since the 1960s and were on the verge of further operation, hence it became important to replace them with new generation vessels.

Necessary modernization

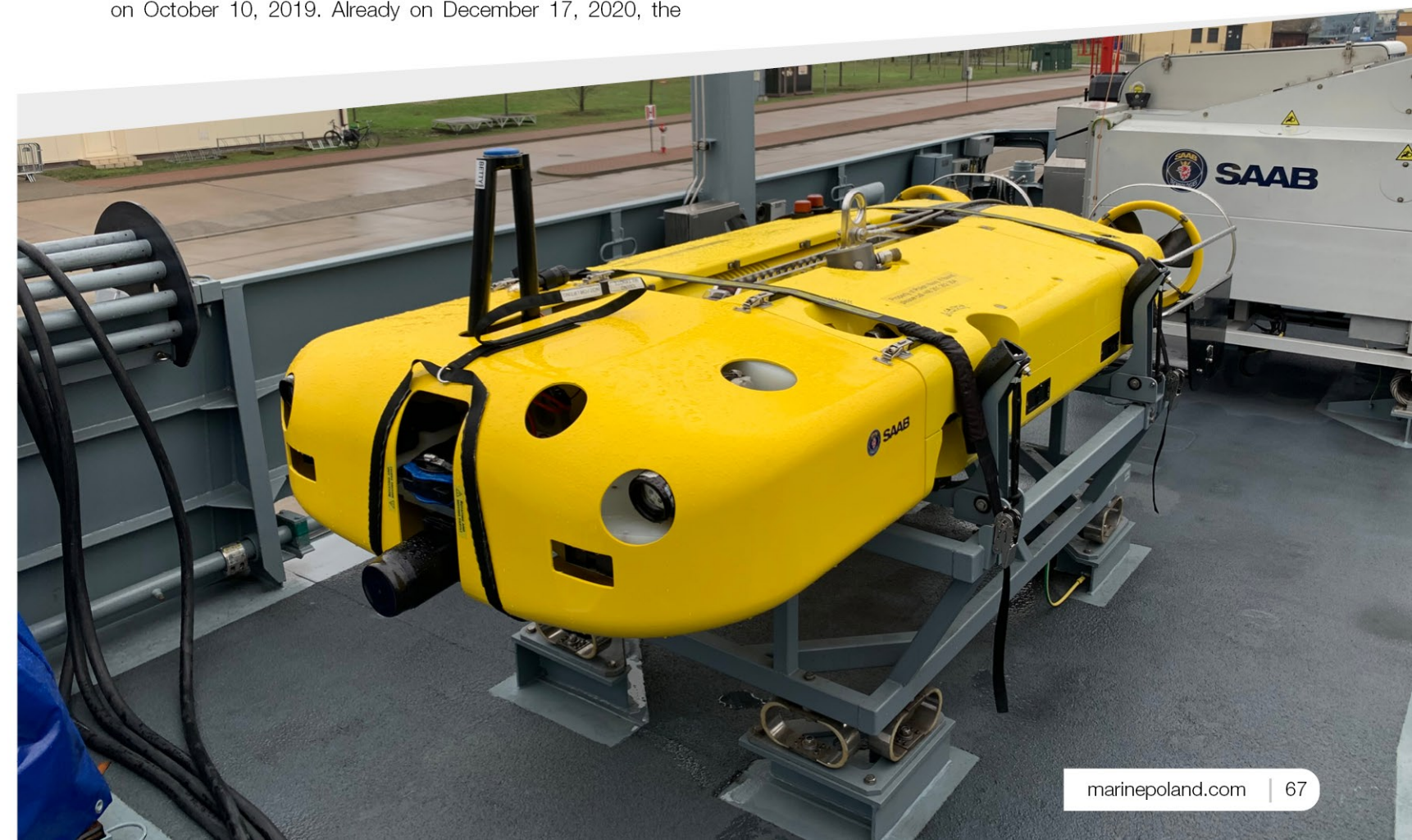
The protoproject ship Project 258 was built by a consortium comprising Remontowa Shipbuilding S.A. shipyard in Gdańsk (the leader and also the construction site), PGZ Naval Shipyard (PGZ Stocznia Wojenna) in Gdynia and the Research and Development Center of the Marine Technology Center (Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej) in Gdynia.

The classification of the construction was supervised by the Polish Register of Shipping (Polski Rejestr Statków). After the design work was completed, the keel for the future protoproject ORP Kormoran was laid on September 23, 2014, and the launch took place a year later, on September 4. Sea and commissioning trials lasted two years, after which the ship entered service on November 28, 2017, the anniversary of the creation of the Polish Navy. The ship still had to wait some time for its real entry into the array. Until 2021, operational and military work continued on it, which involved checking the design for suitability as a naval project of the armed forces, as well as implementing changes within the entire series of ships. This was important because shortly after the red-and-white flag was raised on ORP Kormoran, the construction of two serial ships, Mewa and Albatros, began. Construction of the future ORP Albatros began with the laying of the keel on October 18, 2018. The ceremonial launch and naming of the ship took place a year later, on October 10. After completion of sea trials and commissioning, the ship was handed over to the Navy on August 17 this year. Over the next few months, until the flag-raising, work continued on retrofitting the ship, as well as the intensive training of the crew so that they could adapt efficiently and perform regular tasks at sea in the near future. The ship entered service on the fifth anniversary of the flag-raising on ORP Kormoran, November 28, 2022. The laying of the keel for the third ship, ORP Mewa, took place on October 10, 2019. Already on December 17, 2020, the

vessel was launched, and sea trials and commissioning were completed two years later, after which the minesweeper was handed over to the Armament Agency. The official induction into service took place on February 14, 2023. All the ships mentioned serve in the 13th Minesweeper Squadron (13. Dywizjon Trałowców) of the 8th Coastal Defence Flotilla (8. Flotylla Obrony Wybrzeża) and are stationed at Gdynia Naval Port.

Modern equipment

Minesweepers of Project 258 are ships designed to search for, identify, classify and destroy sea mines and other dangerous objects. These ships are 58,5 meters long and reach 900 tons of full displacement, with a crew of 45 officers and sailors. They are distinguished by the design of their hull, which is made of non-magnetic austenitic steel and constructed with the lowest effective radar, acoustic and thermal reflective area (SOP) possible. It also features strength and fire safety, which compensates for its heavier weight. In addition, it is no ordinary steel, as it is used to protect against the magnetic fuses of naval mines, which makes the ships virtually invisible to them. The uniqueness of a minesweeper of the Kormoran II-class lies in the safety provided. The ship is, in a way, a platform for remotely operated underwater vehicles, which from a safe distance will perform tasks, return to the ship, and at the same time, the crew members from inside the ship will take care





a range of up to 2500 nautical miles. The ship's engine room is managed using computerized operating instruments, so there is no need for permanent crew members to be present, as any difficulties can be detected immediately by the system. Also of note is the SHL-101/TM tri-frequency mine search station, high-resolution side scan sonar with HISAS 1032 synthetic instruments, and the Mk11 SharpEye navigation radar.

The ship equipment, which is a significant testimony to its capabilities, includes unmanned underwater vehicles (UUV), including the autonomous underwater

vehicles (AUV) Gavia and Hugin, and remotely operated underwater vehicles (ROVs), such as the Saab Double Eagle Mk III deep-sea vehicle and the Kraken KATFISH 180 side observation sonar. In addition, Kormoran II-class ships are equipped with demagnetization installations, as well as space to carry two TM-609IB hybrid boats.

The technological sophistication of the Project 258 minesweepers is also evidenced by a sub-kilometer station with far greater capabilities than those previously used by the navy. To combat underwater threats, Toczek – the remotely and wirelessly-fired explosive systems for destroying sea mines and Gluptak – the self-propelled explosive charges for destroying dangerous objects, are used, designed and developed by Gdansk University of Technology.

In the serial vessels of the Kormoran II class, the cannon catches the eye. While the protoproject ORP Kormoran originally came with a 23 mm caliber ZU-23-2MR Wróbel II cannon, the ORP Albatros and ORP Mewa were equipped with the OSU-35K 35 mm weapon system, supplied by the PIT-RADWAR consortium and intended both for cooperation with the ship combat management system (CMS), as well as for autonomous operation. The rest of the armament consists of 3 WKM-Bm 12.7 mm machine guns and Grom anti-aircraft missile systems. The ships also have the SCOT-M integrated command

and combat management system, the heart of which is the Combat Information Center (BCI). It integrates all the main and auxiliary functions of the ship, including technical observation, communication and command systems, as well as subsystems for combating air, surface and underwater targets, all of which is operated using a range of multifunctional operator consoles.

Looking to the future

The entry into service of ORP Mewa does not end the project of the construction of Kormoran II-class ships. In March 2022, Mariusz Błaszczak, the Minister of National Defense, announced that the Polish Navy will be reinforced with three more Project 258 minesweepers. The agreement in this regard was signed on June 26, 2022. Already on March 28,



at the Remontowa Shipbuilding S.A. shipyard, the sheet metal cutting ceremony took place, and on July 27, the keel was laid for the fourth ship in this series, Jaskółka. This and the next two planned vessels, Rybitwa and Czajka, will be handed over to the ordering party in 2026-2027. They will be part of the 12th Minesweeper Squadron (12. Dywizjon Trałowców) of the 8th Coastal Defense Flotilla and will be stationed at the Naval Port of Świnoujście.





Photo: PGZ

MIECZNIK AS A RESPONSE TO DEFENSE CHALLENGES

The Polish Navy is at a stage of dynamic development, within a few years, commissioning a number of new vessels into service. There will be more. The largest project currently underway is the construction of three multi-purpose frigates as part of the “Miecznik” program, which is to change not only the Polish fleet, but also the domestic defense and shipbuilding industry.

Poland needs ships capable of performing tasks related to defense, ensuring the protection of shipping and the national maritime economy of the state, and meeting obligations within NATO. Currently, the core of its naval forces are two Oliver Hazard Perry-class missile frigates: ORP Gen. Tadeusz Kościuszko and ORP Gen. Kazimierz Pułaski; three small Orkan-class missile ships: ORP Orkan, ORP Grom and ORP Piorun; as well as corvettes: anti-ship submarines of Project 620, ORP Kaszub and the patrol vessel of Project 621M, ORP Ślężak. They all serve in the Submarine Unit of the 3rd Ship Flotilla and are stationed at Gdynia Naval Port. These frigates were originally commissioned in 1980 by the US Navy, and in 2000-2002 they were handed over to Poland after its accession to NATO. They are over 40 years old and due to their age and exploitation, there is a need to replace them with new ships that meet the challenges of the 21st century.

A historic decision

Since 2012, “Miecznik” has repeatedly appeared among the modernization programs of the Polish Navy, remaining in the sphere of planning. Originally, it concerned the construction of coastal defense ships the size of a corvette, as it was believed that Poland did not need larger ships. A change took place at the end of 2020. As part of the project, three multi-purpose frigates are to be built in Poland, but in close cooperation with a western partner who will not only provide the design and its key

subsystems, but also provide its Polish partners with the necessary knowledge and technology. The tender was won by the British company Babcock International, which proposed a project based on its Arrowhead 140 platform, which is a model for, i.e., British Type 31 frigates. In July 2021, an agreement was signed between the Armament Inspectorate and the consortium responsible for the construction of the ships. The ordering party is the Armament Agency, and the future user of the frigates is the Polish Navy. The PGZ-Miecznik consortium includes Polska Grupa Zbrojeniowa S.A. and PGZ Stocznia Wojenna Sp. z o. o. Program partners include Babcock International, Thales UK and MBDA UK. Among other key partners are Remontowa Shipbuilding S.A. shipyard and Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej S.A. It should be emphasized that Babcock International has additionally finalized a license agreement with PGZ-Miecznik for further use of the Arrowhead 140 project. The document includes a provision regarding the option of building another five vessels for the naval armed forces. This means that after three frigates are built, it will be possible to invest in more, which would significantly strengthen the Polish fleet, while providing the shipbuilding and defense industry with work and employment for the coming years. This remains an optional solution for now. The planned warships are to become the core of the Battleship Squadron of the 3rd FO in the future. They are also the largest undertaking of the Polish shipbuilding industry in its history to



date. So far, the Polish army has not had such strong armament as in these future multi-role frigates. They will be versatile in their activities as part of Anti-surface warfare (ASuW), Anti-aircraft warfare (AAW) and Anti-submarine warfare (ASW). In almost three years since the announcement of the plan to purchase the ships, the project has gone through the conceptual and project definition phase. Appropriate documentation, schedules and implementation plans have been submitted. On August 16, 2023, the sheet metal cutting ceremony for the first prototype frigate took place. It will be launched by 2026. It is to be handed over to the ordering party two years later, and in the years 2028-2030, qualification tests of the project will be carried out in terms of readiness for service. In 2025 and 2026, PGZ Stocznia Wojenna is to cut metal sheets for two serial ships of the program. Further construction stages in their case include keel-laying in 2025 and 2026, launching

in 2027 and 2028, and delivery of the completed ships in 2030 and 2031. The first frigate under construction, Project 106, will be called Wicher in the future, followed by Burza and Huragan. These are historical names that were given to ships that the Polish Navy built and planned, which is to prove continuity and tradition in this formation.

A weapon for the 21st century

The frigates of the “Miecznik” program will be 138.7 meters long, and the maximum displacement is to reach 7,000 tons. They will reach a speed of

Photo: PGZ





Photo: Babcock

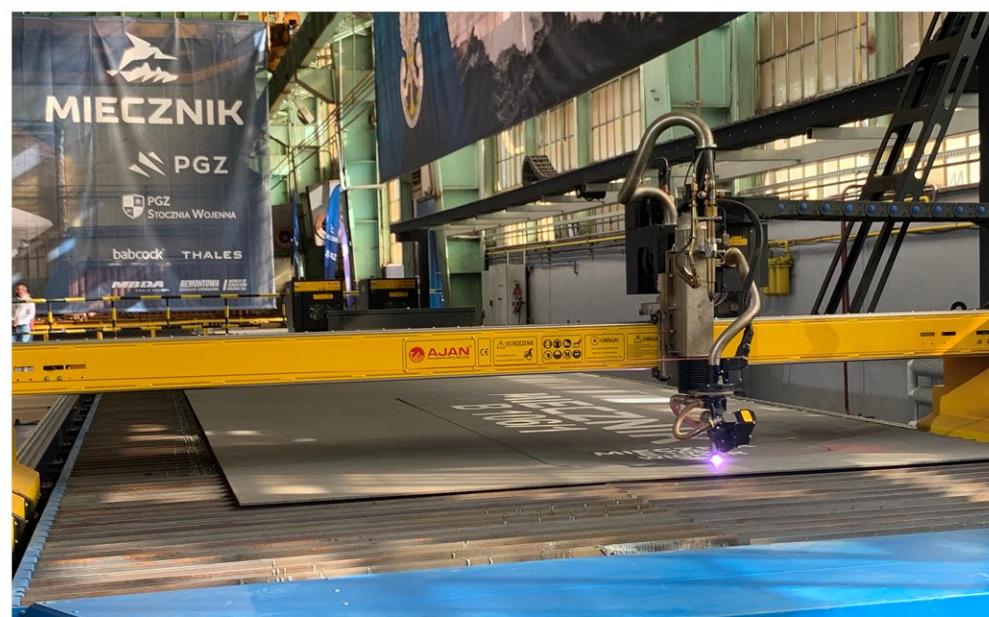
up to 26 knots, with a marching speed of 12. The range is to be 8,000 nautical miles. The crew will include up to 187 officers and sailors. They will be equipped with four diesel engines in the CODAD (Combined Diesel and Diesel) system, where some of the engines operate at a lower, economical speed, and the rest are additionally started when the speed is increased, or in the case of a higher load on the ship. They will be equipped with integrated electronic warfare, navigation, bridge and communication systems. The basic artillery armament includes the 76 mm OTO Melara Super Rapid Straus naval gun and the 35 mm OSU-35K naval weapon system. They are complemented by large-caliber machine guns: two remote ZSMU 1276 A3B and two manual WKM-Bm weapons. The assumed complement in the field of air defense are four vertical VLS (Vertical Launch System) launchers for Mk-41 Strike missiles and the Sea Ceptor system equipped with CAMM ER and CAMM MR (FCM) missiles. The torpedo armament will include two launchers for light B515/2V torpedoes. The ships will also be equipped with NS58 mid-range and long-range Sea Master 410 multi-function radars, a STIR 1.2 EO Mk2 fire control radar, TSA 6000 and 1 x TSC 4000 imaging reconnaissance assets, as well as Blue Hunter and towed CAPTAS-2 hull sonars.

Opportunity for infrastructure...

“Miecznik” is not only a shipbuilding project, but also a great undertaking for the shipyard. The frigates are being

built by PGZ Stocznia Wojenna in Gdynia, which is being expanded. Run since March, the investment in the shipyard is to significantly increase its production capacity. The most important undertaking is the construction of a new hall to house, among others, the hulls of the three multi-purpose frigates of the “Miecznik” program. The hull hall will be made of a steel structure with a height of 43 meters. Large-size gates will reach similar dimensions: 43 meters high and 34 meters wide, and the overhead cranes will be able to lift up to 100 tons. It will be one of the largest facilities of this type in Europe. An integral part of

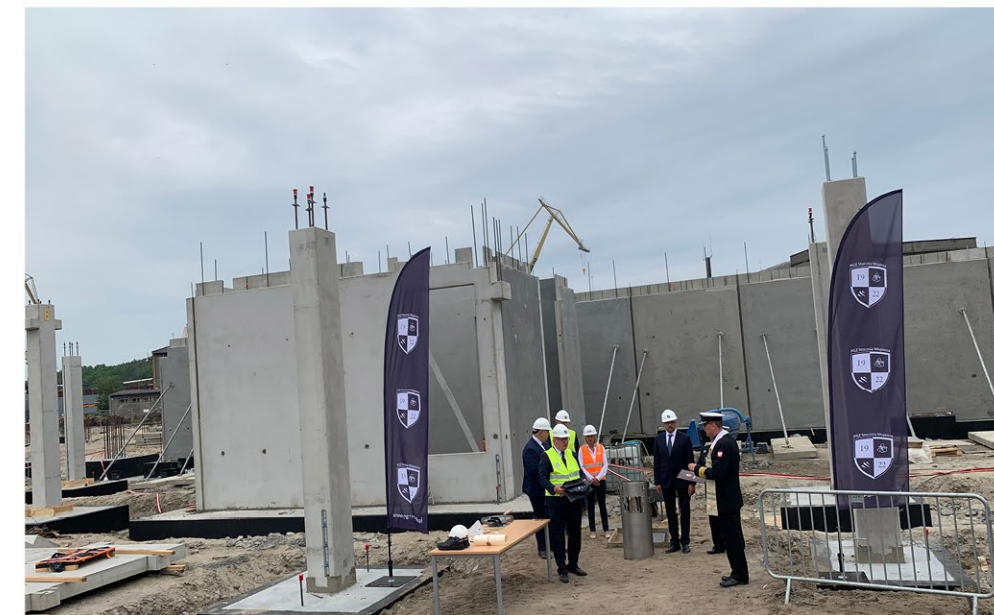
the investment is also the project of the Service and Logistics Center for NATO ships, which is to confirm support for allies who also operate as part of the defense of the Polish coast. According to the design, the building area will be 6,000 m² and the height of the hall is to be up to 46 meters, including the ventilation systems mounted on the roof. In turn, the planned production hall will house all shipyard equipment departments (the building area is almost 5,000 m²). The undertaking also involves the expansion and reconstruction of the quay, storage yards and internal roads, along with the modernization of the technical infrastructure on the premises of PGZ Stocznia Wojenna. This concerns the construction of a new social and administrative building and a floating dock. The work is the responsibility of a consortium consisting of NDI S.A., NDI SOPOT S.A. and Pekabex BET. According to the plan, the works are to be completed in June 2024.



...as well as people

New ships also mean new staff. An important role is also played by construction plans at the Naval Academy in Gdynia, where future officers are educated who will start their service on new ships. The Naval Training Center and the Naval Non-Commissioned Officers' School, located in Ustka, must also be prepared for the training of future crews. As three ships mean even hundreds of new seafarers, the facilities must ensure specialists and equipment to educate people who are to operate modern ship equipment. In November 2022, the construction began of a multifunctional

building for future cadets, students and trainees of the Naval Academy. The 1,116 m² multifunctional building will have 12 floors. In addition to 150 rooms to accommodate 200 people (100 single and 50 double), it will also include, among other areas: a canteen, kitchen and storage facilities, 7 conference and training rooms and exercise rooms. The planned date of commissioning the facility is set for 2025. “Miecznik” applies not only to military personnel. The construction of such modern ships also requires the appropriate staff of builders and engineers employed in shipyards and other companies. Due to the fact that the project will be spread over a number of years, scientific and technical institutions must already provide training for qualified specialists who will also take part in this and subsequent projects for the shipbuilding industry in the future. Hence, one can expect offers and programs



for people interested in working in the shipbuilding industry, related to the construction, repair and modernization of ships. The multi-purpose frigates of the “Miecznik” program will significantly increase the capabilities of the Polish Navy and will allow for the implementation of a wide range of tasks at sea, including securing shipping routes and critical infrastructure. The ships will increase the combat potential of the Polish Armed Forces, but will also constitute a significant contribution of the country to the implementation of NATO obligations, including being part of the Standing NATO Maritime Group 1 and 2 (SNMG-1, SNMG-2). Thanks to them, Poland will gain new opportunities to perform a wide range of tasks in its own maritime areas, and participate in missions and exercises organized with allies and partners in the Baltic Sea and many other waters.

Photo: PGZ





OFFSHORE WIND ENERGY CENTER OF GDYNIA MARITIME UNIVERSITY

At De Plelo Street, in the vicinity of Wisłoujście Fortress in Gdańsk, the Offshore Center building is being built, which will house the new seat of the Maritime Institute and the Offshore Wind Energy Center.

Construction started in mid-2021. The Offshore Center consists of two two-story buildings, with a connector on the first floor.

– A new seat of the Maritime Institute is being built at De Plelo Street. We expect that by the end of this year, or at the beginning of next year at the latest, the new headquarters will be ready for relocation – reports dr hab. Maciej Matczak, prof. of GMU, director of the Maritime Institute, under whose auspices the Offshore Center will operate.

The Offshore Center will be the seat of the Maritime Institute of the University of Gdańsk and the Offshore Wind Energy Center. Due to the function of the institutions that will be in the building, an extremely important element of its location is direct access to the Wisłoujście Quay, with a total length of approx. 500 meters, of which 200 meters is a transshipment quay with a load capacity of 20 kN/m².

– Access to the quay is a very important element of the location of the Offshore Center, because we will have direct access to the ship. I want to emphasize that the use of watercraft is crucial for the implementation of environmental research. We collect a lot of samples at sea, which must be sent directly to our laboratories – says Dr. Matczak.

The two buildings will house not only laboratories, but also administrative, workshop and social facilities as well as warehouses for devices and measuring equipment. About 200 people will work there.

– The main area of activity of the Maritime Institute is conducting environmental research, mainly for companies from the offshore sector. All the resources of the Maritime Institute will be located at the Offshore Center, including accredited laboratories and measuring equipment. It will be a place where environmental research for the offshore sector will be comprehensively carried out – says the director of the Maritime Institute.

Before the Maritime Institute moves to its new premises, it will be necessary to equip the building appropriately.

– Currently, we face the limitation of space for the development of our laboratories. The new headquarters will allow us to increase our capabilities, and purchase new equipment, thanks to which our research will be carried out faster and more efficiently. And time is a very important element when it comes to investments of such importance, such as offshore wind energy. We want to provide our services in an efficient manner and provide our clients with the results of the research we are conducting as quickly as possible – explains Dr. Maciej Matczak.

The value of the investment, together with the equipment, is estimated at approx. PLN 60 million.

The Maritime Institute of Gdynia Maritime University is one of the most important institutions for the emerging Polish offshore sector. The specialists of the Institute are involved in environmental studies concerning all currently conducted projects in the Polish part of the Baltic Sea.

– It can be said that we took an active part in the implementation of all currently developed projects in Polish offshore. I emphasize that we deal with environmental research. We have contact with and work for all investors and developers who are active on the Polish market today. We expect that the next locations, currently being discussed and awarded, will also be places where the Maritime Institute will carry out research work – says the director of the Institute.

Experts from the Maritime Institute of Gdynia Maritime University have also developed a widely commented proposal for further locations of offshore wind farms in Polish waters.

– This is the so-called third stage, but it is currently in the phase of expert analysis. The report we prepared showed what the potential opportunities are. The implementation of this plan requires a lot of analytical and consulting work – says dr hab. Maciej Matczak.





MORE AND MORE OFFSHORE SHIPS IN POLISH COMPANIES

Polish offshore wind farm projects are slowly but steadily moving from planning to implementation. Polish companies that will find or have already found themselves in the supply chain are also preparing. Some of them have already started building or expanding their fleets, and the first offshore vessels have already appeared at the quays.

Although Polish companies do not yet have the opportunity to carry out major operations at sea during the construction of wind farms, such as the transport and installation of foundations, turbine elements or submarine cables, they will work within this process in a different capacity. Several Polish companies are already preparing for offshore development and are strengthening their fleets with new ships that will play different roles.

Fairplay Towage Polska

Fairplay Towage Polska, one of the companies operating fleets of tugboats in Polish ports, supplemented its fleet last year with a new vessel, designed and built for operations on offshore projects. Built entirely in Poland, at Safe shipyard in Gdańsk, Fairplay-37 is 27 meters long with a maximum draft of only 3 meters, which is to enable it to enter even the smallest Polish ports. It has a large 70-meter free deck, as well as a crane with a reach of 14 meters and a lifting capacity of up to 8 tons. It has also been equipped with an ice class, thanks to which it will be able to operate for 12 months of the year in waters that freeze during the winter months, such as the Baltic Sea and the North Sea.

More about the construction and purpose of the Fairplay-37 can be found in the article devoted to it.

PŻB Offshore

A new player on the Polish scene of companies with vessels that can support offshore operations is PŻB Offshore. Although the company does not formally own any ships yet, it is worth taking a look at as it is a daughter company of Polska Żegluga Bałtycka (Polish Baltic Shipping), the operator of Polferries ferry lines.

So what are the plans and intentions of PŻB Offshore, taking advantage of the experience and long-term market presence of its parent company? First, the company intends to build a basic fleet. There are plans to purchase and adapt several used CTV (Crew Transfer Vessel) vessels used to transport personnel, equipment and supplies to workplaces at sea, although options for larger SOV (Service Operation Vessel) vessels are also being considered, adapted to perform service operations, among others, on wind farms. In the longer term, PŻB Offshore plans to commission the construction of new vessels.

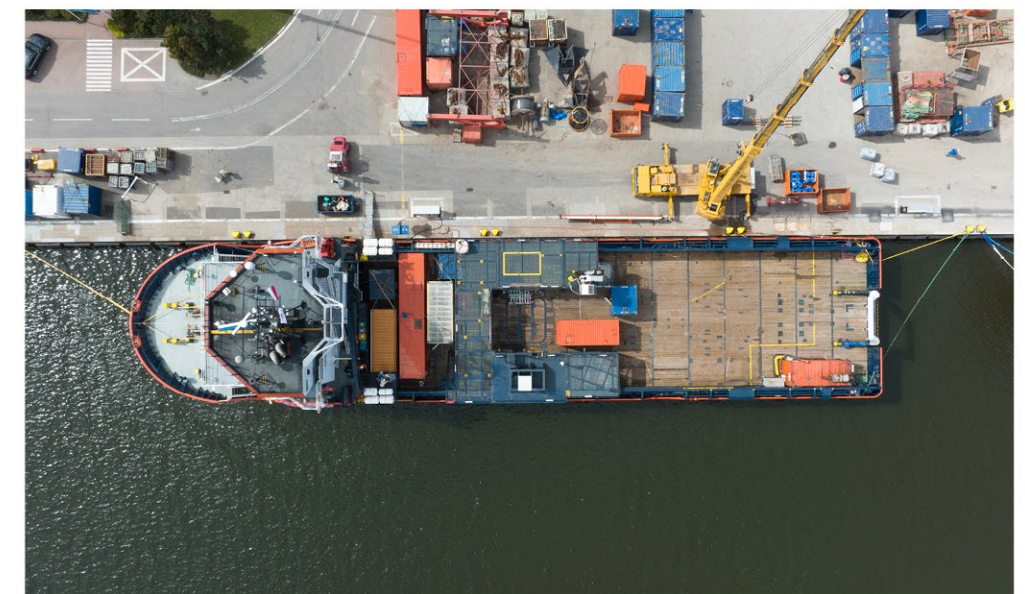
But that is not all. PŻB Offshore intends to take advantage of the opportunities offered by being a company associated with ferry lines. In the near future, two new ferries will enter operation in the colors of Polferries (the first one is already in the advanced phase of construction at the Italian shipyard Visentini, the second will be built in Poland as part of a project of building new vessels for Polish shipowners). Thus, older vessels will be withdrawn. PŻB Offshore plans to take over one of them and adapt it for a so-called floatel, i.e., a floating hotel base for offshore technicians.

– Such a ship would have specialized workshops on board. It would be equipped with docking points for the smaller vessels, e.g., CTV's. It could have a crane and a helipad, which would facilitate the quick and efficient transport of crews or various small items between land and sea. I think it would be a very interesting challenge for our local shipyards – says Radosław Marciniak, President of PŻB Offshore.

Although at the moment PŻB Offshore does not yet have any ships, it may soon become one of the first shipowners of service vessels for the offshore wind energy sector in Poland.

Bota Green Offshore

Another newly established company, Bota Green Offshore, which is part of the BOTA Group, also has aspirations to be a precursor of the Polish CTV market. BGO has already



started building a fleet – the first purchase was of two sister catamarans, 22 meters long, nearly 9 meters wide and with an aluminum hull. The ships can reach a maximum speed of up to 25 knots. They can carry 24 wind turbine technicians on board, while also doing well in slightly higher waves. The ships are named Bota Wind 1 and Bota Wind 2 and are from 2013 and 2016, respectively.

However, Bota Green Offshore also has more far-reaching plans. The company intends to systematically expand its fleet with new and used vessels, but also to conduct its own research and implement alternative propulsion technologies to become part of the shipping decarbonization process. The company operates as part of the BOTA Group, which, among other areas, specializes in marine propulsion techniques, which will not be without significance for its activities. BGO is already working on electric propulsion solutions for small vessels. What is more, within the BOTA Group there is a service employing over 60 technicians of various specializations. The company has two branches in Poland and one in Rotterdam, thanks to which it has the ability to react immediately in the event of a malfunction.

BGO has already emphasized its presence on the market, having signed the first contract for operator cooperation in servicing a wind farm in the North Sea.

It is worth noting that in parallel with Bota Green Offshore, Bota Wind Energy was also launched, which is to focus on providing services for onshore and offshore wind turbines.

MAG Offshore

MAG Offshore is another daughter company dedicated to the offshore wind energy sector of a larger, recognizable maritime enterprise, in this case Morska Agencja Gdynia (Gdynia Sea



Agency). MAG Offshore has also started building its fleet. The first vessel of the company may be small, but it has already participated in important projects.

MAG Offshore is the operator of the Hydromag 1 catamaran. Morska Agencja Gdynia remains the formal owner of the vessel. The 10-meter boat was previously called the Hydrocat, and participated in the construction works of the Baltic Pipe pipeline and in the research necessary to obtain environmental decisions for offshore wind farms in the Baltic Sea. Hydromag 1 can operate in the coastal zone up to 20 nautical miles, at connections to offshore farms or for geophysical research. It can also be used for seabed surveys with a sonar or multi-beam echo sounder thanks to a small gantry installed on the deck with a lifting capacity of up to 500 kilograms. From its deck, environmental research, such as bird and bat observations, can also be carried out. It can also support larger installation vessels by transporting supplies, goods or employees.

Mewo

Mewo, a company specializing in environmental, geophysical and geotechnical research and measurements, among other things, for the needs of energy projects in various reservoirs, has recently expanded its holdings of vessels with a vessel purchased to handle offshore projects. Amber Cecilia – the name of the new acquisition of Mewo – is a 60-meter specialist OSV (Offshore Supply Vessel) with a load ca-



capacity of 788 tons. It will be used primarily for geotechnical and geophysical research, and service and maintenance of ROVs at Polish offshore investments. Amber Cecilia will be manned by a Polish crew and serviced by Polish agencies, offices and certification bodies. According to Mewo, it became the first ship of this type entered into the Polish Register of Ships after 1989.

Baltic Diving Solutions

One of the first companies that began to complete an offshore fleet is Baltic Diving Solutions. In 2020, the company acquired the Baltic Jet catamaran.

Thus, it became the first service catamaran for offshore wind farms under the Polish flag. The 22-meter vessel can take 12 technicians on board and deliver them to their workplace up to 50 nautical miles from port at a speed of up to 22 knots. The Baltic Jet can also be useful for all kinds of surveying, diving, hydrotechnical and ROV-related works. The catamaran has a special-purpose ship class, assigned by the RINA classification society. The Baltic Messenger is a 10.5-meter RIB boat that can be used to transfer personnel and supplies up to 20 nautical miles from the shore.

However, Baltic Jet and Baltic Messenger also have a bigger brother. After two years of searching, in 2022 Baltic Diving Solutions purchased the Baltic Surveyor – a 35-meter vessel that, among other things, previously worked on the construction of the Baltic Pipe. After the ship was taken over

from its Danish shipowner, it was converted into a dynamically positioned hydrographic research and measurement vessel. The Baltic Surveyor has an aluminum, non-magnetic hull, which is an undoubted advantage in ferromagnetic research, but also makes the vessel light, meaning it consumes little fuel. The ship is equipped with a gantry with a 4-ton winch. The equipment also includes the Saab Seeye Falcon ROV, which is the industry standard for offshore wind work. But that is not all – the craft also integrates a containerized diving system compliant with IMCA D 023, equipped with a three-diver control station and a decompression chamber.

Thanks to these three vessels, Baltic Diving Solutions has already been present at offshore investments carried out outside Poland, but it also took part in works on water bodies in the country, e.g., dredging the Szczecin-Świnoujście fairway.

Lotos Petrobaltic

Lotos Petrobaltic is the only Polish company actively engaged in offshore drilling. So far, the company has focused on operating its own drilling rigs, but its capabilities may also be useful in the offshore wind energy industry.

Back in February 2022, the company's president, Grzegorz Strzelczyk, claimed that Lotos Petrobaltic intends to transform its fleet from one specialized in oil & gas to one that can also be used in wind farms. The company planned to build CTV

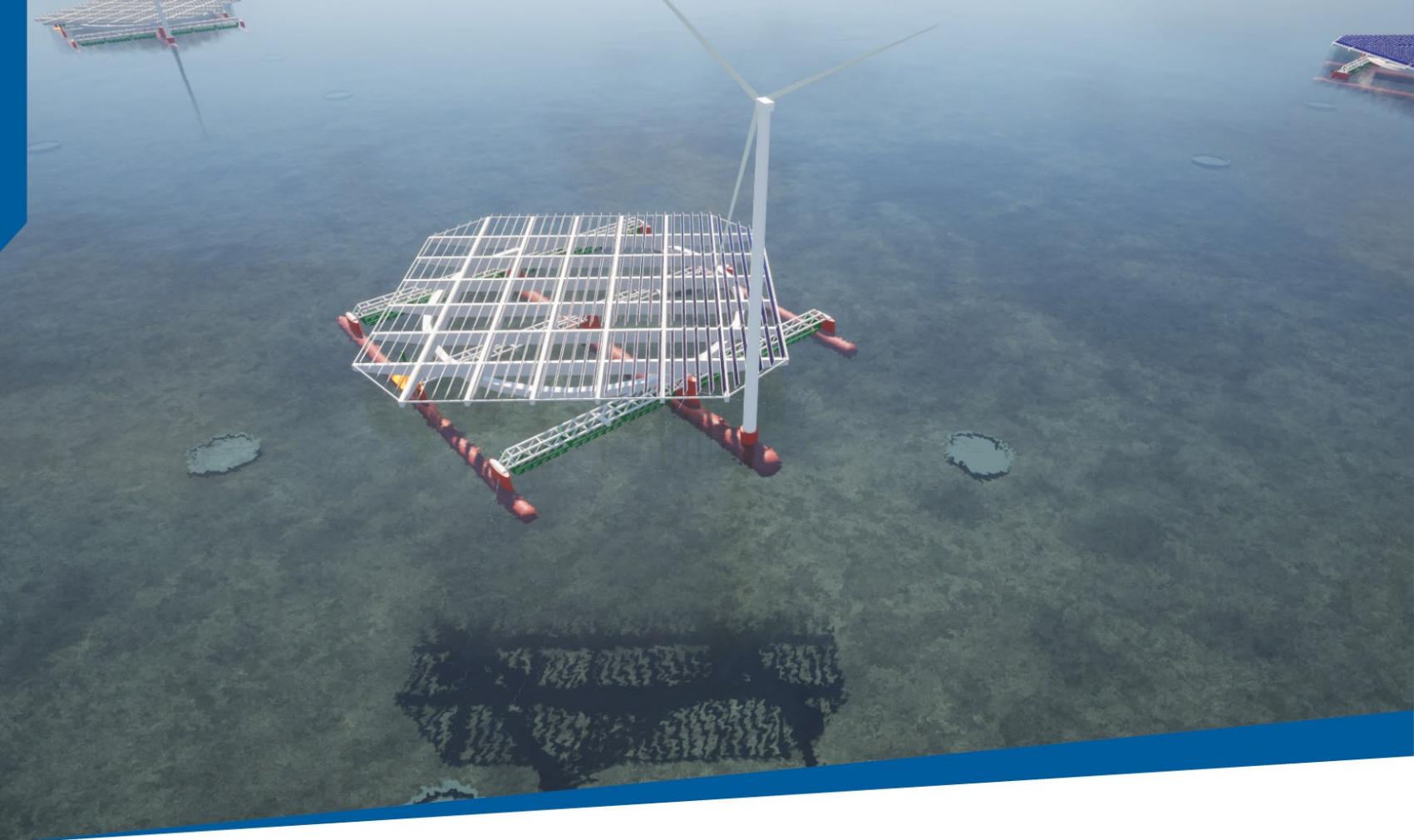
and SOV vessels in large numbers, but there was also talk of a jack-up for installing turbines.

So far, however, the Lotos Petrobaltic fleet has seen one, albeit significant, acquisition. The company purchased the 70-meter Pacific Warden, which it then renamed Bazalt II. Thus, she replaced the slightly outdated original Bazalt ship, which was sold.

Bazalt II is an AHTS (Anchor Handling Tug/Supply) vessel, dedicated for offshore projects, especially mining platforms, but not only. It can handle all kinds of anchors, perform towing operations, as well as remotely supporting unmanned underwater vehicles and participating in rescue operations. Interesting changes have taken place on board another of Lotos Petrobaltic's ships – Sylur. It has been equipped with a special drilling rig for geotechnical research – the first and only in this part of the world, and only the eleventh in the world. This is an element that may prove to be very desirable when performing geotechnical research for the needs of offshore wind energy, as it allows drilling into the seabed of up to 100 meters.

The Sylur is a DP2 Platform Supply Vessel. Although it has so far been used mainly to operate mining platforms, it is increasingly used to build wind farms. The new drilling rig means that there is no shortage of those willing to use its services.





OPTIMIZATION OF **ENERGY** HARVESTING FROM MARINE AREAS THANKS TO **WUPROHYD'S** FLOATING ENERGY ISLAND

Optimization of energy harvesting from marine areas thanks to Wuprohyd's floating energy island

As the world is building larger and larger sea turbines, using floating turbine technology more and more extensively, and experimenting with wave energy, the Polish company Wuprohyd has patented a special solution that allows for the production of energy at sea from three sources simultaneously – waves, wind and sun.

The energy transformation taking place before our eyes pushes societies to think differently about energy sources. A clear shift towards renewable sources forces the energy industry to look for opportunities for optimization. We must learn to use the energy sources that we can exploit as best we can, because we currently are unable to increase their parameters and open ourselves up to a new, huge energy source, in the form of sea waves. The world of energy is conducting various trials and experiments for this purpose. There is already a race to produce the largest

offshore wind turbine – the bigger it is, the more power it will be able to generate. At the same time, tests of floating turbine technology are underway, which will enable the use of wind over deep waters. Solar energy is developing dynamically on land. Somewhere in the silence of the laboratory, experiments into capturing wave energy are also taking place. Meanwhile, in Poland, a group of engineers from Wuprohyd have developed a solution that allows the production of energy from three sources simultaneously in the same sea area: waves, sun and wind.

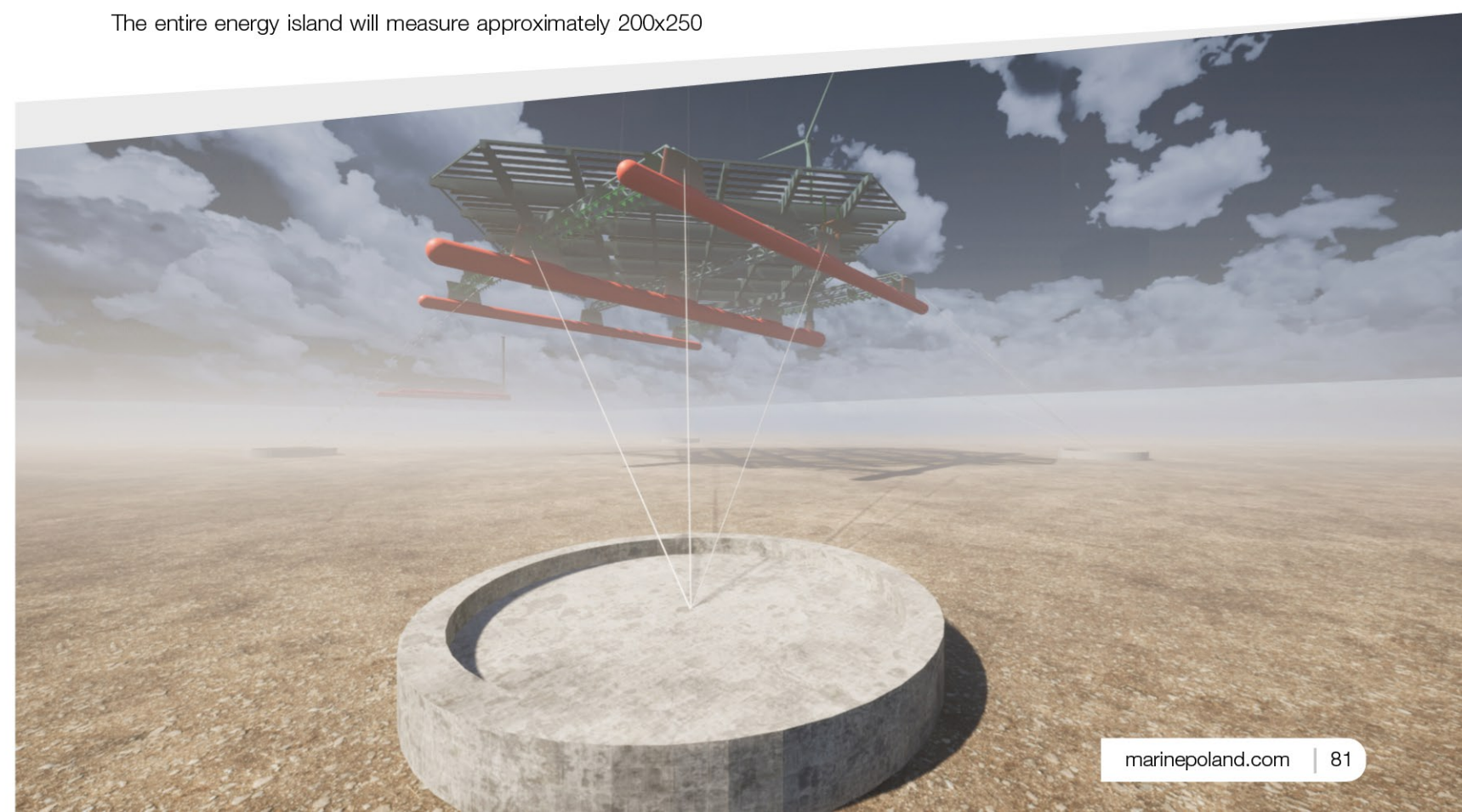
The floating energy island developed by Wuprohyd is an innovative approach to renewable energy sources. Briefly speaking, it is a three-hull vessel with underwater hulls located parallel to each other. The whole construction is anchored to the bottom. There is a wind turbine installed on the island (new designs include locating it closer to one of the island's shores for easier servicing) with a capacity of 12 MW or higher, and beneath it, on an openwork deck that rotates with the movement of the sun, photovoltaic panels. The most important element of the project is the sea wave converter installed on the island – a wave turbine that absorbs both the kinetic and potential energy of waves. The island is able to rotate and thus adapt to the direction of the waves, thanks to which, according to calculations, it is able to convert 60-70% of the wave energy into electricity.

According to estimates, on one energy island, the installed capacity in the conditions prevailing in the Polish Baltic Sea will be 22 MW, and in the North Sea, for example, even 38 MW. The entire energy island will measure approximately 200x250

meters, but it can be easily adapted to the conditions in the water area. Importantly, the island is also characterized by high stability (also during storms). The construction of the island was planned so that it could be easily built in the shipyard docks. Then it must be towed or transported to its destination at sea and equipped there. It is moored using reinforced concrete anchors, and its installation at sea requires minimal use of ships and other vessels.

The tests carried out so far on models of wave turbines in a wave channel have been very promising. Nevertheless, appropriate tests of the life-size prototype in the target sea conditions are essential. However, for this to happen, it is necessary to attract the interest of potential investors and obtain funds.

The energy island project itself has more advantages than just the ability to generate stable electricity. Its hulls can accommodate an installation for the production of green hydrogen. Due to the fact that it absorbs wave energy, it can have a positive impact on the protection of sea shores. It can also be used in deep waters, so it may be hidden from the shore, and thus does not affect the tourist value of the seas. Wuprohyd specializes in the design and modernization of ports, quays and other elements of maritime infrastructure. The company has over 30 years of experience and is one of the leading companies in its industry in Poland. Recently, it has been involved in projects related to the expansion of existing ports (External Ports – Gdynia, Ustka, Świnoujście), installation and service ports, and export cables for offshore wind farms.





GEOFUSION HOW TO DEAL WITH DANGEROUS OBJECTS AT THE SEA BOTTOM?

After several years of presence on the market, GeoFusion Sp. z o.o. is a leader in ferromagnetic reconnaissance of land and sea areas and a leading entity dealing with what is broadly understood as clearing dangerous objects from areas. Our ambition is not only to be a leader in Poland, but also to become a European player as offshore investments are currently being implemented all over the world. Our flagship project, which has been in progress for several years, is the construction of a system for the disposal of chemical weapons at sea. This project is on track for a happy ending. In December 2023, we expect to complete all tests and hope that we will be able to present all the possibilities of the prototype, which will be available for immediate commercial use. We hope that this will allow the implementation of the statutory tasks of Maritime Offices that still cannot cope with this problem.

We are currently conducting talks in Germany about the possibility of using our system, and hope that soon we will start similar talks in Poland with Maritime Offices and the Ministry of Infrastructure, because our system can ensure the strategic security of the Polish coast as well as the ongoing investments of what is largely understood as the offshore industry. Some investors seem oblivious to the fact that finding chemical weapons in the areas of future wind farms may slow down or even block investments, both, of course, involving high costs. What is more, this could lead to a natural disaster, and it is impossible to implement a transformation by contaminating

a large part of the Baltic Sea.

In addition to the flagship project, we are strongly developing our skills and solutions related to the exploration of the seabed, not only in terms of unexploded ordnance. At the moment, we are conducting research on solutions enabling work in the nearshore zone in bad weather conditions (conditions worse than those so far in view of standard design assumptions). For this purpose, we use drones and other solutions that have not been used in the Polish and global offshore to date. We are convinced that the technologies we propose will enable the acceleration and improvement of investments related to nearshore zones, which are currently very much conditioned by the weather (much more than the open sea). Moreover, we are also testing our solutions related to large-scale coastal scanning, which we hope will be useful in the program of mapping our beaches and territorial waters in terms of removing threats.

GeoFusion Sp. z o.o. still believes that the key to success in offshore in the Baltic Sea (not exclusively) will be new technologies, which is why we invest large financial resources in research and development work in order to be a major player on the global market in the future. We believe that in the current market conditions, where there is a vast shortage of employees and equipment, only new, unconventional solutions will allow us to gain an advantage, which will allow us to dominate the market.



EKO-KONSULT FOR ENERGY SECURITY IN POLAND

Energy security is, above all, the security of the supply of electrical energy, gas, heat and liquid fuels to residents, industry, transport and services. Meeting the energy needs of consumers should take into account the European Union climate policy and should be technically and economically justified.

Poland's energy resources and renewable energy sources do not ensure the country's energy independence, which is why we have to rely on increasing imports of natural gas and petroleum, as well as the necessary replacement of carbon-based fuels with hydrocarbon-based fuels.

In order to increase the security of the gas supply to Poland, besides the commissioning of the Baltic Pipe offshore gas pipeline, the LNG terminal in Świnoujście is undergoing expansion and a Floating Storage Regasification Unit (FSRU) is being developed in Gdańsk Bay. The potential of Polish renewable energy sources may primarily be fulfilled through the location of offshore wind farms (OWF) within the Polish exclusive economic zone in the Baltic Sea.

Considering all of the above, only nuclear power would probably be able to compensate for the loss of carbon-based power generation that we will have to face over the next 10 years.

For years, EKO-KONSULT has been supporting investors planning investments related with increasing Poland's energy security.

- The company participated in works concerning the location of the Floating Storage Regasification Unit (FSRU) in Gdańsk

Bay with an offshore gas pipeline.

- We prepared environmental impact reports and obtained environmental decisions related with the exploitation of the offshore B4 and B6 natural gas fields, together with a gas transmission system between drilling platforms and the offshore gas pipeline to Władysławowo.

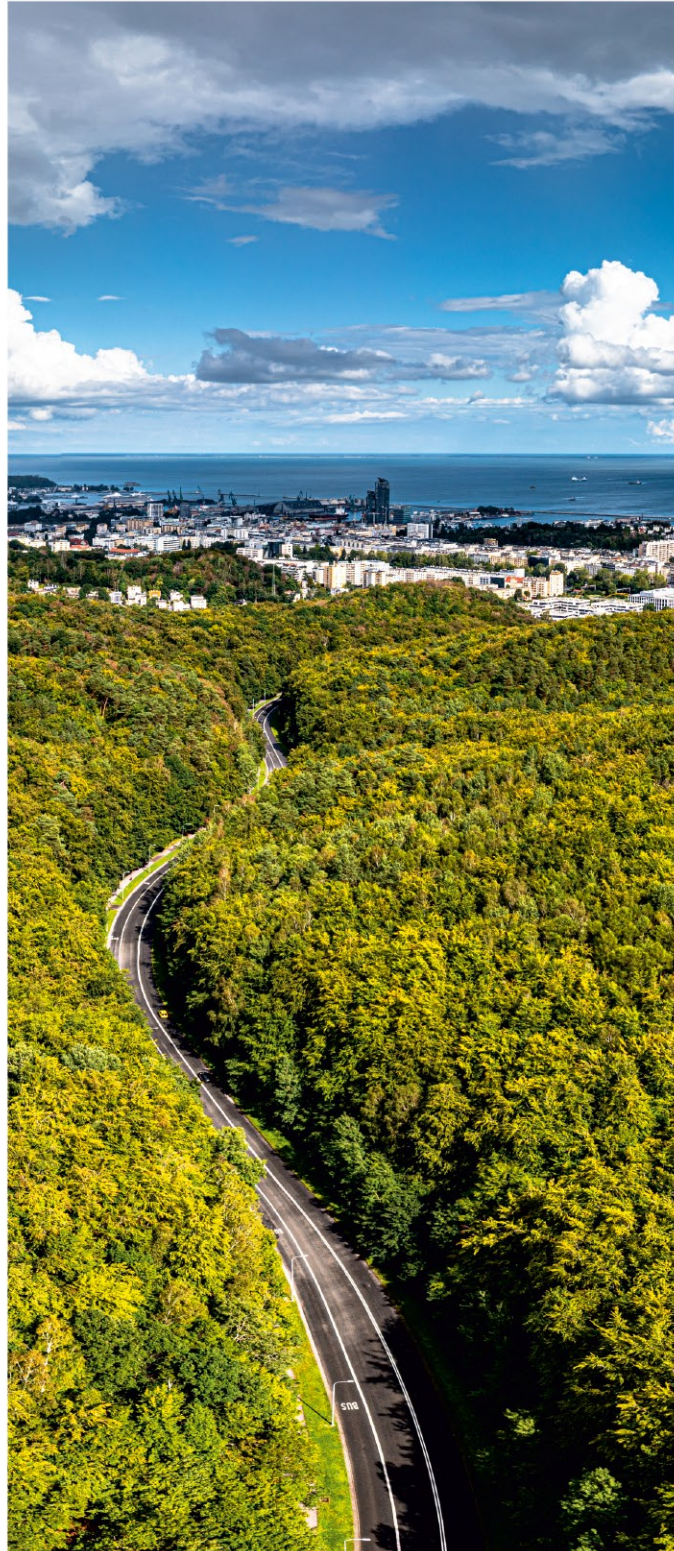
- We took part in the works of Polska Grupa Energetyczna concerning selecting the location of the first Polish nuclear power plant, which is to be located in the Pomeranian region.

- We co-authored studies for the Ministry of Economy on using nuclear power: the "Strategic Environmental Assessment for Poland's Draft Energy Policy until 2050" and the "Strategic Environmental Assessment for the national draft plan for the handling of radioactive waste and spent nuclear fuel".

- We coordinated works concerning the environmental impact assessment procedure and co-authored the "Environmental Impact report for the Baltica Offshore Wind Farm" – in cooperation with the Maritime Institute and MEWO S.A. for the investor PGE Baltica/Orsted.

- We co-authored environmental documentation for the External Connection Infrastructure from Baltic Power OWF for the investor Orlen/Northland Power.

- We were the coordinator and main contractor for the environmental documentation Project Information Card and the Environmental Impact Assessment report for the External Connection Infrastructure of the MFW Bałtyk II and MFW Bałtyk III, investor: Polenergia/Equinor.



GDYNIA

POLISH CITY OF THE FUTURE

GDYNIA AND THE SEA. ACTIVE DEVELOPMENT.

The maritime- based economy accounts for a significant part of the pace of economic development in Gdynia. Here, maritime tradition goes hand in hand with state-of-the art technology, which is successfully implemented and serves all residents and businesses located in the city. The Port of Gdynia is one of the fastest growing Polish ports, and the construction of the external pier, which will increase the area and handling capacity, is a guarantee of an increase in its turnover volume and thus its importance in the Baltic Sea. According to experts, Gdynia also has all the assets to benefit from investments related to the construction of offshore wind farms in the Baltic Sea.

More than half of all logistics and ship-building related companies in the region are located in Gdynia. This is over two hundred companies, each of which benefits from the capital of excellently educated young people. Gdynia's advantage is its strategic location and accessibility by air, sea (regular ferry connections with Sweden) and land (the A1 motorway and S6 expressway, direct railway connections with all major cities in Poland). Passengers are accommodated by a modern ferry terminal from which the largest vessels operating on the Baltic Sea depart. The planned construction of the Red Road (Droga Czerwona) will provide direct connection between the Port of Gdynia and the network of national roads, including the S6 expressway, which will improve accessibility of the port and increase its handling and development potential.

IDEAL CLIMATE FOR INVESTMENT,
MODERN BUSINESS AND LIVING



A SMART CITY WITH A VISION FOR THE FUTURE.

The key to success is the city's economic potential and the idea of how to use it. City management is greatly facilitated by smart city solutions. Gdynia was the first city in Poland, and this part of Europe, to obtain the ISO 37120 public services quality certificate, and now takes pride in the WCCD certification in accordance with the new ISO 37122 standard, which is named the smart city certification. The business services sector is developing more and more dynamically, and Gdynia's activity in this field, including creating conditions for the creation of new office space, has been noted by the Association of Business Service Leaders (ABSL). It has already awarded Gdynia the distinction in the Supporting Cities category three times (2018, 2019, 2021).

Gdynia makes the most of its development opportunities and attracts more companies from the BPO/SSC sector. The city is one of the most friendly places to live and work on the map of Poland and Europe. It offers a high quality of life and favourable conditions for personal development, which increasingly becomes a factor in the choice of place of residence. The city's prestige is based on its consistent efforts to build a place where people live well. The implemented solutions take into account the needs of different groups of residents, and each new public space is created with attention to detail and accessibility for all.

A highly prestigious project is the development of Gdynia's waterfront. On the very seashore there is already a hotel-office-residential complex with the Courtyard by Marriott Gdynia Waterfront hotel and the highest residential building in Tricity. The second stage of this project – Waterfront II – is currently under construction. The planned development will include residential and office buildings, numerous service premises, a hotel, conference and spa space as well as public facilities. The newly designed development with an estimated area of 75,000 sq m, harmonising with the modernist architecture of Gdynia, will complement this most representative part of the city with a new, accessible space with extraordinary potential.

Gdynia was the first city in Poland to measure its carbon footprint based on the guidelines in the 'Global Protocol for Community-Scale Greenhouse Gas Emission Inventories' developed by the World Resources Institute, C40 Cities and ICLEI. Climate change mitigation activities are carried out in Gdynia in harmony with increasing biodiversity, supporting the economy, improving public health and quality of life. The city's ambition is to reduce greenhouse gas emissions by 43% by 2030 compared to the beginning of the decade.

The city also took the podium three times in the Livcom Award rankings. In 2019 and 2021 it came in third, and in 2023 it won first place in the world in the medium-sized city category in terms of quality of life. In turn, The fDi Magazine, which is part of the Financial Times, has awarded Gdynia the title of 'Polish City of the Future' three times in a row.



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「COMPANY PRESENTATIONS」



ELECTROTECHNICS

project / realization / service

We deliver our services worldwide



Since its establishment in 2006 **AN-ELEC** specializes in providing full electrical outfitting and engineering for marine infrastructure and industry sectors.



Electrical switchboards

Own production hall. Realization from design to implementation and maintenance.



Cables installation

Installation of high, medium and low voltage cables in land and sea projects. Assembly, laying or pulling.



Tracks, cable ladders

Installation of cable trays and ladders for projects carried out abroad or in Poland.



Pipes, cableways

Foreign or domestic project in which we can install pipes and cableways. Marine & Offshore project



Control panels

Design, manufacture and assembly of control panels for systems in the land and sea industry.



Service

Starting-up, testing or supervising. Troubleshooting in the ship and land industry.



Electrical equipment

Installation of the final electrical equipment in the marine and land industry.



Fiber optic and LAN

Delivery, assembly and connection of LAN networks cat. 6, 6a, 7, 7a or fiber optic in sea and land projects.



Monitoring systems

Installation and connection of monitoring systems, both in the ship and land industry.



Electrical infrastructure

Review, verification, modernization of the existing electrical infrastructure.



Ship's automation

Modernization, reconstruction, installation for existing or new units.



Fire protection systems

We install and connect fire protection systems for land and sea projects



"Our main goal is to deliver the best possible solutions for shipowners, shipyards and all our customers"



BALTIC ENGINEERING

The BALTIC ENGINEERING Repair Techniques Company started its service activity in October 1992. At the first stage of development the Company was providing services in repair to machine and equipment parts using the Chester Molecular chemically set agents. At that time the market requirement was to quickly extend the range of repair technologies by using welding repair techniques based on the Castolin equipment and products, and our company met this requirement and extended the scope of the services offered to clients.

In order to meet the expectations of its partners, Baltic Engineering has extended its offer since 1995 by provision of complete services in repair to floating craft, industrial plants as well as to machines and equipment both for maritime market and shore-based companies. When the activity was started in our own plants in 1997 the existing company structure and profile has finally crystallized. It allows us to efficiently carry our large repairs to ships, vessels and industrial plants, at the same time the reconditioning activity is still maintained.

Our floating dock purchased in 2012 enables us to provide complete and comprehensive services for small craft.

Out of concern for a clients' comfort and high position on the market, Baltic Engineering regularly upgrades the level of its activities and obtains certificates proving the high quality of its services: ISO 9001:2015 Certificate, AQAP 2110:2016 Certificate, Approval Certificates issued by the Polish Register of Shipping, authorization of the Chester Molecular™ manufacturer and others.

OFFER:

- complete repairs to machinery and equipment including the diesel engines, turbochargers, pressure boilers, different type pumps, compressors for various media and specialist machines that are in possession of particular contracting parties;
- repairs to pipeline systems;
- repair to machine and equipment parts by cold and hot powder surfacing, welding and by means of chemically set molecular agents;
- application of preventive coats by surfacing or application of chemically set agents;
- machining using our own and capital-related companies the park of machines and equipment;
- in case of permanent partners we employ our proven subcontractors nearly in every branch where necessary;
- technical consulting, designing within the scope of our speciality.

Based on our proven co-operating parties and subcontractors our offer covers practically all the ship-related repair work such as electrical, automation, hull and fitting and outfitting work.

Owing to high qualifications, experience and responsibility of our employees the so-called "flying squads" are very popular with the shipowners to provide services while the ship is in harbour or at sea.





Baltic Hub Container Terminal

is Poland's largest and fastest growing container facility, and the only deep-water terminal in the Baltic Sea Region having direct ocean vessels calls from the Far East. Located in the heart of the Baltic, in the Port of Gdansk, the terminal operates as a natural Baltic Hub.

Baltic Hub is Poland's largest and fastest growing container facility, and the only deep-water terminal in the Baltic Sea Region having direct ocean vessels calls from the Far East. Located in the heart of the Baltic, in the Port of Gdansk, the terminal operates as a natural Baltic Hub.

Baltic Hub connects Poland to the largest shipping trade-lane between Europe and Asia, ensuring the Polish goods can be traded with China more efficiently in terms of costs, delivery times and a lower carbon footprint per container than alternative ports.

The Baltic Hub handles import and export, transshipment and transit. With an easy nautical accessibility comprising of 17m deep approach channel and up to 17m depth along the berth, year-round ice-free access combined with operational

excellence, Baltic Hub is a natural gateway for all CEE containerized trade volumes.

Thanks to infrastructure investments of the Polish Government and the City of Gdansk, Baltic Hub Container Terminal is well linked with the international hinterland, which ensures its ideal position as a true Central European Gateway.

Baltic Hub is one of the most efficient ways to serve the Baltic Sea market via transshipment and also the most cost competitive way to serve the hinterland CEE markets.

From the terminal's beginnings to becoming one of the 15 largest container terminals in Europe in 2020 – this significant milestone will be the next step in Baltic Hub Gdansk's history. With the construction of the new terminal, known as T3, a third deep-water quay

located at the new port area will be created, increasing the handling capacity of Baltic Hub by 1.5 million TEUs, to 4.5 million TEUs. The investment is worth Euro 450 million, and the third deep-water quay will be 717-metre-long with a depth of 17.0m and 36 ha of yard will be built.

The T3 project also involves the purchase of 7 quay cranes that are able to handle the world's largest vessels, and 20 semi-automated Rail Mounted Gantry cranes for the container yard, which will be remotely operated by operators located in ergonomically-designed workspaces. This will allow for a safer, efficient, modern and more comfortable working environment 365 days of the year.

The construction has begun on 28.11.2022 and T3 is scheduled to be operational by mid-2024. When completed, Baltic Hub will be among the largest container terminal in Europe in terms of handling capacity and be able to continue serving, supporting the fast-growing Polish economy, the Central, Eastern European (CEE), and the Baltic countries.

Baltic Hub can boast an impressive track-record of continuous development in terminal infrastructure and modern handling equipment. It is also actively involved in various environmental and local community protection activities, being the foundations for sustainable socio-economic development.

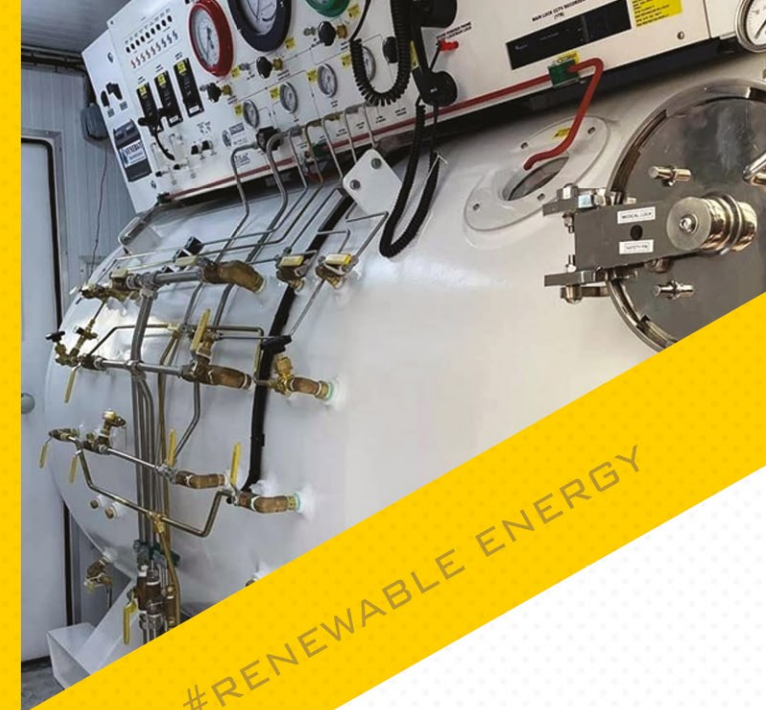
Baltic Hub is part of the PSA Group, "The World's Port of Call", the remaining shareholders including the Polish Development Fund (PFR) and the IFM Global Infrastructure Fund managed by IFM Investors.

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fb.com/BDS Diving

Baltic Diving Solutions is Poland based diving, ROV, inspection, maintenance and technical support to the shipping, oil and gas and renewable energy sector contractor.

Our priority is to provide highest standards of services based on the personnel that have over 15 years international experience in subsea industry and modern equipment that follows latest industry standards. Impressive safety record and efficient planning of operation are the key values of our operations.

Baltic Diving Solutions has implemented ISO 9001, ISO 45001 and ISO 14001 QSHE management system and is approved contractor by the ABS, Bureau Veritas, DNV, Lloyds Registered and RINA.

VESSELS

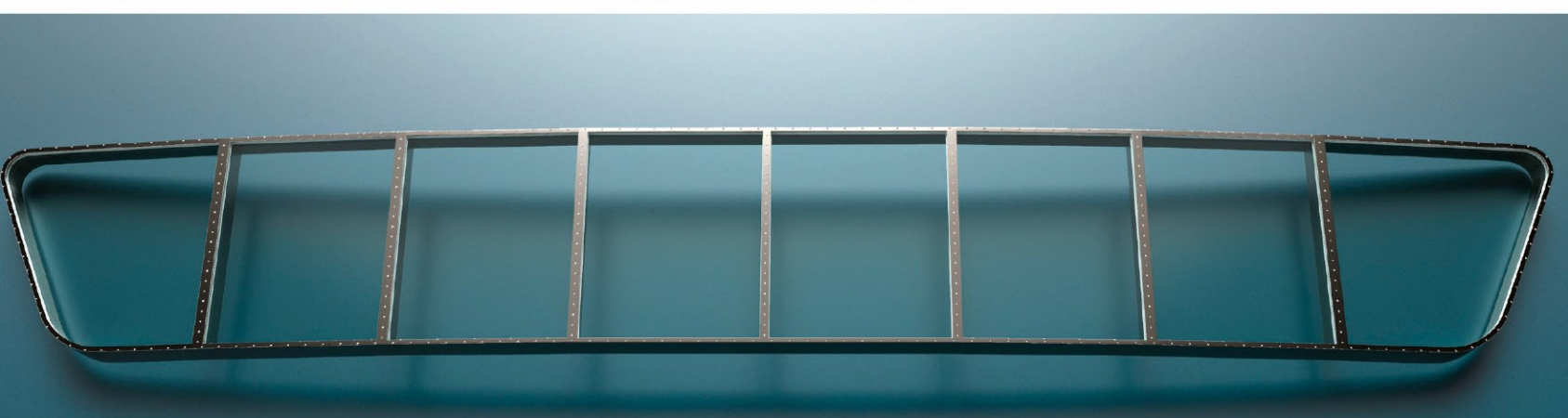
- Baltic Surveyor
- Baltic Jet
- Baltic Messenger

DIVING SYSTEMS

We operate state of the art diving systems for various applications - inshore, nearshore and offshore.

EQUIPMENT

BDS operates wide range of unique equipment. Falcon ROV, USBL, pipe/cable tracking systems, MBES, UXO equipment, marine RTK, Toyo dredging pumps, hydraulic tool, topside and subsea welding and burning sets allow us to support wide range of marine projects.



For nearly four decades, Bohamet SA has held an undisputed leadership position in the realm of ship window and door manufacturing. Since its inception, Bohamet SA has maintained a strong focus on refining and advancing production processes, resulting in products that effectively cater to evolving customer demands.

Our commitment to delivering top-tier quality products and services has established us as a trustworthy and dependable partner. With almost forty years of dedicated engagement, we have solidified our presence within the market and gained the trust of a diverse clientele.

Our extensive product range encompasses various categories:

- Windows, portholes, wipers, doors, and hatches
- Lightweight aluminium doors and windows, including advanced balcony systems
- Glass production incl. safety glass types such as bulletproof, fireproof, heated, and energy-efficient glass
- Specialized military-grade products like bulletproof solutions, EMS glass, and anti-blast products
- Offshore & offshorewind equipment: ex-products, fire rated and soundproof elements
- Equipment for the mining industry
- Deck fitting & mooring equipment, including bollards, railings etc
- Metal processing

Our unwavering commitment to technical and commercial support ensures that our customers receive assistance in finding the optimal system solutions, even for the most intricate individual projects. Through these efforts, we contribute to creating safer environments.

The products we provide are fully certified to meet rigorous international industry standards, including MED, Lloyds, DNV, USCG, and BV certifications.



BOHAMET

Bohamet S.A.

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86-005 Białe Błota, Poland

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+48 52 320 3900



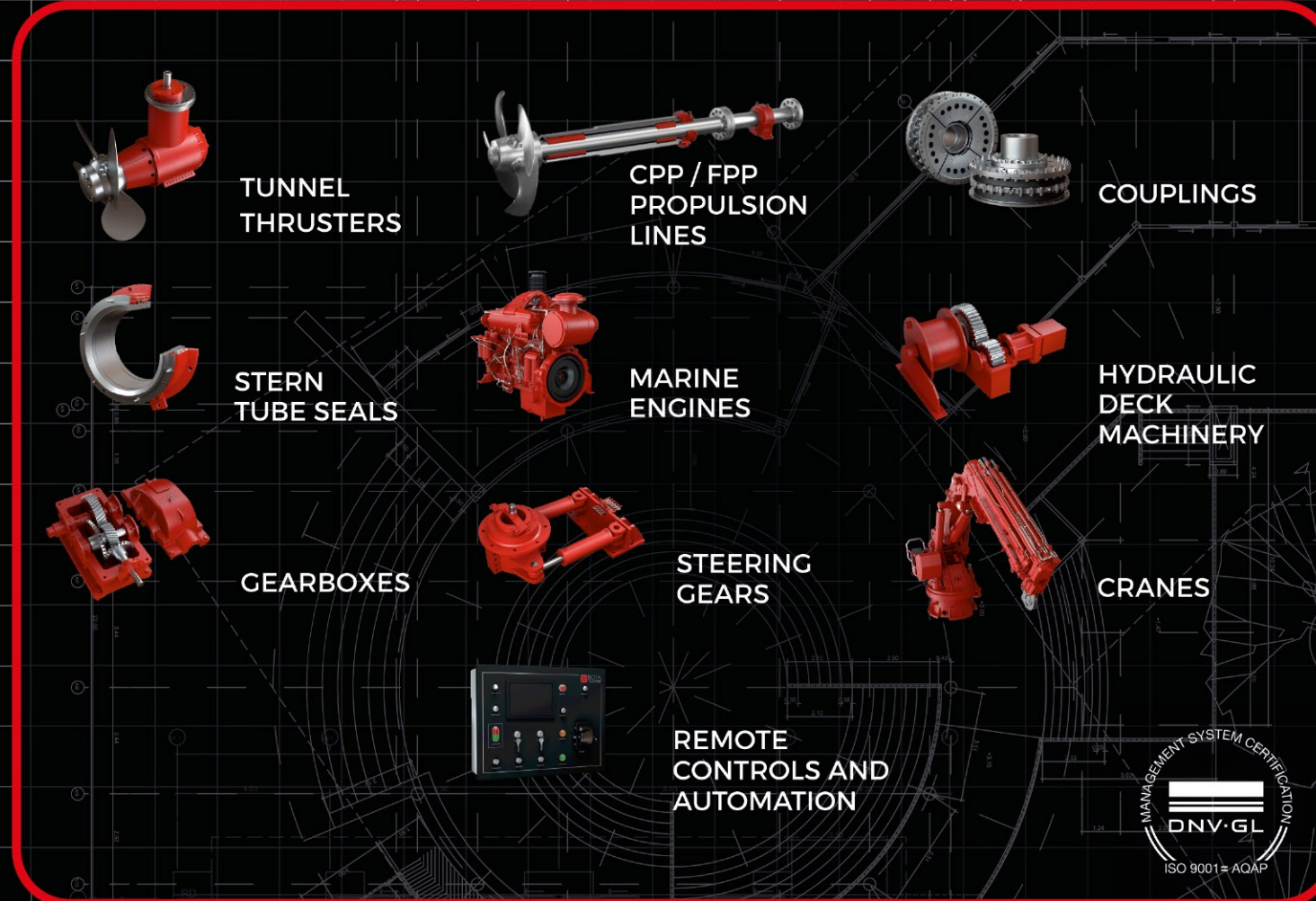
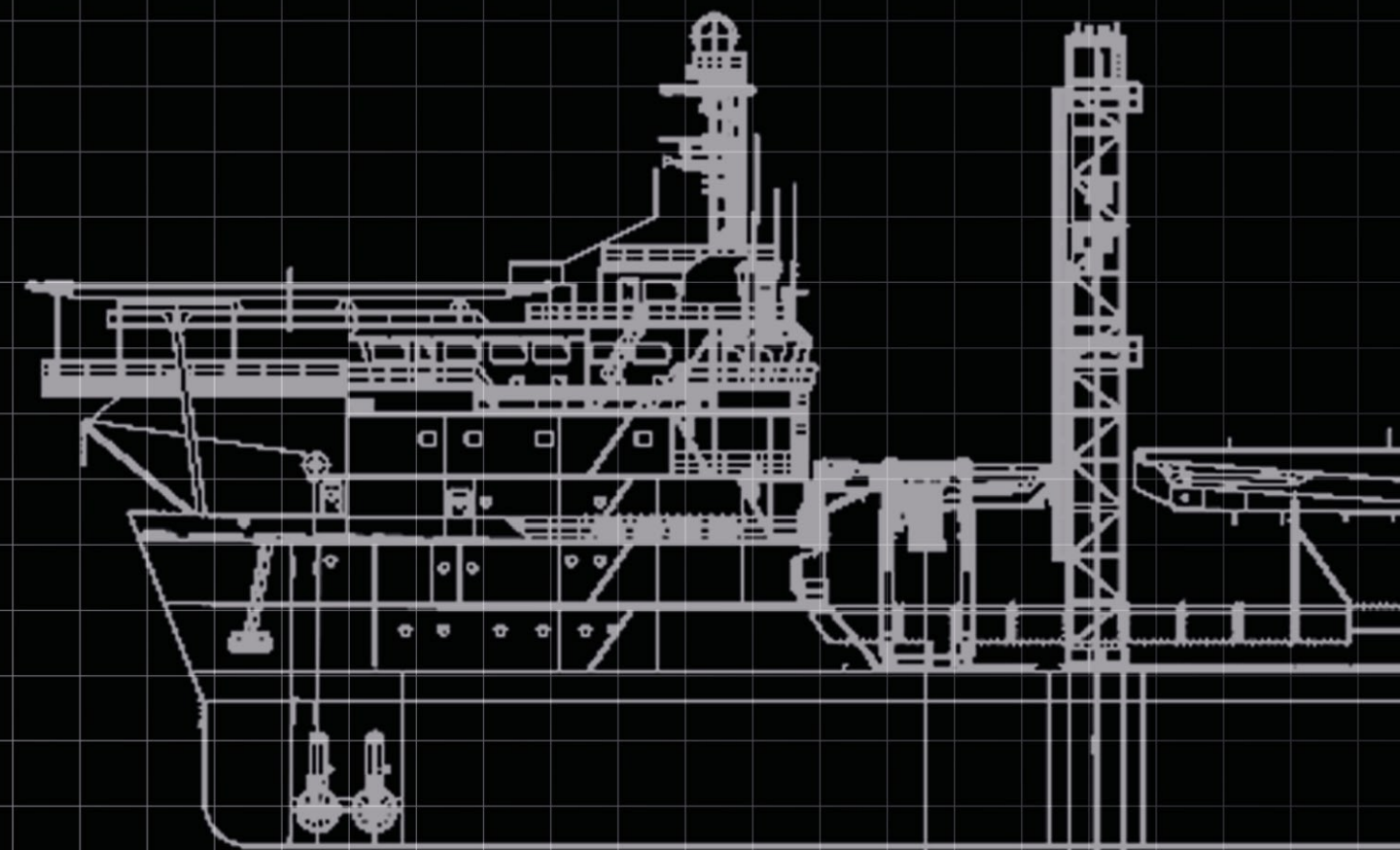
WORLDWIDE SERVICE

MARINE SYSTEMS

Bota Technik's core business concerns marine propulsion systems service. We deliver modern solutions for global shipping and offshore markets. We are located in Rotterdam (Netherlands), Szczecin (Poland) and Gdansk (Poland), where we have a modern workshop and main office facilities. Our highly qualified team comprehensively supports customers worldwide.



botatechnik.pl





Simply the best!

Bulk Cargo – Port Szczecin Sp. z o.o.

Bulk Cargo – Port Szczecin: universal seaport with great prospects.

Bulk Cargo – Port Szczecin established in 1994 is the biggest, multipurpose stevedoring company within the ports of Szczecin and Świnoujście. Bulk Cargo – Port szczecin has evolved from a reloading and storing company specializing mainly in bulk cargoes into organization which handle a broad spectrum of cargoes coming through the ports at the Odra River mouth. Our core business are handling and storing of bulk Commodities: coal, coke, ore, scrap, fertilizer and general cargoes: steel products, forest products, break-bulk in big bags.

As the most universal stevedoring company in Poland, with its annual turnover of 4-6 million tonnes and over 300 skilled workers, we offer efficient, high quality cargo handling. We have the deepest in the port of Szczecin berths and the largest storage and warehousing areas. Our attractiveness is further enhanced by a very convenient location at the crossroads of transport routes, comprehensive reloading and storing offer covering wide variety of cargoes.

We offer:

- Deepest berths in the port of Szczecin.
- 10 berths with a total length of 3100 m and draft up to 9.15 m.
- In 2024 two berths draft up to 11,15 m.
- The largest areas of storage yards and 50000 sqm in warehouses.



www.bulkcargo.pl

Bulk Cargo – Port Szczecin sp. z o.o.
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phone: +48 91 430 73 73, 430 71 12 fax: +48 91 462 35 29
e-mail: pwarchol@bcps.pl



Simply the best!





www.crist.com.pl

CRIST S.A.

Our activity started in 1990 – initially as a business partnership of two engineers and since 2010 as a resiliently growing joint stock company.

Shipbuilding, offshore constructions, steel structures, sea engineering, civil engineering – these are the fields we specialize in. We steadily develop and adjust our offer to changing market demands. We are the only shipyard in Europe which has already constructed 4 units of Jack-up Vessels. Three of them are nominate for installation and servicing of sea wind farms.

CRIST belongs to the group of companies distinguishing themselves through innovativeness, niche products and the organization of the supply chain. The company cooperates with Clients from Poland, Germany, Norway, Denmark, Finland, Iceland, France, Belgium, The Netherlands and Scotland.

Our priority is to secure services and products which not only meet the acceptance but also exceed Clients expectations and demands. In our performance we focus on reliability. We care about the highest quality which is always controlled and certified by international technical organizations and classification societies.

CRIST has always been active in the field of shipbuilding, steel constructions and ship-repairs. Economic changes and growth of renewable technologies – such as wind and hydroelectric energy – created possibilities of activity on new markets.

For that reason we are presently participating in the implementation of projects of specialized coastal structures, sea transport and units for exploration of marine resources.

For many years we have been supporting eco-conscious initiatives what has initiated the execution of demanding and exciting projects: offshore constructions, barges and ships destined for installation of wind turbines

Producing for the offshore business we successfully take advantage of our market niche. The construction of sophisticated units for installation and servicing of sea wind farms ranks us within the group of European leaders in this branch.

www.crist.com.pl

CRIST S.A.
81-336 Gdynia, Czechosłowacka 3, Poland
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DAMEN SHIPYARDS GDYNIA S.A.

Damen Shipyards Gdynia S.A. is one of the first private shipyards in Gdynia (Poland), founded in 1991 by Jacek Duch and Andrzej Denz. Based on the finest traditions of the Polish shipbuilding industry, has been successfully growing and operating for over 30 years. In 1996 this Pomeranian shipyard joined **Damen Shipyards Group** and 23 years later, together with Amels Holland, became a part of Damen Yachting. **Damen Yachting**, created in 2019 division within Damen Shipyards Group, focuses on delivering customized superyachts, designed according to individual requirements of the clients.

Damen Shipyards Gdynia S.A. facility builds and delivers partially equipped hulls of superyachts. Nowadays the Shipyard is involved in building process of LE60 series.

In the past, up to 2010, also fully equipped tugboats (40 pcs) were delivered by the Company.

Damen Shipyards Gdynia S.A. has been consistently and steadily strengthening its position in the international shipbuilding industry; the Company currently employs a team of over 120 high-class specialists in their field. Their work results in great quality final products highly appreciated by Damen Yachting customers from all over the world.



Damen Shipyards Gdynia S.A.
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e-mail: damen@damen.pl



DAMEN
DAMEN SHIPYARDS GDYNIA S.A.



MARINE FRESH WATER DISTRIBUTION SYSTEMS

Our story

DOE Sp. z o.o., a privately owned company based in Gdynia, Poland, has been a leading player in the Marine market for over 30 years. With a proven track record of producing top-notch equipment, the company is renowned for its exceptional quality and reliability.

Our every day job is to design and produce custom-made units, providing full technical documentation, P&ID and 3D models for marine and offshore fresh water systems.

Our products are designed to be certified by every major marine class. We are approved as Manufacturer of Welded Pressure Vessels, Class I & II in DNV. The company for years has been working according to the ISO9001:2015 standards.

What is the most important to DOE is the highest quality of used materials. The components are of well known manufacturers of the European reach.

For years we have been advancing our production practices since our clients are among the most sophisticated and demanding in marine and offshore business.



ISO 9001:2015
Quality assured and
certified by LRQA



DNV
Manufacture of pressure equipment
(Pressure Vessels, Class I & II) and
welded products - Welding workshop



DOE Marine Fresh Water Distribution System is especially designed for marine and offshore

Watermakers (based on reverse osmosis) with all corresponding equipment

Marine hydrophores

Marine calorifiers with electric, hot water or steam heating option

Marine tanks made from stainless steel (316L) or black steel

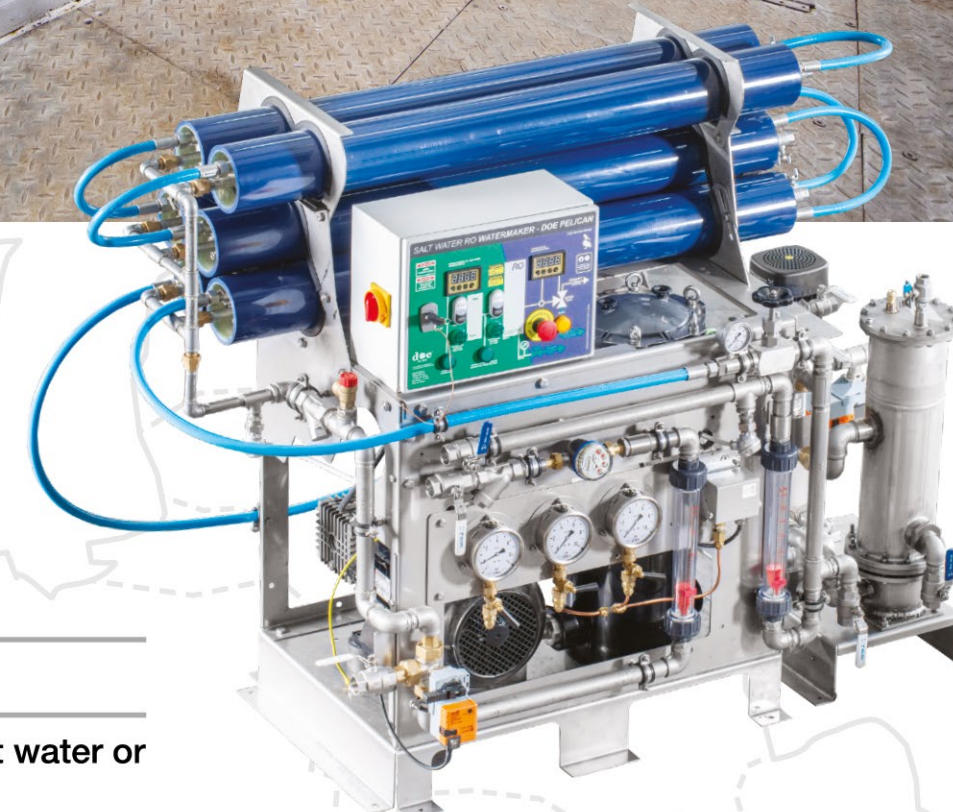
UV sterilizers with sanitary approvals

Sand filters and other means of prefiltration (UF filtration, Disc filtration)

Measurement units and injectors for chemicals

Drinking water systems

High Pressure cleaners



Contact details:

DOE Sp. z o.o.
Al. Parku Krajobrazowego 84
84-207 Łężyce, Poland

Tel. +48 58 6643210

doe@doe.pl
www.doe.pl





EKO-KONSULT Sp. z o.o. is a leading technical and environmental consultancy firm with 30 years of experience in the marine and coastal projects

EKO-KONSULT is distinguished by its outstanding and unusual combination of specialized engineering knowledge and excellent practice in the safety analysis with the extensive experience in environmental protection. Hence, we offer comprehensive services from the early stage and through the whole life cycle of a technical facility, or investment projects, guaranteeing environmental outsourcing as well as support in the safety analysis and risk assessment process.

As company based in the coastal zone of the Baltic Sea, one of the main areas of our activity are projects involving all sectors of the maritime industry, such as transmission, exploration and extraction or warehousing.

Since the early 90s we've been leading technical and environmental consultancy company, implementing costal and off-shore projects including:

- Storage and transmission of natural gas
- Refining, petrochemical, chemical, storage and transmission of crude oil and petroleum products
- Oil and gas exploration and extraction at the sea
- Offshore wind energy
- Port terminals and waterways

We can boast vast experience in almost all branches of the industry and given our location, primarily in maritime and coastal projects.

As technical and environmental consultancy pioneers, we've engaged in environmental procedures for the strategic national projects from electric power, oil and gas sectors. We've worked on environmental procedures involving:

- exploration, extraction, storage and transfer of crude oil,
- extraction, storage and transfer of crude oil and natural gas onshore and offshore,
- electricity connections for wind farms in the Baltic Sea.

EKO-KONSULT has collaborated with maritime scientific and research institutions, including Maritime Institute in Gdańsk, Gdynia Maritime University and Faculty of Oceanography of Gdańsk University.

Many key companies, both polish and international have been entrusting EKO-KONSULT with the technical and environmental consultancy. We've assisted investors throughout the entire implementation cycle, from the analysis of variants and concepts, through the development of environmental documentation, support in relations with the local community, to post-implementation analyzes and in every case - endeavor expectations.

Our team of specialists have thorough knowledge in specific environmental conditions within the maritime and costal area, guaranteeing top-quality analytical work in accordance with current formal requirements, with emphasis on time and detail.



www.ekokonsult.pl

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e-mail: biuro@ekokonsult.pl

Elblag Sea Port Authority Co Ltd

The Harbour of Elbląg is the biggest Polish harbour on The Vistula Bay. It is located on the river Elbląg, 6 km from its estuary to The Vistula Bay (latitude: 54° 10'5" N; longitude: 19°23'S"). The Vistula Bay is connected with The Gulf of Gdańsk by inland navigation along the river Szkarpawa and by Pilawa Strait near Baltiysk. In Elbląg starts Elbląg Channel (Oberland Canal -129,8 km), the unique in the world, technical relic, which is a tourist attraction.

Port Elbląg is a local harbour, designed for inshore goods, passenger and tourist navigation at The Vistula Bay and The Gulf of Gdańsk. Annually over 30 thou. of passengers are shipped. Total site area - 470 hectares; Length - 4,5 km; Total quay length - 2,5 km (including 0,3 km of passengers quays.). Depth of fairway- 3,5m (1,8 m in extreme conditions).

Favourable geographic position in the context of potential economic relations and co-operation with Kaliningrad District, Baltic Republics and countries of Scandinavia. Port of Elbląg creating circumstances to enlarge trade (border crossing point, Commodity Exchange); has a good condition of technical infrastructure (strengthened quays, open store areas, sidings, cereal elevators). Port has a presence of all institutions necessary for service of passenger traffic and goods traffic (Border Guard, Customs House, Port Authority, Management Board of the Harbour, Point of Fitosanitary Control). Elbląg has a convenient conditions for sailing and other water sports.

The terminal's handling capacity is estimated at 0.5 - 1 million tons / year (bulk cargo) and 0.1 thousand. tons of general cargo.

The terminal can handle ships with a freight capacity of 3 - 3.5 thousand. DWT and allows the use of all possible transshipment technologies. A modern passenger terminal was built on the right bank of the river together with the infrastructure of the sea border crossing meeting the requirements of the Schengen Convention. It has a berth 200 m long and 3.5 m deep, as well as a bridgehead for ferries.

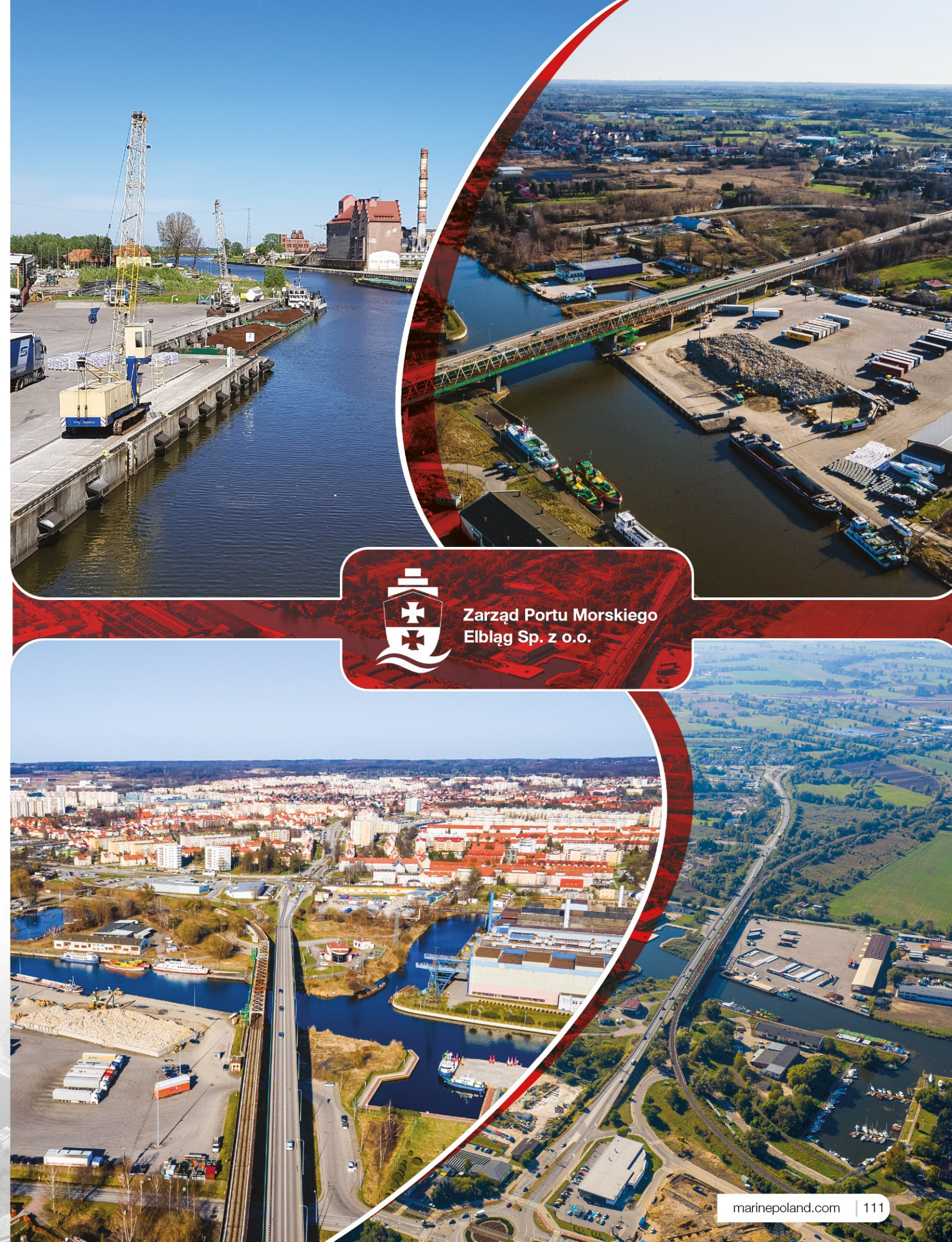
The Port of Elbląg is and will remain a local port, but it may be of a more regional importance. The goal of its development is not and cannot be competition with the ports of Gdańsk and Gdynia, but rather their complement.

Shipping to the ports of the Baltic and North Sea is currently incidental and not much can be changed here without Russia allowing third-party flags. It can develop only after the channel has been built by the Vistula Spit. The entrances to the channel will be protected against sea waves from the necessary breakwaters. The construction of the canal will allow cargo ships with a carrying capacity of 3.5 - 4 thousand to enter Elbląg. DWT and passenger lengths up to 120 m and width up to 22m. The channel will not only shorten the route to the ports of the Tri-City, the western part of the Baltic Sea and the North Sea, but will also enable year-round navigation. The decision to crush ice on fairways in winter will be able to be taken freely by Polish institutions at the request of carriers, and therefore based on economic calculations.



www.port.elblag.pl

Zarząd Portu Morskiego Elbląg spółka z o.o.
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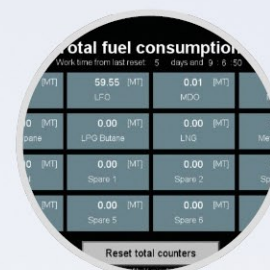


Zarząd Portu Morskiego
Elbląg Sp. z o.o.

HIGH LEVEL ENGINEERING

since 1989

ENAMOR, based in **Gdynia**, Poland. Hardware and software developer, integrator of high-tech equipment for maritime and defence sector. We render 24/7 services in the field of installation, commissioning, overhauls and repairs of electronic, navigation, communication and automation equipment worldwide. Our mission is to promote the latest know-how, implemented into cutting-edge solutions and reliable products.



EFCM



EMIS



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ETM



GPS CLOCK



NMEA



SeaPerformer
DATA AGENT



SeaPerformer
DATA MONITOR



SEAPERFORMER



TC600E

Carbon Intensity Indicator (CII) Support



www.ENAMOR.pl



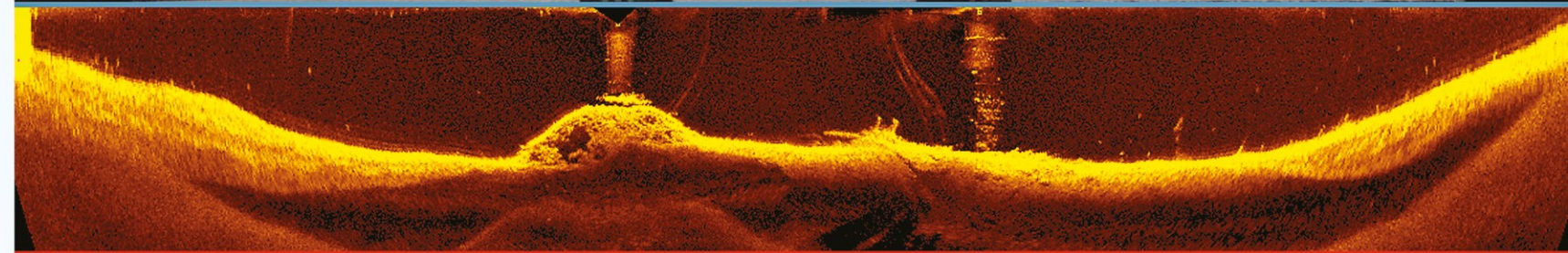
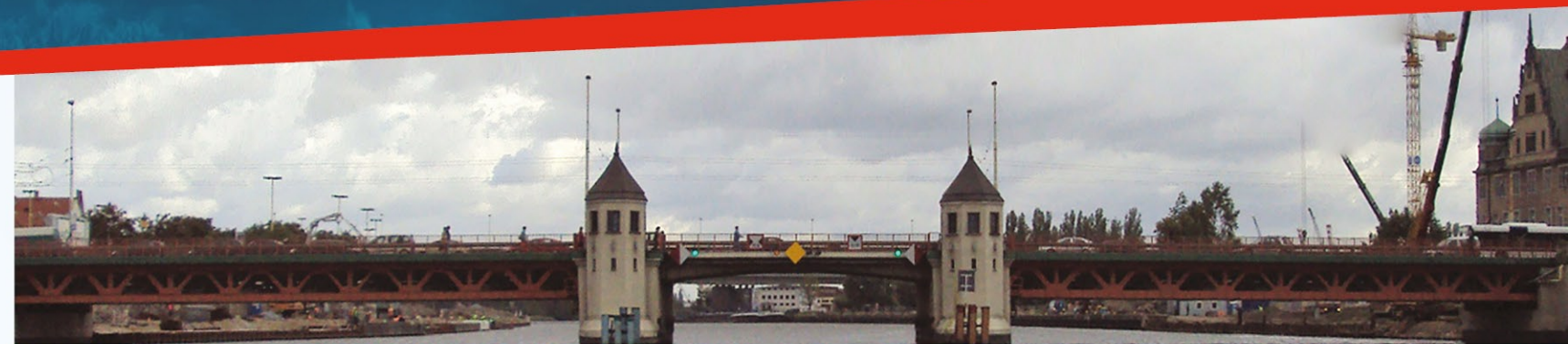
Escort - specializing in the field of marine electronics, and underwater measurements, monitoring and exploration.

Escort has been present on the Polish market for 25 years. Working initially only as a service company in the field of marine electronic equipment, it expanded its scope of services also in other areas of inland waters. In addition to traditional activities in the area of services and in the design of installations of marine electronic systems, the company also specializes in the field of underwater monitoring, underwater exploration and hydrographic measurements. To be self-sufficient in this area the company makes use of high quality equipment to perform all kinds of tasks underwater. Among other things, the company has an underwater ROV Falcon vehicle, single beam and multi beam hydrographic echo sounders, devices cooperating with echo sounders, such as a motion sensor, SVP probe or navigation system and hydrographic software, towed sonar, high-resolution MS1000 scanning sonar, and an ARIS acoustic camera used for exploration and for monitoring objects in conditions where there is a complete lack of visibility in the water. The company also carries out comprehensive studies of the structure of concrete bridge piers underwater and around the base of these pillars, presented in 3D.

The staff of Escort consists of young but experienced engineers and service technicians, programmers and designers of electronic systems and A class hydrographers. The company also conducts training in the fields of hydrography and the exploration of underwater objects.

Although monitoring, exploration and underwater measurements based on its existing equipment is possible, the company has developed and put into production a number of hydro acoustic systems to support such research, including the following systems:

- **HSMD** - hydro acoustic system for monitoring the water bed and underwater infrastructure. The device allows remote observation online, via the Internet, of changes in the bed formation in the area of the installed acoustic head ridge or wharf of the port basin. By comparing the registered echograms, it allows understanding of how quickly and to what extent the erosion of the bed progresses.
- **HSMR** - hydro acoustic system to monitor fish in fishways and rivers. The device allows remote observation online, via the Internet, of the migration of fish through fishways. It allows the speed and direction of movement and fish size to be measured and the generation of reports of their migration. Synchronization with optical cameras allows fish species to be assessed at the same time.
- **HSPP** - hydro acoustic positioning system for underwater (underwater GPS). The system consists of three telemetry buoys equipped with hydrophones, GPS receivers and radio modems, allowing the continuous presentation on a monitor of the Pinger position, installed on an underwater vehicle, for example, or on scuba diving equipment. The system does not require any pre-calibration. It allows the determination of the geographical position of the Pinger with one-meter accuracy on waters of approximately 1 km².



Escort Sp. z o.o.

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e-mail: escort@escort.com.pl

+48 914-310-400

Famor - innovative solutions

FAMOR is a provider of complete solutions in the field of lighting and electrical equipment.

FAMOR Product Portfolio:

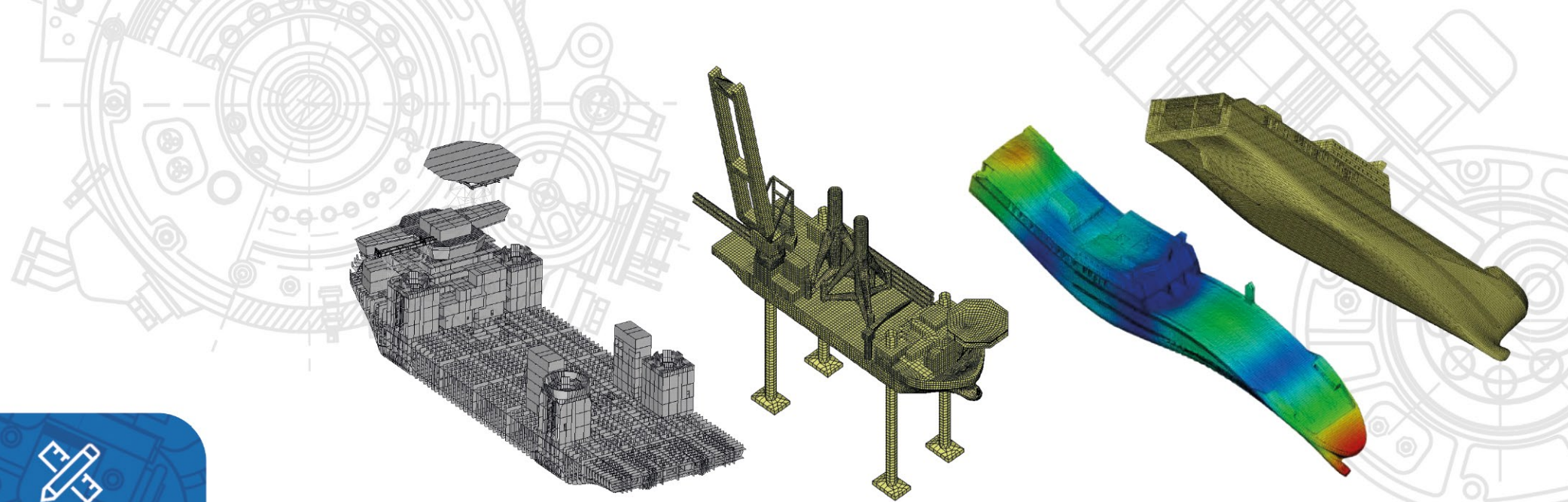
- Marine switchboards:
 - main;
 - emergency;
 - auxiliary switchboards (starters, lighting & heating panels, distribution boxes, etc.)
- Control consoles:
 - bridge;
 - ECR;
 - cargo & ballast systems
- Control columns for deck equipment
- Marine and industry lighting equipment (fluorescent, incandescent, LED, explosion-proof)
- Lighting equipment for trains vehicles
- Searchlight and floodlight (halogen, sodium, metal-halide, xenon, LED)
- Signaling devices:
 - bells, hooters and sirens;
 - signaling columns;
 - signal-position lanterns;
 - signal lights (flashing light and continuously light)
- Evacuation signs and lights

FAMOR S.A. is well known Polish manufacturer of complete range of low voltage distribution and lighting equipment to home and foreign markets for over 70 years. We offer reliable, modern and energy-saving products.

Obviously, our manufacture has been constantly changing adjusted to increasingly customer demand. At present the Company is focused on the shipbuilding industry and train vehicles building industry, where are very high demands of quality and durability of products is essential, the same quality requirements we apply to remaining our product groups as mining, industry, streets and hospital lighting.

We obtained several quality management certificates including ISO9001, ISO14001, AQAP2110, ISO3834-2, ISO13485 also NATO supplier certificate. We have research development department. Many products are designed and manufactured according to individual clients requirements. We also offer services related to metal machining, welding and powder painting.





We are a team of Marine/Offshore Engineers, Naval Architects and other experts with professional experience in shipbuilding and other industries gained during many years of practice, also industrial practice (mainly in ship design offices and shipyards). Our key area of interest focuses on marine and offshore sector however we also provide consulting and analysis services in other industrial branches, e.g. railway transport.

We deliver CAE (Computer Aided Engineering) services, mainly in the field of numerical analysis of structures and simulation of different mechanical systems. Therefore, as our domain we offer the most comprehensive and complex application of FEM (Finite Element Method) and other numerical methods of CAE, like CFD simulations (Computational Fluid Dynamics).

Hence, we provide efficient computational analysis support of designing process as well as construction and operation phases, in accordance with applicable rules / regulations and technical state of the art. Our services cover different phases of project development:

- Feasibility studies;
- Conceptual design;
- Basic design;

- Construction execution;
- Refit and conversion design;
- Lifetime extension.

We offer numerical analysis of structures and other complex mechanical systems, including all kinds of internal/external loads (operational and environmental):

- Strength of structures
- Ultimate strength of structures
- Fatigue strength of structures
- Optimization of structural designs
- Vibration of structures
- Vibration of machinery, equipment and hull appendages
- Ships acoustics - SEA simulations
- High speed dynamics – structural impact problems, crash
- High speed dynamics – shock response analysis
- Earthquake response analysis
- Environmental loads and responses – fixed structures
- Environmental loads and responses – floating structures
- Special hydrodynamic problems – CFD simulations





Gdynia Maritime University

Gdynia Maritime University is the largest maritime university in Poland and one of the largest in Europe, offering education to future officers of merchant marine vessels, as well as engineering and managerial staff for the coastal region and the maritime industry.

The origins of Gdynia Maritime University date back to 1920. Today, thanks to the experience, dedication and knowledge of its staff, GMU is ranked among the top maritime universities in the world.

The University consists of four dynamically developing faculties: Electrical Engineering, Marine Engineering, Navigation and Management and Quality Science, as well as the Maritime Institute. GMU's unquestionable academic status is confirmed by the power to award both doctoral and postdoctoral degrees in four academic disciplines. Its educational and scientific capabilities are further enhanced by three well-equipped ships: a sail training ship, the world-famous "Dar Młodzieży", a modern research and training vessel, "Horyzont II", and "IMOR" – a floating multi-purpose oceanographic research laboratory.

Gdynia Maritime University employs highly skilled researchers and benefits from well-equipped research facilities, including laboratories for research and training in surveying and technology transfer for the needs of business and economic entities. The University's Technology Transfer Office supports the University in making the most of its intellectual and technical potential and the transfer of research outcomes to the economy, especially concerning innovations relevant to the maritime industry.

During the past 10 years, Gdynia Maritime University has carried out more than 130 research projects to a value for GMU of more than 28 million Euro, including fundamental, application, and implementation research. The projects include investment projects, the improvement and expansion of the research and teaching infrastructure, as well as general development related to the upskilling of research, teaching and administrative staff. The University's R&D activity is split between national and international projects and includes a focus on areas connected with the development and needs of the region and complies with multiple priority research directions under Regional Smart Specialisations and National Smart Specialisations. GMU is a beneficiary of projects under the Regional Operational Programme for the Pomorskie Voivodeship, the Ministry of Science and Higher Education, the National Centre for Research and Development, the National Science Centre, the EEA (European Economic Area) and Norway Grants, as well as other EU-funded programmes such as Horizon 2020 and Horizon Europe and the European Space Agency programme.

In recent years, Gdynia Maritime University has been actively involved in the offshore industry, in particular the development of offshore wind. Since March 2022, the University has organised the Executive Offshore Wind MBA – the first in Poland, and only the second such education programme in the world. GMU has also developed the Centre for the Offshore Industry within the area of the Port of Gdansk. The Centre is the new headquarters of the GMU Maritime Institute. Its certified laboratories provide the infrastructure for specialist research and development work to be carried out for the needs of the innovative maritime industry.

Gdynia Maritime University
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e-mail: rektorat@umg.edu.pl



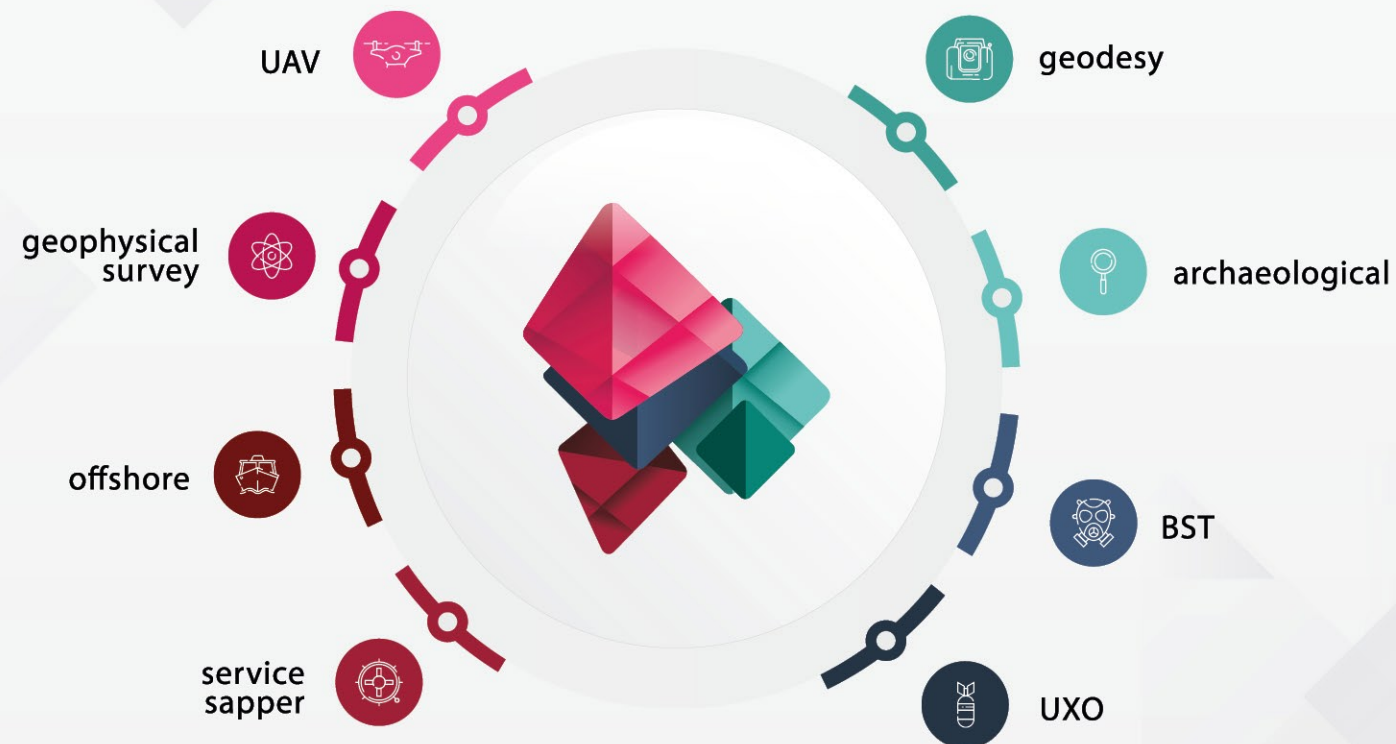
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GDYNIA MARITIME UNIVERSITY



„WE SEE MORE”



ACTIVITIES IN THE AREA OF:

- thermal imaging surveys,
- geophysical surveys,
- comprehensive sapper services,
- geophysical and engineering surveys for construction purposes,
- geophysical surveys for transport engineering purposes,
- surveys of slopes and landslides,
- non-intrusive archaeological surveys,
- soil and groundwater contamination tests,
- surveys of levees and dams,
- comprehensive site clearance of explosive and hazardous objects,
- removal of explosive and hazardous objects from water bodies,
- providing sapper supervision during groundworks,
- developing expert opinions and sapper opinions



Grupa GeoFusion

widzimy więcej

We are **Grupa GeoFusion**, a company that offers specialized measuring and sapper services. Our mission is Innovation and Sustainable Development. We are a team of experienced specialists providing comprehensive services for demanding customers.

OUR ACTIVITIES ARE BASED ON:



offshore industry, for which we carry out research to determine the conditions of the seabed for the designed wind farms, cables and other hydrotechnical investments, and in aggregate areas (bathymetric, sonar, seismoacoustic and seismic measurement).



sapper services - we are one of the most specialized companies in Europe in the sapper industry, as one of the few private entities in Poland that performs works in a manner adapted to global standards.



geophysical surveys - we provide a wide range of services from geophysical research on the high seas, in coastal zones and inland waters, **to non-invasive archaeological research** and broadly understood soil research.



research and development – we carry out several R&D projects, **the most important of which concerns the development of a globally unique technology for locating, extracting and disposing of sunken chemical weapons, intended for cleaning the Baltic Sea.**

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81-376 Gdynia
biuro@grupageofusion.pl

tel: +48 698 927 874

Grupa GeoFusion Sp. z o.o.
Nowa Góra 50,
32- 065 Krzeszowice, Poland

Grupa Przemysłowa Baltic

The largest Polish producer of transformer stations and wind towers.

Grupa Przemysłowa Baltic (GPBaltic) is the holding company that brings together companies from the shipbuilding, wind energy, and offshore sectors.

GPBaltic's affiliates are: **Baltic Operator**, **Stocznia Gdańska**, **Energomontaż-Północ Gdynia S.A.** and **Gdynia Maritime Construction**.

The group's core business is the production of steel structures for Polish and foreign clients in the field of wind energy, Offshore&Onshore projects, and shipbuilding.



**BALTIC
OPERATOR**



As a Group, we are aiming to achieve the leader's position by having the capability to undertake Polish&international investments in the field of offshore wind energy and execution of projects for fully-equipped marine vessels for Polish and foreign shipowners. Our extensive knowledge and experience, which allow us to implement multidisciplinary projects, is a guarantee of the implementation of the contracts entrusted to us.



www.gpbaltic.pl

Grupa Przemysłowa Baltic Sp. z o.o
Na Ostrowiu 15/20 Str., 80-873 Gdańsk, Poland
Phone: +48 58 769 16 00
e-mail: gpb@gpbaltic.pl



HACO Ltd. was established in 1989 and is carrying its activities at Pruszcz Gdański from 20 years.

We are the fabricator of wide range of ship's fittings and constructions.

Our offer:

- Ship constructions
- Off-shore constructions
- On-shore constructions
- Laser cutting
- Gas cutting
- Plasma cutting
- Mechanical processing of steel structures

Well equipped machinery lets us to make wide range machining of produced elements – milling, planing, drilling, threading, grinding, turning etc. All constructions can be delivered equipped with hydraulic and electric installations. We also make the surface finishing with galvanizing, blasting and painting with primer and top coat paints.

HACO also fabricates parts and constructions used in the extractive industry. From a few years we are fabricating parts of drilling systems for oil rigs, service baskets for deep extraction systems, parts of on-shore and off-shore servicing units. The final product is a complete device, equipped with all installations, tested and delivered directly to the end customer.

Our recipients are companies from all continents and many countries, carrying business of sea and inland freight as also those extracting fossil fuels.

We also offer services of laser, plasma and gas cutting. Highest quality of our services is proven by classification societies certificates and **ISO9001** system.

HACO Ltd.

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phone: +48 58 773 77 70
e-mail: office@haco.com.pl



www.haco.com.pl



Hydromega is an innovative Polish company. Since 1998, it has introduced solutions to the market in the field of power hydraulics and industrial automation. Experience in the industry, reliability and proven solutions are the basis of a well-prepared offer for the shipbuilding, construction, mechanical, mining and agriculture industries.

Hydromega has its headquarters in Gdynia with a modern production plant (in the area of the Pomeranian Special Economic Zone), a production plant in Prabuty, and a branch in Kuraszków near Opoczno.

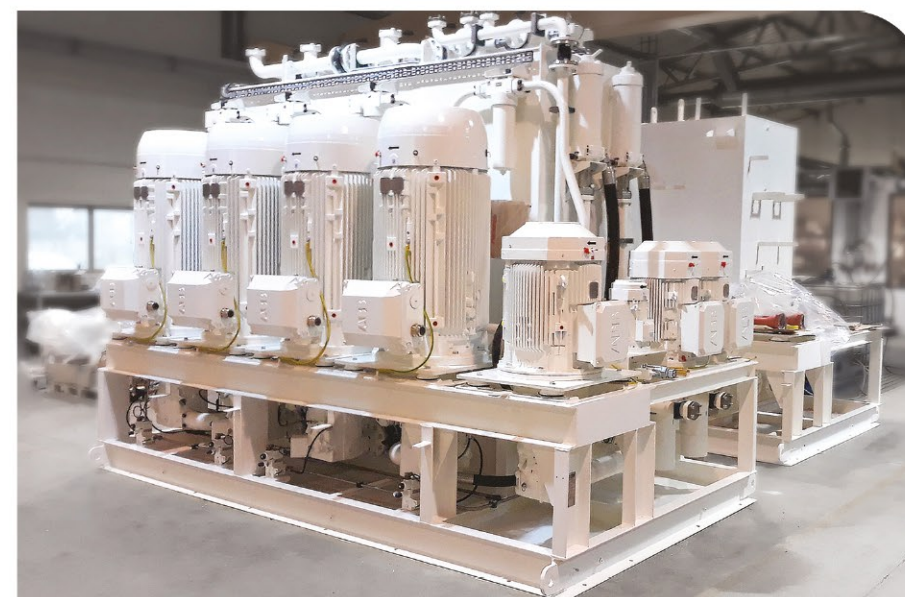
The key assumptions of the company's operation are based on the design, production and implementation of prototype devices and systems - innovative also on a global scale, confirmed by patents. The wide range of products includes both single devices and entire systems.

The portfolio includes, among others: **hydraulic power supplies, complete ship systems, hydraulic aggregates, specialized vehicles with hydrostatic drives, pump sets, steel tanks, return and fill filters, liquid level indicators (also with oil level sensors), and inspection hatches.** The quality of Hydromega products is confirmed by numerous certificates and prizes. The products support Polish industry, but they are also exported, e.g., to Norway, Great Britain, the Netherlands and Germany.

Hydromega is currently running over a dozen R&D projects, most of which the company finances itself. As a result of such planned activities, for example, industrial autonomous mowers or complete

ro-ro systems were created, and delivered to both domestic and foreign shipyards. The company developed and implemented the **HAMER technology**, ensuring the effective flushing of large hydraulic ship systems. Currently, this technological solution is already being used by most Polish shipyards. It eliminates one of the biggest problems generated by the maritime economy in the area of large hydraulic systems mounted on ships or platforms. The technology guarantees the purity of the hydraulic pipeline after the rinsing process, ensuring much better quality than other methods used to date. By implementing prototype solutions, Hydromega cooperates with, among others: WAT, WITPiS, POMR, Scientific and Research Center for Fire Protection, Gdańsk University of Technology, Warsaw University of Technology and Wrocław University of Technology, IO in Krakow and ITiE in Radom. The company's portfolio also includes the first Polish construction of an innovative modular multi-level parking system. The patented HAMER technology, the multi-platform vehicle storage system or the company's container loading synchronization system use solutions not previously used in Poland and partially innovative on a global scale.

The company also has extensive experience in servicing and repairing power hydraulic systems in many areas of the economy, offering flexible and tailored forms of cooperation.



RO-RO SYSTEMS

HPU

ACTUATORS FOR DEMANDING INDUSTRIES

ON-BOARD EQUIPMENT

WINCHES

PRODUCTION OF HYDRAULIC COMPONENTS

HEADQUARTERS
HYDROMEGA Sp. z o.o.
ul. Czechosłowacka 3
81-969 Gdynia
sales@hydromega.com.pl

**PRODUCTION PLANT
IN PRABUTY**
ul. Daszyńskiego 23
82-550 Prabuty
sales@hydromega.com.pl

KURASZKÓW BRANCH
ul. Kuraszków 18
26-307 Białaczów
sales@hydromega.com.pl

**WE BUILD THE MARKET
TOGETHER**



Head office and production branch in Gdynia
+ 48 58 664 77 04
Prabuty Branch
+ 48 604 054 832
Kuraszków Branch
+ 48 44 610 35 31



www.jppmarine.com

JPP Marine is a group of marine professionals – ex. class surveyors and ship's superintendents, experienced in tankers, bulk carriers, container, ro-pax and cruisers ships.

With years of experience we are able to react in time and consecutively to meet the needs and requirements of ship's owners. Since the day JPP Marine was founded, the company has developed dynamically. Starting as a company carrying out ship repairs we have grown and diversified to a world-wide operating group of in the maritime business, successfully carried out by well-trained employees who are the backbone of our company.

A strong team of professionals has made it its mission to suport international customers reasonably and reliably in the long term. And yet, our main target is to improve our performance permanently.

We consider your vessel as to be our vessel, your problem as to be our problem, thus we act as the vessel's superintendent and/or consultant with third parties – especially Classification Societies – for the benefit of vessels and owners. Our concept and top priority is to carry out repairs on the vessels with as little interruption of the charter as possible in conjunction with high standards of quality. Our customers benefit from short delivery times and a successful collaboration and fast communication. Our international customers thank us through long-term relationships.

The communications between all parties concerned works perfectly, but it is a never ending process due to permanent implementations of state-of-the-art. technologies.

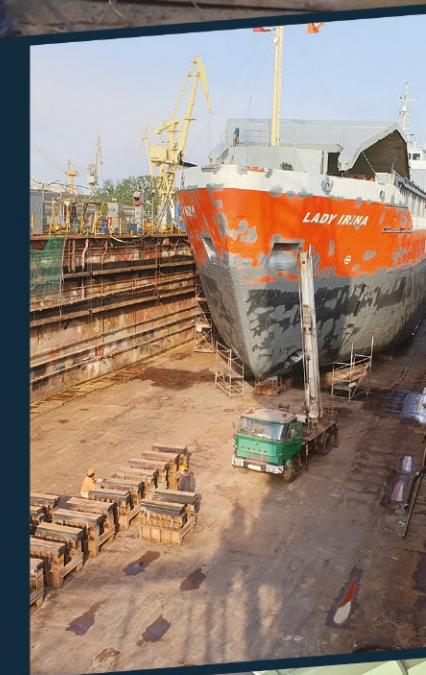


Optimal Vessel

Optimal Vessel software is a modern solution for a fleet management and a vessels operative performance analytics designed and developed by JPP Marine company.

The main aim of the system is to support the decision-making process by providing continuous and legible information from the ship. Our novel application links vessel and ground team, shipowners, superintendents, managers and crew with dataset from subsystems and dedicated sensors and presents them as an intelligent insight on the web application and onboard.

A reliable analysis increases transparency and facilitates informed decision support to fleet manager that decreases negative impact on the environment by fuel consumption optimisation and leads to significant reduction of operational costs.



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mobile: + 48 609 530 033
e-mail: repairs@jppmarine.com

JPP Marine Sp. z o. o. Sp. K.
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71-642 Szczecin
Poland



We are one of the oldest companies in the sectors of transport and logistics operating in the Polish market.

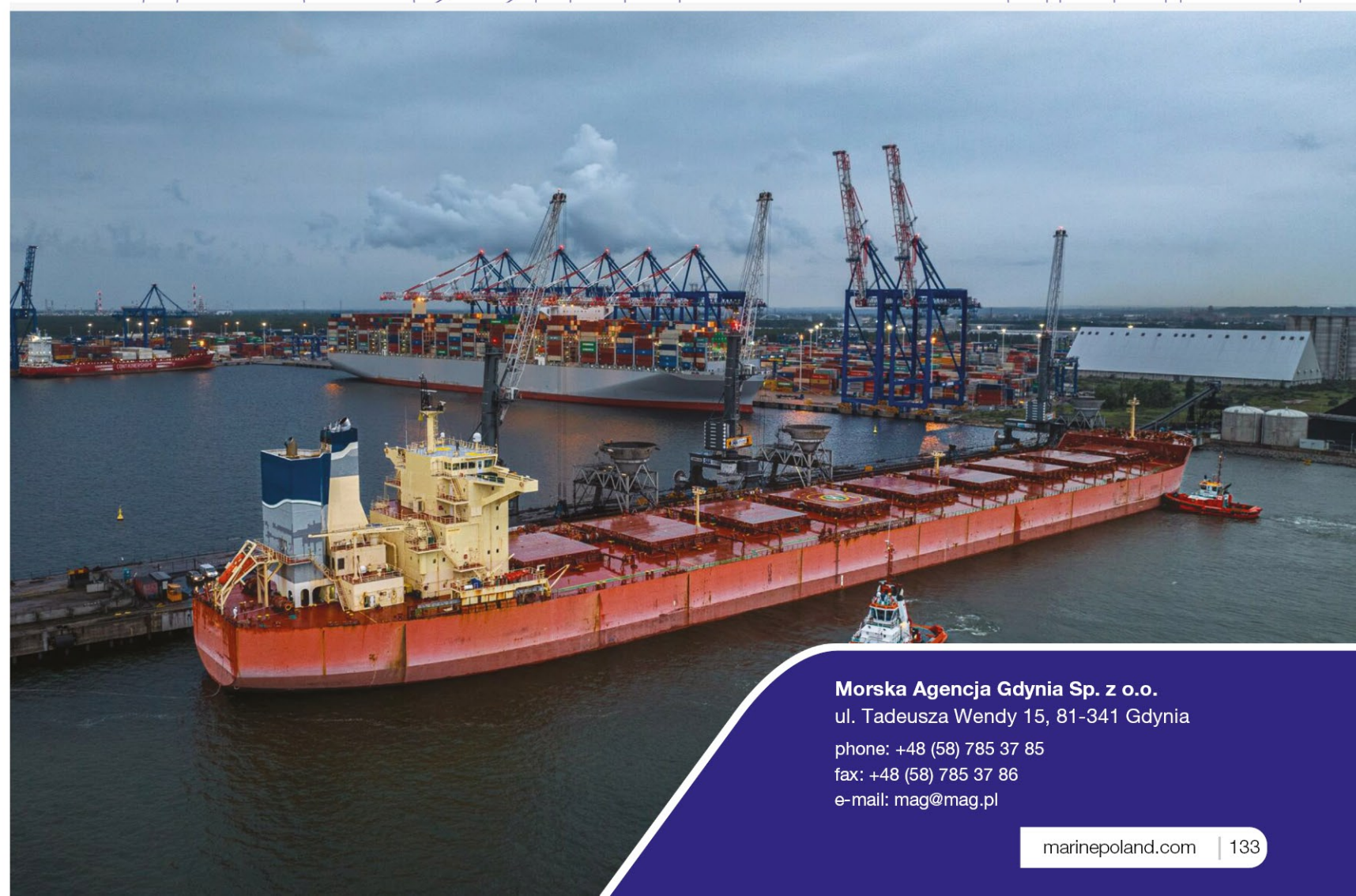
Our company guarantees delivery of cargoes to any place in the world - by sea and on land. Thanks to our long experience and creativity of our staff, Morska Agencja Gdynia is a brand which cooperates with exporters and importers from all over the world, shipowners, shipping lines, freight forwarders, ports, maritime offices, customs and immigration, banks and financial institutions as well as insurance companies.

We organize road, sea and rail transport of several thousand containers a year, freight vessels, arrange road and rail transport, deal with heavy and over-size goods, dry and liquid loads as well as with general cargo. Our company ensures storage and distribution of our customers' goods in modern warehouses and also provide bonded storage. The company's offer also includes offices to let.

For years we have been a correspondent of protection and indemnity clubs. We work as an emergency agent for the benefit of foreign insurance associations, supporting them during settlement of claims in road, rail and sea transport.

Polish Seafarers are offered attractive and safe work. Each year our company arranges about 1500 contracts for officers and ratings to the vessels of reputable shipowners from Germany, Great Britain, Denmark, Ireland, Greece and the USA.

Our professional team may challenge any task related to logistics of international trade.



www.mag.pl

Morska Agencja Gdynia Sp. z o.o.
 ul. Tadeusza Wendy 15, 81-341 Gdynia
 phone: +48 (58) 785 37 85
 fax: +48 (58) 785 37 86
 e-mail: mag@mag.pl

Our strength lies in people

We are an independent family-owned company operating in the European offshore market for more than two decades. Our service portfolio includes comprehensive geophysical and geotechnical surveys, environmental surveys and inspections of subsea infrastructure. We have the world's leading specialised test and measurement equipment at our disposal, relying on cutting-edge technologies.

Sectors in which we provide our services:

offshore wind farms	oil and gas
maritime administration	dredging works
telecommunications	mineral resources
pipelines and cables	science

We focus on conducting **work in safe, sustainable, efficient and effective manner.**

We are a team of professionals, full of passion and knowledge, who want to change the industry for the better while maintaining the highest standards of safety, and employing the most up-to-date technologies available on the global market. It is the power of teamwork that is the key to the success and viability of every project we undertake.

Geophysical surveys

- hydrographic surveys
- analysis of OWF seabed characteristic
- seismic surveys
- OBN seismic surveys
- preparation of reports and maps
- preliminary surveys for the detection of potential unexploded ordnance

Geotechnical surveys

- sediment sampling
- static CPT sounding
- geotechnical drilling
- preparation of comprehensive administrative documentation

Environmental surveys

- bird and bat surveys
- benthos surveys
- ichthyofauna surveys
- geochemical and hydrochemical surveys
- hydrometeorological surveys

ROV inspections

- subsea infrastructure inspections
- cable and pipeline pre-lay surveys
- as-built documentation of subsea infrastructure
- construction process monitoring



mewo.eu

MEWO S.A.

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Poland

phone (+48) 502 058 294
e-mail biuro@mewo.eu
www mewo.eu

> **mewo** | contact

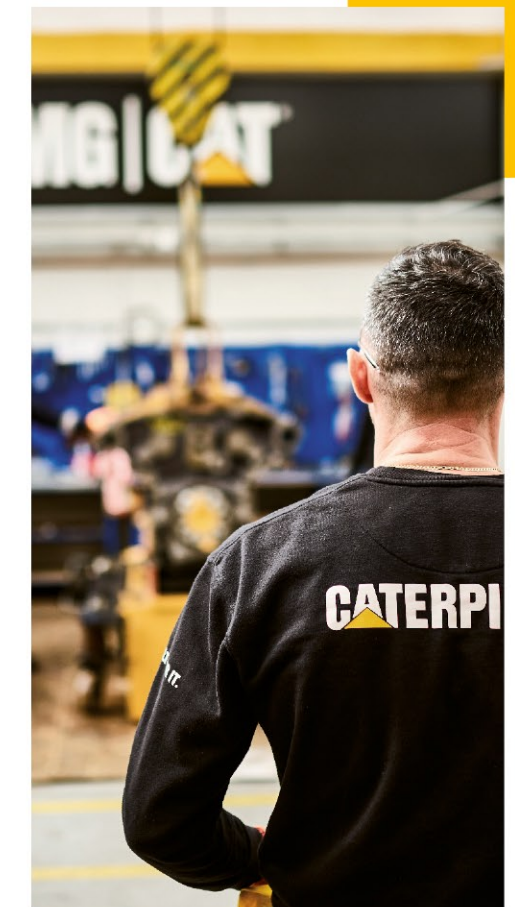


FOR ALMOST 30 YEARS

MG has been Caterpillar Marine Dealer which offer covers both CAT and MaK marine products. MG is offering marine engines/aux engines/genset prime sales, parts sales and full service support, including electrical and automation.

The company currently supports **over 800 CUSTOMERS IN POLAND AND WORLDWIDE**. Over 85% of these customers are long standing customers with many of them working with MG for over 25 years. We are proud of our substantial customer base, 90% of our business is repeat customers.

Our goal is to be the **FIRST-CHOICE CAT SERVICE PROVIDER** in markets we serve.



MG is **DNV ISO 9001:2015** certified company.

In 2014, as first Authorized Marine Dealer, MG was certified **GOLD** in CAT Marine Service Assessment (MSA). This confirms that we provide the highest level of services for our clients.

MG SP. Z O.O. SP. K.

UL. WIŚNIEWSKIEGO 13,
81-335 GDYNIA, POLAND

service@mg-cat.pl | parts@mg-cat.pl
+48 58 625 34 83 | www.mg-cat.pl

**CAT ENGINES
& GENSETS**

**ENGINE REPAIRS
MAINTENANCE & SERVICE**

**GENUINE
CAT AND MAK PARTS**



Based in Gdańsk, we have established ourselves as a leading manufacturer of large steel structures for both our domestic and foreign markets. We carry out projects mainly for the offshore industry (primarily for the Scandinavian market), but also for: shipbuilding, construction infrastructure, petrochemical and oil-processing industry. We also produce construction cranes and bespoke structures.

Our versatile production facility enables us to either make a construction from scratch, or to modernize or renovate any construction. We are constantly investing in fabrication technologies.

Many years of experience gained implementing a variety of complex projects in the field of steel structures, mean that our services have been recognized and appreciated by many clients within Poland and abroad.

Our Main Clients: Aker Solutions AS, Bladt Industries AS, AS Nymo, Aibel AS, Bring Logistics AS, Cargotec Finland OY, National Oilwell Varco AS, Grupa Lotos SA, KT Kinetics Technology S.p.A., Skanska Sverige AB, Meriaura Oy Finland

Our Services:

- fabrication of projects as both a General and Sub-Contractor
- modernization and repair of industrial installations and technological equipment
- purchase of materials
- preparation of shop drawings
- fabrication & assembly
- quality control

- NDT (Non-Destructive Testing)
- Surface protection
- PFP (Passive Fire Protection)
- Loading and sea fastening operation

What we do:

- **Oil and gas/ offshore wind:**
Structures for the oil and gas industry, oil rigs, elements of offshore wind farms: topsides, boat landings, subsea construction elements, towers for offshore platforms and wind turbines, aluminium staircases, pipelines and pipeline steel supports (CS, SS, Duplex).
- **Structures for the petrochemical and petroleum industry:**
Fuel tanks, industrial installations, tanks and technological equipment (including technological installations, heat exchangers, furnaces, steel stacks, columns, reactors).
- **Cranes and bespoke structures:**
Sections of gantry cranes and booms, silos, tanks, conveyors, belt conveyors, spreaders (bucket wheel excavator).
- **Shipbuilding and marine structures:**
Booms, vessel ramps, superstructures for floating vessels, hull sections, deck hatches.
- **Infrastructural constructions:**
Bridges, flyovers, footbridges, chimneys structures for industrial halls, stadiums, coalbunkers, halls.
- **Aluminium structures:**
Staircases, ladders, stairs, platforms, handrails, assembly of cable tracks.

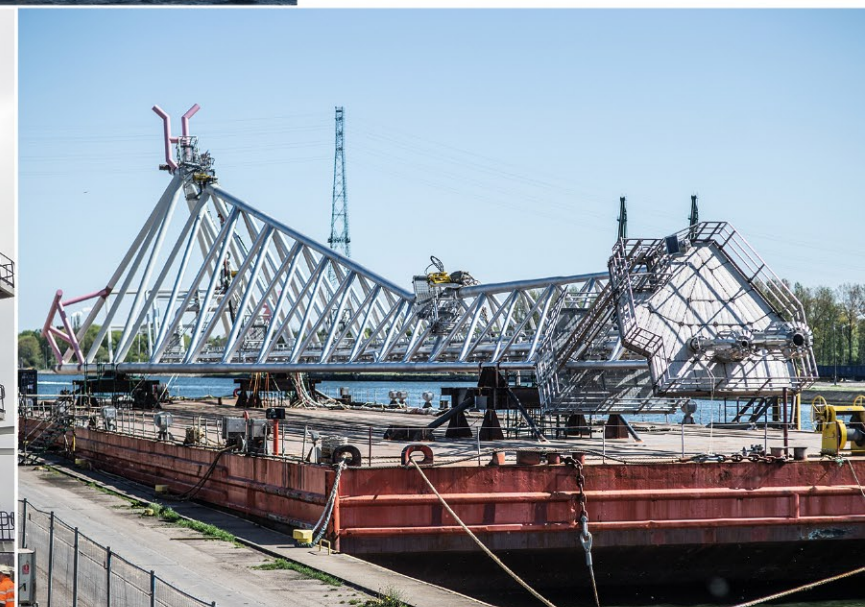
MOSTOSTAL POMORZE S.A.

80-557 Gdańsk, ul. Marynarki Polskiej 59, Poland

phone: +48 (58) 343 06 37

+48 (58) 343 01 95

e-mail: sekretariat@mostostalpomorze.pl



www.mostostalpomorze.pl



Morska Stocznia Remontowa
GRYFIA



ABOUT US

Morska Stocznia Remontowa „Gryfia” S.A. has been occupying a significant place on the map of Europe for 70 years in the field of comprehensive repairs and reconstruction of commercial ships, passenger ferries and specialized multi-purpose vessels.

The central location of the shipyard in Europe, its close proximity to the main communication routes of Western European land transport and important shipping lines within Baltic Sea basin, have formed favourable conditions for the repairs of the world’s largest shipowners.

SHIPREPAIRS

REBUILDINGS • CONSTRUCTION

POTENTIAL

Currently Gryfia is carrying out a groundbreaking investment regarding a new floating dock of **235,6 m** in length and **36,7 m** in width, alongside with respective infrastructure. By 2024, it will be one of the largest dock in this part of Europe. MSR "Gryfia" S.A. has three floating docks, the lifting capacity of the biggest one is **15 000 tonnes**, has a qualified crew, the necessary infrastructure, quays with a total length of over **1,4 km**, adequate lifting capacity.



Morska Stocznia Remontowa
GRYFIA

Morska Stocznia Remontowa Gryfia S.A.
Brdowska 12, 71-700 Szczecin, Poland

phone: +48 91 42 42 850

e-mail: info@msrgryfia.pl



www.msrgryfia.pl



NAFTOPORT Sp. z o.o.

Naftoport - based in Gdańsk Northern Port - is the only crude oil transshipment terminal in Poland and the biggest Polish transshipment terminal of refined oil products.

No other maritime terminal may supply crude oil and petroleum products to Polish refineries. The company is also an element of the petroleum supply logistics for two eastern German refineries.

For three decades, Naftoport was the only alternative oil supply route. Later on, it developed its capacity to serve as a fully complementary supply line. It is now a key component of the domestic oil logistics system – 100% of crude supplies come to Poland through the Naftoport terminal.

The Naftoport handles transshipment for: crude oil, diesel oil, fuel oil, gasoline, jet fuel, condensates and other fuels. Transshipments of oil products are carried out for Rafineria Gdanska, connected with terminal by pipeline network.

Naftoport is an environmentally-friendly facility that fully respects and implements the occupational health and safety rules, and operates modern, specialised control and measurement equipment.

The Company is an owner of five cargo handling berths, shielded with breakwaters and secured against oil spills with the permanent, foldable and pneumatic dams. The cargo handling facilities are fully adapted to receive hydrocarbon vapors. The fire-fighting system is performed from both the land and the water. The jetties are equipped with permanent water and foam fire-fighting installations. The installations are supported by fire-fighting cars and vessels.

The Naftoport Oil Terminal is suitable for oil tankers with the length up to 350m, width 60m and the maximum draught of 15m.

In the year 2022, Naftoport provided services for 363 tankers and transshipped almost 25 million tonnes of crude oil and liquid fuels. It was the subsequent record-breaking year in the history of the Terminal, following gradual transshipment rate increases recorded in 2017-2021.

More than 36 million tons of oil transshipments are projected for 2023. This represents a 300% increase in volume served over 6 years.



Naftoport



Naftoport.pl

NAFTOPORT Sp. z o.o.

Kpt. ż. w. W. Poinca 1, 80-561 Gdańsk, Poland

phone: +48 58 343 74 25, +48 58 737 74 25, fax: +48 58 343 76 06

e-mail: naftoport@naftoport.pl

Shiprepair Yard "NAUTA" S.A.

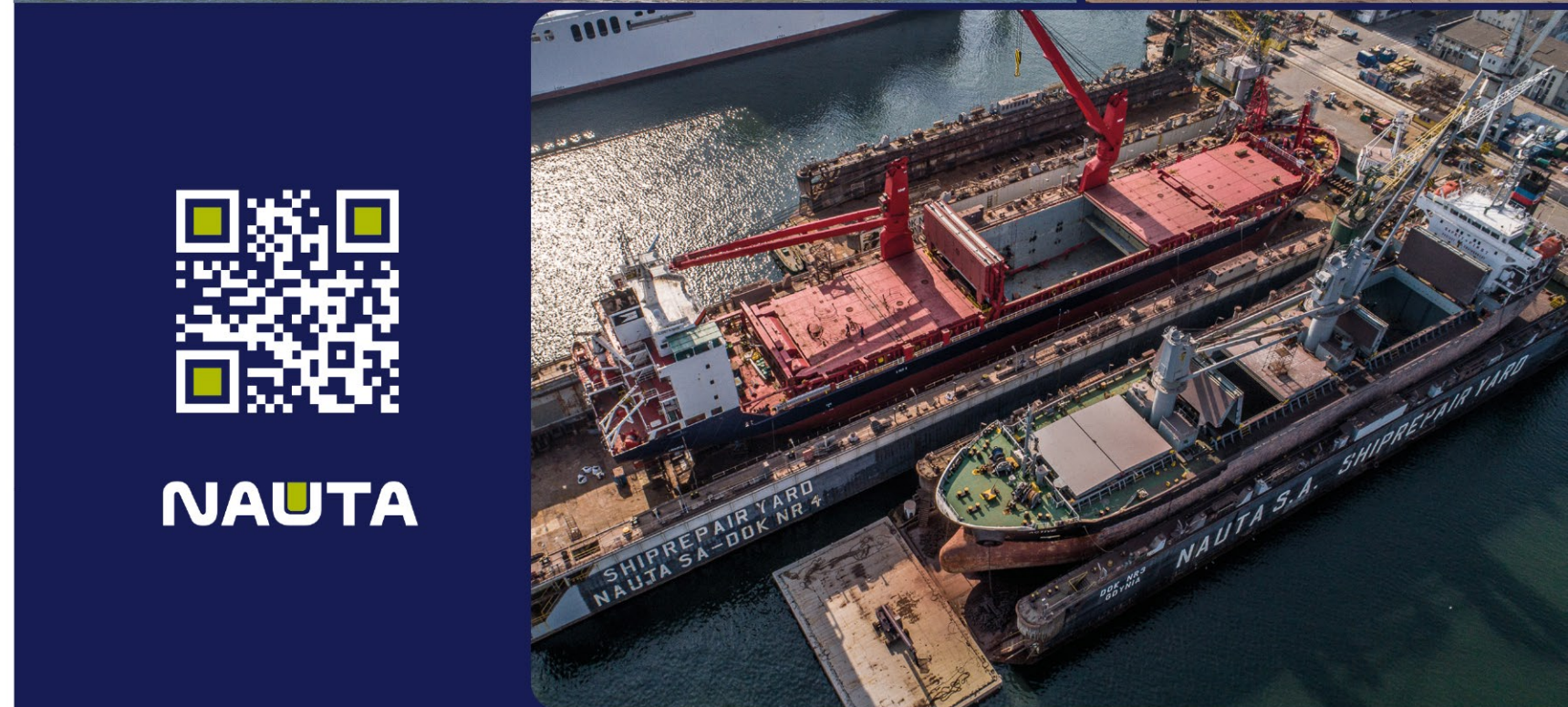
Nauta Shiprepair Yard established in 1926 has performed several thousand of extensive repairs on various types of ships. It has also designed and built over 500 fishing and special purpose vessels.

Nauta offers:

- A 24 hour – 7 day – 365 days per annum service;
- Comprehensive repairs and special surveys of all kind of vessels;
- Increased production assets offering complex engineering, mechanical, welding, electrical, fitting and hull services;
- Number complicated conversions and lengthening/shortening projects irrespective of the line of the cut, including conversions of oil and gas drilling rigs;
- A team of highly skilled professionals and a number of meticulously selected co-operators, all of whom are always ready to meet the growing demands of our clients;
- Installations of exhaust gas cleaning systems;
- Installation of Ballast Water Treatment Systems;
- Hydro blasting up to 2500 Bar;
- Nearly 2000 m of berths;
- 4 docks.

www.nauta.pl

NAUTA SHIPREPAIR YARD
 Budowniczych 10 Str., 81-336 Gdynia, Poland
 Phone: +48 58 621 21 48, +48 58 621 25 00
 e-mail: poczta@nauta.pl



The mobile machining service (in-situ machining) is used to precisely remove excess material while maintaining the performance tolerance regime. Its purpose is to provide an alternative to stationary machining devices and eliminate the need for their disassembly and transport.

COMPANY

The NGLMachining company was founded as an answer to the market demand expecting mobile machining services while maintaining the performance tolerance regime. Our goal is to find an alternative to stationary machining, eliminating the need to disassemble and transport the machined component. We focused our efforts primarily on innovation and non-typicality of applied solutions, as well as the timeliness and the performance precision.

The technical and process solutions we offer found applications in these industry branches, where the dimensions and accessibility of structural elements were a problem in the repair-manufacturing technology. The elimination of transport costs, while expanding service simultaneously, enabled us to perform production tasks significantly faster and, in case of failure, to restore continuity of the production faster.

In order to develop and improve our services, we continually expand our machine park and improve qualifications of our team. By modifying and expanding our offer, we respond to the constantly growing and changing needs as well as requirements of our Customers.

IN-SITU MACHINING

Tasks presented to us by the industry become more and more unusual and complicated. Until recently, some of them were impossible to perform or were a logistic and economical challenge. The opportunities offered to us by mobile machining today are virtually limitless. Combination of technology with skills and experience of operators and measurement teams allows us to perform even the most complicated projects.

During execution of works in the field of mobile machining, we use specialised, portable machines designed for confined spaces. Mobile boring machines, milling machines, and lathes used by us are characterised by a compact and modular structure. This equipment has been designed for work in harsh conditions, using a drive system allowing to deliver optimum power with respect to the load proportion.

We work at the construction and maintenance operations in power distribution companies, chemical and food industries, in the construction of steel structures and ships.

We reach with our services not only Polish companies, but also the foreign ones. We are everywhere, where the machining is difficult and requires non-standard solutions.

3D MEASUREMENTS

NGLMachining provides precise measurement data that influence the optimization of production processes. FARO® laser systems, which we apply on a daily basis, give us the possibility of collecting data and their multidirectional analysis in relation to any set coordinate systems.

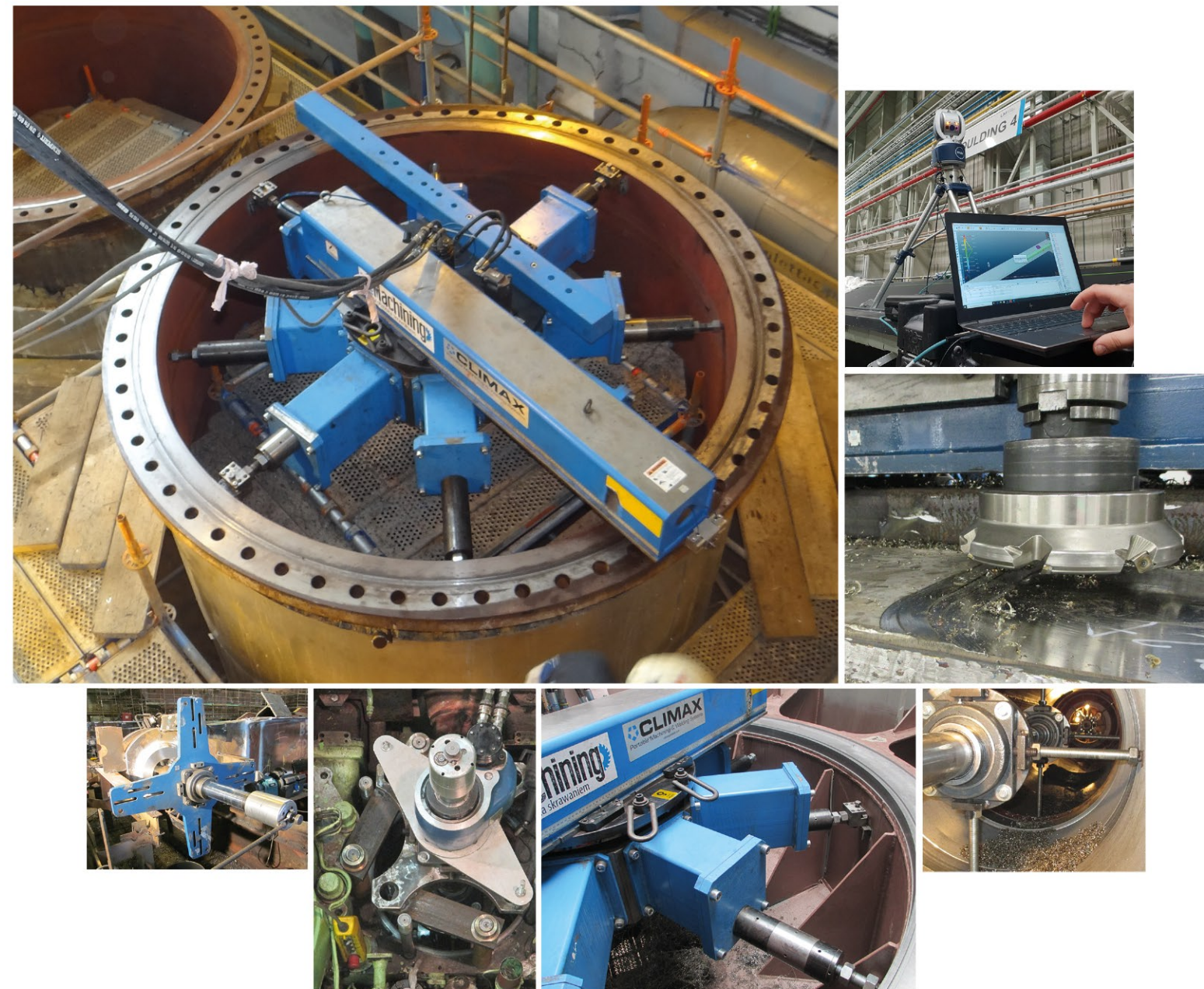
FARO® measuring instruments and systems that we use (FARO® Laser Tracker VantageE, FAROArm®, FARO® ScanArm) are the best and most comprehensive devices for measurement and 3D visualization. They create a new quality in industrial metrology with their precision and functionality far exceeding the capabilities of commonly used tacheometric devices.

We carry out measurements for the needs of various industries with numerous applications. The complexity of the FARO system allows us to use it in many directions: from measuring small workpieces to measuring large-size structures. The data collected owing to the METROLOG inspection software can be analysed and presented on a multi-level basis in the form of clear and intuitive reports.



www.nglmachining.com

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e-mail: r.bogusz@nglmachining.com



The mobile machining service (in-situ machining) is used to precisely remove excess material while maintaining the performance tolerance regime. Its purpose is to provide an alternative to stationary machining devices and eliminate the need for their disassembly and transport.

OKMARIT LTD.

Freight forwarding and logistic especially focused on project cargo OOG handling is a core activity of OKmarit from the year of company inception in 1991. Logistic including road, inland and sea we have in our veins and great number of successful forwarding projects constitute our company's body. We do offer highly professional service tailored to contractual and budget's needs of our Customers. Our trained and highly motivated staff is fully conversant with today's ever-changing logistic scene and using sophisticated instruments is able to offer best possible solution on economical moving of all types of cargo.

Whatever your requirement are, our approach ensures your projects receive the personal attention they deserve.

The agency and husbandry service was always vital part of our activity and we attend vessels in all Polish ports with full range of agency matters. We serve all types of vessels like dry cargo, crude and chemical tankers, barges, also ships calling Polish shipyards for repairs.

We are on standby for 24 hrs 7 days a week. Our office is located in the town of Sopot with easy access to Gdansk and Gdynia. We also cover Szczecin with our sub agents there.

Please rush for our competitive PDA.

Chartering is our natural reinforcement which tides up all our activities. We are especially experienced in the handing and carriage of project/out of gauge/ heavy lift cargoes and dangerous goods and special cargoes. We represent both charterers and shipowners. We fix on single basis, time charters, long terms contracts or bareboats charters.

You can rely on our follow up and post fixture service which completes the deal.

Contacts details:

okmarit@okmarit.com.pl

s.olszewski@okmarit.com.pl



BIMCO



CHARTERING AND AGENCY SERVICES

PORT HANDLING AND FORWARDING

MULTIMODAL TRANSPORT

PROJECT CARGO

SUPPLY CHAINS AND LOGISTICS



okmarit.com.pl

Okmarit sp. z o.o.

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POLISH MARITIME TECHNOLOGY FORUM

Polish Maritime Technology Forum consists of entities, that are courageously looking ahead and perceiving 21st-century challenges as new opportunities.

WE INVITE ALL WHO SHARE THE VISION.

Challenges to be met in the 21st century urge for a new and even broader approach toward the maritime industry. Conservative approaches are the result of a traditional perception that clearly distinguishes the three areas: ship newbuilding, ship repair and supply chain. This no longer seems fully adequate.

The prime drive for change is the unending development of technology. It creates new opportunities for the exploration of various water resources. Innovative advances trigger the changes in vigorous entities within the maritime economy. It seems that the right response to the challenges of the future is to be strongly intertwined with the cooperation of several diversified stakeholders. All of them complement each other, and gather impressive amounts of knowledge and skills unavailable for those acting individually, even those belonging to big industrial groups. Integrating, comparing and developing ideas, opinions, skills and tasks is inevitable and simply a necessity, which we support.

There is nothing new in saying the process of continuous development determines the ability to respond to market needs and expectations. Both now and to an even larger extent in the future.

This is why we work toward a common ground for communication, exchange of ideas, and cooperation, leading us to optimal results and meeting the challenges of the future.



www.pftm.pl

Polskie Forum Technologii Morskich
81-336 Gdynia, ul. Czechosłowacka 3, Poland
phone: +48 601 681 886
e-mail: biuro@pftm.pl

Port of Gdansk Cargo Logistics S.A.

Comprehensive port services

Handling and storage
General cargo and bulk cargo
Import and export

Almost **30 years of market activity**. Services are performed on 8 quays located along both sides of the Martwa Wisła river:

- Węglowe
- Rudowe
- Administracyjne
- Dworzec Drzewny
- Oliwskie
- Wiślane
- Szczecińskie
- WOC

Certificate:



We have storage space: customs warehouse, halls, warehouses and storage yard.

We offer transhipment: bulk, groupage, oversized, container

- Steel products as profiles, sheet piles, bars, wide rods, billets, slabs, rolled sheets, tubes, welded maches;
- Scrap;
- Constructions, oversize sections, projects cargo, vehicles, building and road construction machineries and modular houses. We have equipment to handle projects cargo up to 160 t, the possibility of handling heavier structures after individual analysis;
- Containers;
- Ro-Ro vehicles;
- General cargo – unitized cargo in big bags, pallets and crates;
- Coal, coke;
- Dry bulk cargo.

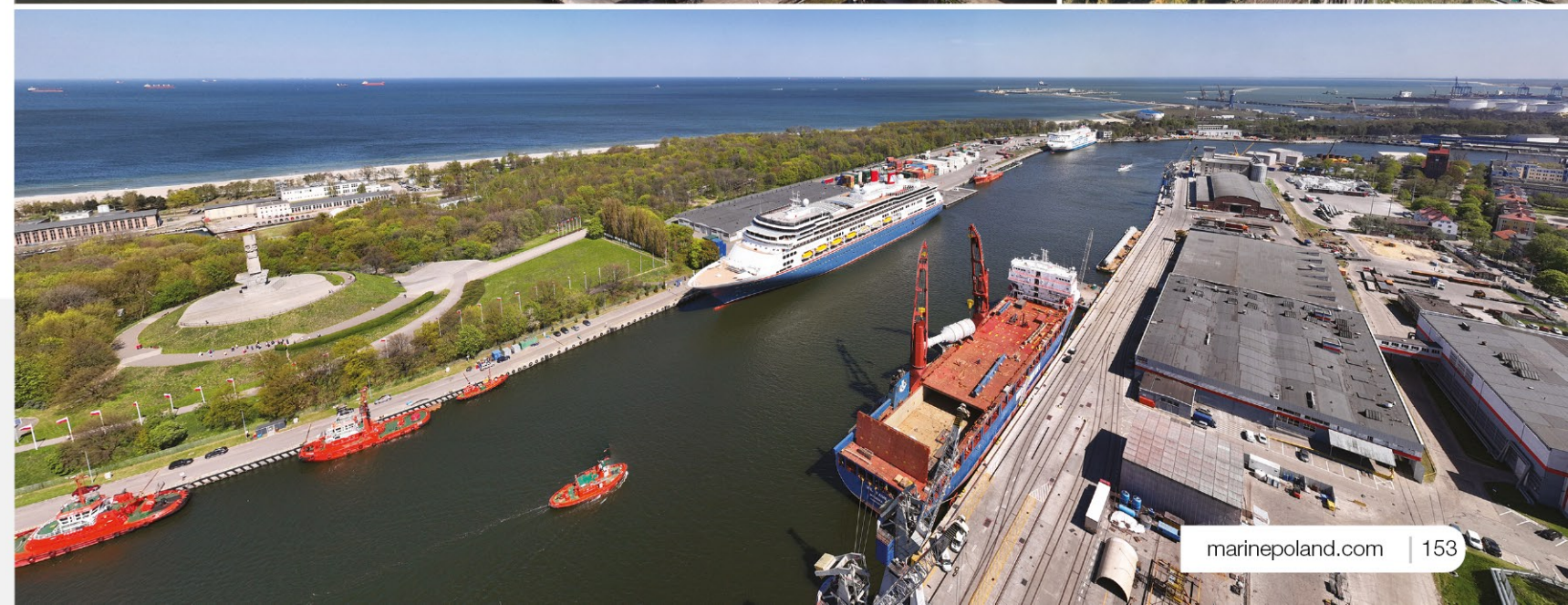
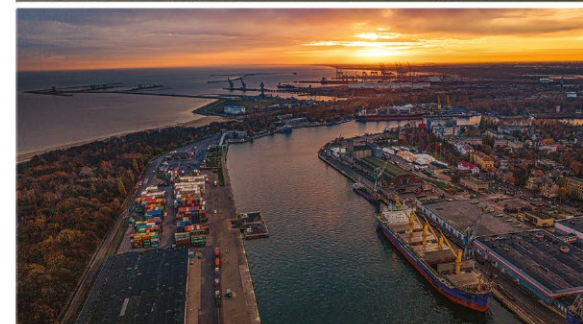
We care to apply all procedures providing high quality professional services.

Experience is our strength.

Port Gdański EKSPLOATACJA S.A.
Roberta de Plelo 6, 80-548 Gdańsk, Poland
phone: +48 58 737 63 00, +48 58 737 64 20
e-mail: pge@pge.pl



www.pge.pl





70 YEARS

POLISH OCEAN LINES INC.



www.plo.com.pl

Shipping activities

Polskie Linie Oceaniczne S.A. is a shipping company with over seventy years of tradition in sea transport around the globe. Currently, we operate our own ro-ro ships and run the management of a container ship.

The ro-ro ships POL MARIS and POL STELLA are employed on the shipping line connecting Turkish and Italian ports, while the container ship Port Gdynia sails between Spain and West Africa.

Commercial and Technical Management

Thanks to our experience in running Commercial and Technical Management on our own ships, we have also been providing such services to external shipowners for many years. We specialize mainly in the operation of dry cargo vessels; however, our team is also experienced in working with offshore vessels and tankers.

Shipchandling activities

Based on many years of experience in organizing ship supplies, PLO has a special division POL-Supply Shipchandler. This department serves shipowners in Polish ports and shipyards by providing provisions, and technical, hotel and other supplies. We can be proud of our regular cooperation with domestic and foreign entities.



***POLISH OCEAN LINES INC.** is a shipping company with over **72 years** of experience in liner business. Currently, the company's activities are concentrated on maritime transport services.*



POLISH OCEAN LINES INC.
Polish Ocean Lines Inc
Av. 1, Marszałka Piłsudskiego
81-406 Gdynia, Poland

e-mail: pol@pol.com.pl
phone: +48 58 668 96 01
fax: +48 58 668 96 24



PORT GDAŃSK

The Port of Gdańsk's strategic location, modern infrastructure, competitive prices and special economic zone status give it an advantage over other European ports. These qualities have contributed to the growth and success of the port, making it an important hub for trade and investment between Asia and Europe.

The Port of Gdańsk is the only port on the Baltic Sea capable of handling the largest ocean-going vessels in the world. It is a universal port fit for all kinds of vessels. Different types of goods are handled at the quays, ranging from coal, fuels, grain, fertilisers, timber, cars, specialist equipment, frozen fish, citrus fruit, and luxury yachts to oversized cargo. The dominant cargo groups are liquid fuels and general cargo, mainly in containers. Over a hundred companies of various profiles run their business in the Port of Gdańsk. These are primarily the petrochemical, energy, agri-food and construction industries. The Port of Gdańsk is the only Baltic port that carries out direct container shipments to China. Currently, it operates 15 regular sea connections. Apart from Europe, the regular destinations for goods are Asia, the USA, Central and South America.

The port's great strength is its excellent location, as it is located at the meeting point of the main logistics routes. Thanks to infrastructure investments, the railway and road traffic bypasses the centre of Gdańsk. There is a ring road, the S7 expressway and the A1 motorway, connecting Gdańsk and Katowice, in close proximity to the port. In the Port of Gdańsk, there are two areas with naturally varying characteristics for exploitation: the internal port, situated along the Martwa Wisła river and the port chan-

nel, along with the external port with its direct access to the waters of Gdańsk Bay. Due to its location, the internal port has universal handling quays, adapted to handle almost any type of cargo. Here we can find the most modern sugar terminal in Europe, belonging to Krajowa Spółka Cukrowa, thanks to which Polish sugar reaches markets around the world, as well as a ferry terminal, container terminal, and a Duty Free Zone. The location of a business within the Duty Free Zone guarantees a number of customs privileges. The Outer Port, which is responsible for 80% of all handling, comprises specialised deep-water terminals, including the largest container terminal in the Baltic Sea – Baltic Hub and Naftoport, the only terminal for offshore oil handling in Poland and the largest terminal for the handling of liquid fuels. But the Port of Gdańsk is not only a cargo handling terminal, it also services ferries and passenger vessels. Thousands of tourists arrive in Gdańsk every year on board luxury cruise ships.

Thanks to investments worth millions of zlotys, the conditions of shipping have largely improved in the Port of Gdańsk. The water lane in the Inner Port was dredged and widened, and therefore the availability of this part of the port for bigger ships has increased. Over 5 kilometres of quays have been modernised. In 2021, the extension of the internal transportation system in the External Port was completed. It covered bringing rail and road traffic to deep-water handling terminals. 7.2 km of roads, 10 km of new tracks and 16 turnouts were either built or rebuilt. 4 new flyovers were created, a new

additional lane for the container terminal, new lanes for coal terminals and an advanced control command and signalling system appeared. A buffer parking area for lorries was also built. The port is currently embarking on another investment in the Inner Port. The reconstruction of four further quays with a total length of 1,916 m, together with the railway infrastructure, was subsidised by the EU.

The Port of Gdańsk is the only port on the Baltic Sea capable of handling the largest ocean-going vessels in the world.

There is still around 100 ha of land for development in the port area. However, the future of the port lies in new deep-water terminals. Due to the fact that the investment projects of the Port of Gdańsk exhaust the land opportunities for the spatial development of quay infrastructure along the coastline, the port directs its plans towards the sea. One of the key investments in the area of the Polish maritime economy, which would allow Gdańsk to become an intermodal transport interchange, being the hub in the region of the Baltic Sea and a distribution-logistic centre for Central and Eastern Europe, is creating land from the marine area located within the administrative boundaries of the port. The expansion of the Baltic Hub is underway. By 2025, a third deep-water quay with a length of 717 m and a depth of 18 m will be built, and the terminal's handling capacity will increase to 4.5 million TEUs. The project, which will be worth around PLN 2 billion, will add 36 ha to Poland.



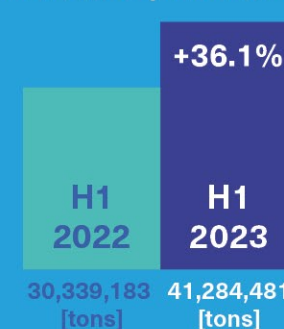
Total cargo handling H1 2023

1. Ust Luga 61.6 million tons (+5.5%)
2. Gdańsk 41.3 million tons (+36.1%)
3. Primorsk 34.2 million tons (+12.2%)

#1 Baltic Container Port

#2 Baltic Port

Total cargo handling H1 2022/H1 2023



Port Gdańsk ranks 8th in the ranking of European ports after Q1 2023

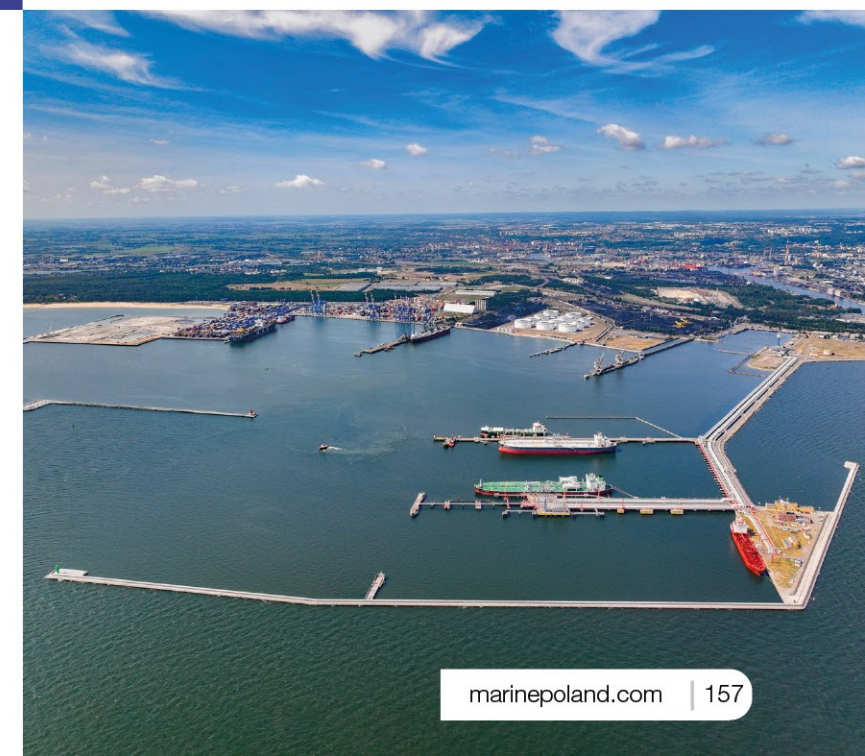
#8

Thanks to this, the Port of Gdańsk has been the fastest-growing European port of the last decade. After Q1 2023, it ranks 8th in the ranking of European ports. It took over Marseilles, Barcelona, Constanța and Valencia. It is still the container leader in the Baltic Sea and runs 2nd in handling in general.

Throughout 2022, a total of 68.2 million tonnes of goods were handled at the port, a 28 per cent increase compared to the previous year. This is actually the highest handled cargo volume in the history of the Port of Gdańsk. But the record is about to be broken in 2023.

Together with Naftoport, the Port of Gdańsk started design works for the construction of the sixth berth for handling crude oil and petroleum fuels. Berth "W" is going to be adapted to accept large VLCC-class ocean tankers — over 300 metres long and up to 60 metres wide. The expansion of the Naftoport is not only an increase in fuel handling, but also a guarantee of the country's energy security. Gaz-System is preparing for the construction of a floating regasification LNG terminal of the FSRU type, with the participation of the Port of Gdańsk and the Maritime Office. The project provides for locating a floating FSRU unit in the area of Gdańsk, which is capable of unloading LNG for the storage and regasification of LNG.

In recent years, the value of performed development at the port, both by the Port of Gdańsk Authority SA and external entities (business partners, the Maritime Office, PKP PLK), amounted to around PLN 6 billion.



Breakthrough development projects at the Port of Gdynia



For over a hundred years, the Port of Gdynia has been building the future of the city, business and economy. It generates the region's development by being the Polish gateway to the world. The maritime industry and the port's activities define the character of the city, in which the tradition and future as well as past and future achievements are inextricably linked. Hundred years after establishing the port, improvements works have been continuing and the current huge projects have been undertaken with the next generations in mind.

Its importance is largely determined by its geographical location. The port of Gdynia is a node of the TEN-T core network and the entry point of the Baltic-Adriatic Corridor, the extension of which is the Gdynia-Karlskrona Sea Motorway connecting Gdynia with Sweden. The Port of Gdynia is a recognized brand of an intra-European logistics centre. Modern infrastructure and terminals of the port of Gdynia are used by the largest global and European shipping operators.

The Port of Gdynia plays an increasingly important role in the world of transport and logistics, with the ongoing expansion and modernisation of the port infrastructure to ensure the optimal conditions for operators to increase their handling volume. Thanks to modern technological solutions, all this can be achieved with the least possible interference with the environment.

The construction of the Public Ferry Terminal has been the largest project carried out at the Port of Gdynia in nearly 50 years. The new Public Ferry Terminal gives opportunities to operate much larger passenger and vehicle ferries, at the same time increasing the

handling capacity of the port when it comes to ro-ro and ferry transport. It is one of the most modern facilities of this type in the Baltic Sea, which is in line with the idea of „greenport”, as ferries can be supplied from land during their stay at the port (so-called cold ironing). Thanks to the implementation of state-of-the art and environmentally-friendly solutions, the new terminal meets the highest safety standards in the Baltic Sea basin.

The main objective of the ongoing projects is to enable the calling of much larger container and bulk ships, up to 400 m long and 58 m wide, with a maximum draft of -15 m, and to improve navigation conditions and the safety of hydraulic structures. To meet this assumption, it is required to rebuild 4 km of the Port Channel and about 1.5 km of quays. The key task was to increase the diameter of turntable No. 2 – from 385 to 400 m. In order to improve the navigation safety of ships and maintain the appropriate width of the Channel, it was necessary to widen the Inner Entrance (extend the width at the bottom to 140 m), rebuild the Northern Spur and the Port Quay with a wave attenuator.

The Port of Gdynia goes to the sea

Currently, the largest project in progress – the External Port at the Port of Gdynia – is consistent with economic and logistic trends, while giving the port prospects for development for the next 100 years. The external port's new universal pier with an area of 150 hectares and a target capacity of 2.5 million TEU annually will enable the handling of container ocean-going vessels with Baltmax parameters, meaning up to 430 metres long (up to 490 metres in the longer term), and up to 60 metres wide (about 70 m in the longer term) and a draft of up to 15.5 metres.

The undertaking has been recognised as a key project in the TEN-T Baltic-Adriatic Corridor in the Gdynia transport hub. It is the largest project in the history of the Polish PPP market, with an estimated value of capital expenditure exceeding PLN 5.5 billion. The first ships should call at the External Port in Gdynia in 2028/29.



PORT SZCZECIN-ŚWINOUJŚCIE



Situated on the estuary of the Oder River, Szczecin-Świnoujście is one of the largest universal port complexes on the Baltic Sea.

Ports of Szczecin and Świnoujście are very important links in the integrated transport system. They are:

- parts of the TEN-T core network,
- components of the Baltic-Adriatic TEN-T Corridor,
- links to the CETC (Central European Transport Corridor) and the Scandinavian-Mediterranean Corridor,
- connections to the large transport network in their hinterland.

The excellent location of Szczecin and Świnoujście seaports provides access to all modes of transport, including environmentally friendly ones, such as sea, inland waterway (E-30) and rail (CE-59, E-59). Motorways A11 and A20 connect the ports with the European system of motorways, and expressway S3 (E-65) provides access to the south of Poland, Czechia, Slovakia and the South of Europe.

In the southern part of the Świnoujście seaport, situated is a ferry terminal, a leader in providing ferry services to and from Scandinavia. Additionally, the port of Świnoujście operates a dry-bulk terminal handling such cargoes as grain, coal and ore, whereas the northern part of the port provides modern infrastructure for LNG vessels. The port of Szczecin handles both general cargo, including containers, steel products and project cargo, as well as dry and liquid bulk. The two ports offer loading and storage of food and agricultural products. The total cargo handling in the two ports is about 32 million tons.

The Szczecin-Świnoujście Seaports Authority provides management of the ports. The Authority is a joint stock company owned by the State Treasury. While implementing its investment policy, the Ports Authority has been very successful in attracting EU funds. With respect to the utilization of the EU funding, it is the leader in the West Pomerania Province.

The ports have been implementing a comprehensive investment programme worth EUR 3 billion. All investment projects adhere to the highest possible industry standards with due respect to the natural environment. After its completion in 2050, the annual handling capacity is expected to triple.

The Szczecin and Świnoujście Seaports Authority has been encouraging investors to finance the building and operation of their own terminals, as well as to develop port industry. Parties interested may enjoy water and land access infrastructure, as well as technical facilities. The ports still have 140 ha of investment land to be developed by investors in the future. Investors may rely on the Seaports Authority (ZMPSiŚ SA) for close collaboration at all stages of project pre-work and implementation.

The Authority offers land for long-term lease and other preferential terms and conditions. Our mission is to provide conditions conducive to the development of seaports in Szczecin and Świnoujście, the most universal port complex on the Southern Baltic Sea.



Good access to the European transport system



Container terminal



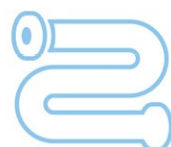
Modern ferry terminal



General cargo terminal



Dry bulk terminal handling such cargoes as grain, coal and ore



Liquid bulk cargo terminal

PORTS OF MANY POSSIBILITIES



port.szczecin.pl

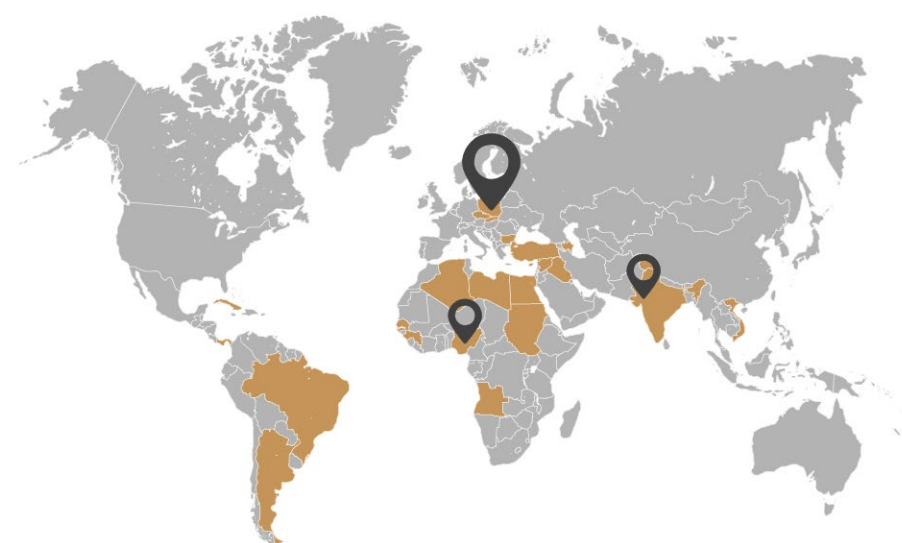
WE DESIGN A NEW REALITY

PROJMORS is one of the oldest design offices in Poland. We specialize in hydrotechnical design, including offshore wind power engineering, industrial, public and military design.

Our clients include almost all offshore wind power engineering investors in Poland, several global design offices, ports, shipyards, maritime authorities, as well as the military, police and organisations managing the national defence infrastructure and NATO infrastructure.

We are able to maintain our reputation through our commitment to offering high quality services and our flexible approach to the clients' needs.

PROJMORS has provided services in multiple locations around the world. Currently we have international offices in India and Nigeria.



WWW.PROJMORS.PL

PROJMORS@PROJMORS.PL

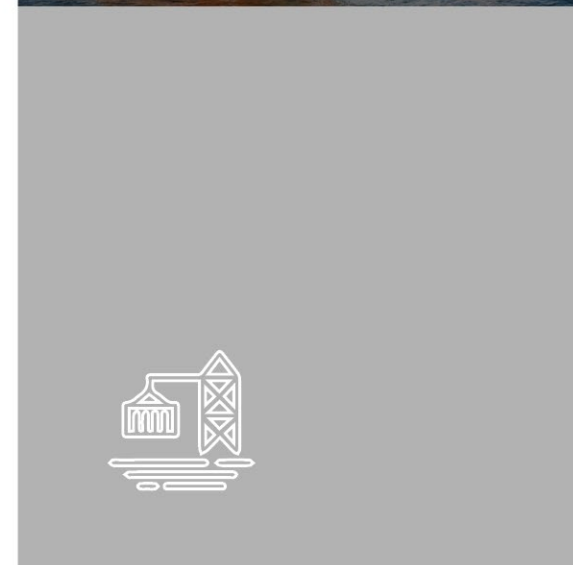
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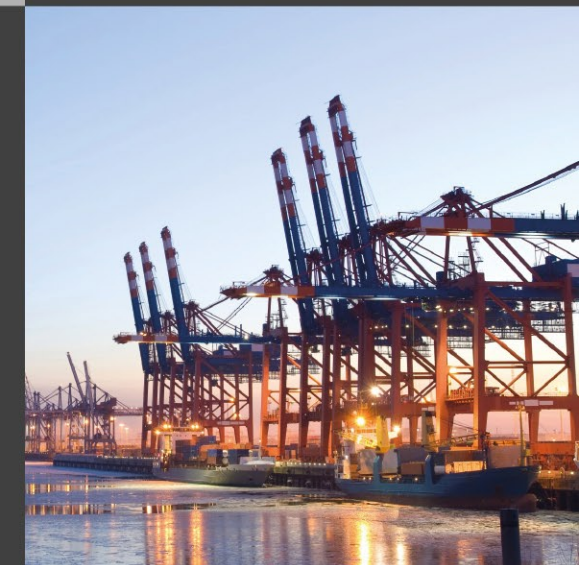
110

Employees



282

Completed projects
in 2017-2022

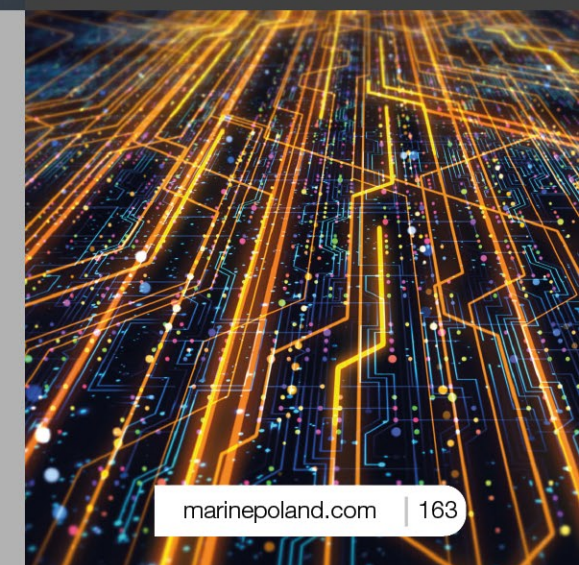


75

Years on Polish market



Offshore wind farm
projects



The principal business activity embraces:

1. Primarily, the production of all kinds of ship windows and portholes
2. Yacht windows and portholes
3. Some types are:
 - cabin windows with and without deadlight;
 - wheelhouse windows with different geometric shapes;
 - A60, A30 and A0 class windows without or with electroheating glass;

- windows with electro-heating glasses;
- windows with anti-reflective and bulletproof glasses;
- horizontal sliding windows;
- vertical sliding windows with balance spring/damper;
- all other ship window fitments according to customer's requirements and specifications;

This also applies to fixed sidelight portholes.



The aim of the company "PROMAP" is to raise the profile of its products along with taking care of self-development.

The potential customers are given technical backup at their disposal and we are able to offer an optimal solution and fulfill our customers' needs.

All the products of our company meet all the definite requirements and standards in this area (such as ISO, MED) and also requirements of classification societies.

The company has many years experience and expertise in producing custom build ship windows for cruise liners, yachts, ferries also. Hence, we are prepared to be receptive to all innovations and technical new developments. We supply a large range of products as well as materials (mainly profiles) used in production.

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Ludwikowo 2a, St., 85-502 Bydgoszcz, Poland

phone: +48 52 321 61 31,
fax: +48 52 376 47 26
e-mail: office@promap.eu

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PROMAP a limited liability company with its headquarters in Bydgoszcz, Ludwikowo 2a, Poland was founded in 1995 and is a member of van Wingerden Group, with trade name, wigo head office Vuren - Holland.

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www.**promap**.eu



POLSKI REJESTR STATKÓW S.A.

PRS is an independent expert company providing surveys, certification and advisory services for companies from various industries all over the world.

Our services are divided into below areas:

✦ Ship surveys that is:

- classification and statutory surveys of sea-going ships, including naval ships and special craft, inland waterways vessels, yachts and boats, and other vessels, as well as facilities related to the exploration and exploitation of the sea and water bodies,
- survey of the construction, modification and repair of the above mentioned objects,
- technical supervision over the production of materials and equipment of ships including Type Approval Certification,
- approval of manufacturing and repair plants, research stations, laboratories and measurement service suppliers,
- survey of containers under construction and in service, testing, inspection and approval of containers,
- development of ship stability and cargo software for specific ships,
- reporting, monitoring and verification of CO2 emission from ships,
- Verification of the Inventory of Hazardous Materials declaration
- ship tonnage measurement,
- certification for compliance with ISM and ISPS Code and the requirements of MLC 2006,
- type approval of products, so called EU RO Mutual Recognition,
- advice to ship-owners in emergency situations (e.g. Emergency Response Center),
- CAP survey, assessment and certification,
- approval of method 2 for determining the verified container weight,
- underwater surveys by PRS own diving team;

✦ Industrial Surveys covering:

- technical supervision over cubature and hydro-technical construction as well as construction and operation of environmental protection objects,
- technical supervision over the construction and operation of pipelines, transportation systems for gas, oil and petroleum products, power, cooling equipment and industrial installations,
- technical supervision over the construction and operation of roads, bridges and related facilities,

- certification and supervision over the design, construction and operation of fixed offshore platforms, based on own regulations,
- certification of offshore wind power plants components,
- supervision over the design, construction and operation of offshore wind farms,
- certification and supervision over the design, construction and operation of energy systems based on renewable energy sources,
- reliability and risk assessments of industrial facilities,
- technical supervision over floating objects permanently moored;

✦ Management System Certification as a certification body accredited by the Polish Centre for Accreditation for compliance with:

- ISO 9001 - quality management systems,
- ISO 14001 - environmental management systems,
- Polish Standard PN-N-18001 - occupational health and safety management systems,
- OHSAS 18001 - occupational health and safety management systems,
- ISO 45001 - health and safety management systems;
- ISO 50001 - energy management systems,
- ISO 22000 - food safety management systems,
- FSSC 22000 - food safety management systems,
- ISO/IEC 27001 - information security management systems,
- ISO 3834-2, ISO 3834-3, ISO 3834-4 - welding works,
- ISO 22301 - business continuity management systems;

✦ EMAS verification - Eco-Management and Audit Scheme, including external audits of packaging recyclers and waste holders as well as electronic and electrical equipment recovery organizations and treatment plant operators;

✦ Products Certification as a Notified Body assigned by the European Commission with no. 1463 for conformity with:

- Directive 2014/90/EU on marine equipment (MED),
- Directive 2013/53/EU on recreational craft (RCD),
- Regulation 2016/425 on personal protective equipment (PPER),
- Directive 2014/68/EU on pressure equipment (PED),
- Directive 2014/29/EU on simple pressure vessels (SPVD),
- Directive 2014/30/EU on electromagnetic compatibility (EMC),
- Regulation 305/2011 for construction products in scope of certification of factory production control (CPR);

✦ Verification of annual reports on greenhouse gas emission as an accredited and registered verifier of reports in the European Emissions Trading System (EU ETS);

✦ Persons Certification, i.e. certification of welders for metal aluminium and other metals and accredited certification of staff authorized to make permanent connections in scope of PED;

✦ Tests of ship structures flammability, like bulkheads, windows, doors (according to the scope of accreditation AB 1431) in PRS Testing Laboratory and testing of life-saving appliances and personal flotation devices as well as environmental, low-voltage, material strength and accelerated aging tests;

✦ Engineering Related Consultancy (technical appraisal and consulting, technical and financial analysis);

✦ R&D (participation in projects);

✦ Training courses and seminars.

#CommittedToSafety



CLASSIFICATION & SURVEYS



INDUSTRIAL SUPERVISION



CERTIFICATION



KNOWLEDGE SHARING



R&D



TRAINING COURSES AND SEMINARS



www.prs.pl



More at: www.offshore-conference.pl

PTMEW POLISH OFFSHORE WIND ENERGY SOCIETY

The Polish Offshore Wind Energy Society is the largest industry organization in the Baltic Sea region, which is a network of industrial cooperation and brings together primarily entities related to the production and supply of services and components for offshore wind farm projects. The aim of the Society is to support the development of offshore wind energy in Poland and to promote economic development related to offshore wind energy, based on the on the application of modern technologies and taking into account the principles of respect and protection of the environment.

Currently, PTMEW brings together about 130 entities active in the supply chains for offshore wind farm projects, either entering the sector or just building their positions in this dynamically developing sector, including a whole cross-section of suppliers - from leading manufacturers of offshore wind turbines, through suppliers of electrical components and steel structures, to suppliers of services within the so-called project development and smaller components of offshore wind farm infrastructure.

The statutory objectives of the PTMEW are implemented through, among other things:

- active participation in legislative processes leading to the creation of a friendly legal environment, enabling effective implementation of investments in offshore wind farms,
- support for companies in the offshore sector aimed at developing a production and service offer for the offshore wind energy sector, thereby increasing the competitiveness of Polish companies in the European market,
- cooperation with industry organizations, enterprises, financial institutions and public administration units responsible for the development of offshore wind energy, which aim to transfer practical experience and innovative technical solutions to increase the competitiveness of the offshore industry in Poland,
- information and promotional activities carried out through the organization of conferences, seminars and training courses addressed to entities from the public and private sectors, as well as publishing activities. The flagship event organized annually in the Tri-City by PTMEW is the International Conference entitled. "Offshore Wind – Logistics & Supplies."

The International 'Offshore Wind - Logistics & Supplies' Conference is the largest and best quality annual gathering of the offshore wind industry in the Baltic Sea Region.

Each year, several hundred prominent representatives of the supply chain: from turbine manufacturers, electrical equipment, steel structures, to installation service providers, service fleet management companies and those providing a full range of services for offshore wind projects meet under the aegis of PTMEW in the Tri-City, Poland area for two days of very detailed and substantive debates on the latest developments in technology, logistics and transportation in each area of the offshore wind project value chain.

The conference stands also for an opportunity to meet with representatives of the world's and Poland's largest financial and insurance institutions, ready to cooperate with the industry to invest in capacity, raise qualifications and the standard of production provided, as well as to guarantee contracts with customers in this demanding sector.



www.ptmew.pl

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E-mail: ptmew@ptmew.pl



POLSTEAM (POLSKA ŻEGLUGA MORSKA)

Polsteam (Polska Żegluga Morska), based in Szczecin, is one of the largest ship management companies in Europe. The main sector of the company's activity is the transport of bulk cargoes in irregular shipping on a global scale. Polsteam transports approx. 16 million tons of cargo annually. Through one of company in its Group: Unity Line, they also provides ferry services on lines between Świnoujście and Ystad and Trelleborg.

Polsteam is a state-owned company. At the same time, it creates a group of subsidiaries. The domestic companies of the Polsteam Group are dominated by joint-ventures related to sea transport. The most important of them are: Żegluga Polska S.A, Polsteam Frachtowanie, Polsteam Shipping Agency and Unity Line. The Polsteam Group also includes the Pazim company, which manages the most attractive office and hotel complex in Szczecin.

Polsteam manages and operates 54 ships with a total capacity of 2.1 million DWT, including 50 bulk carriers and four ferries. As for the size of bulk carriers, 8 vessels are classified as panamax (80,000-82,000 DWT), while the remaining 42 vessels are handysize (30,000-39,000 DWT). Some of them are called laker (or salties), i.e. oceangoing ships adapted to navigation on the American Great Lakes.

The shipowner employs approximately 2,000 seafarers and approximately 200 employees onshore. When it comes to the domestic maritime economy, Polsteam Group is the largest ship management company, and Polsteam fleet accounts for about three-quarters of all ships managed by Polish shipping companies.

The Polsteam's structure of transported goods is dominated by grain (approx. 50% of the total transport volume), requiring ships of the highest standard. These standards are confirmed by the Port State Control and U.S. Coast Guard, inspection services that carry out inspections in European and American ports.

In the category of bulk carriers, Polsteam fleet is relatively young with approx. 10 years average ship's age. Nevertheless, the ships are constantly modernized and adapted to new international regulations coming into force. At present, the Group is introducing modernisation and investment programme in relation to greenhouse gas regulations.

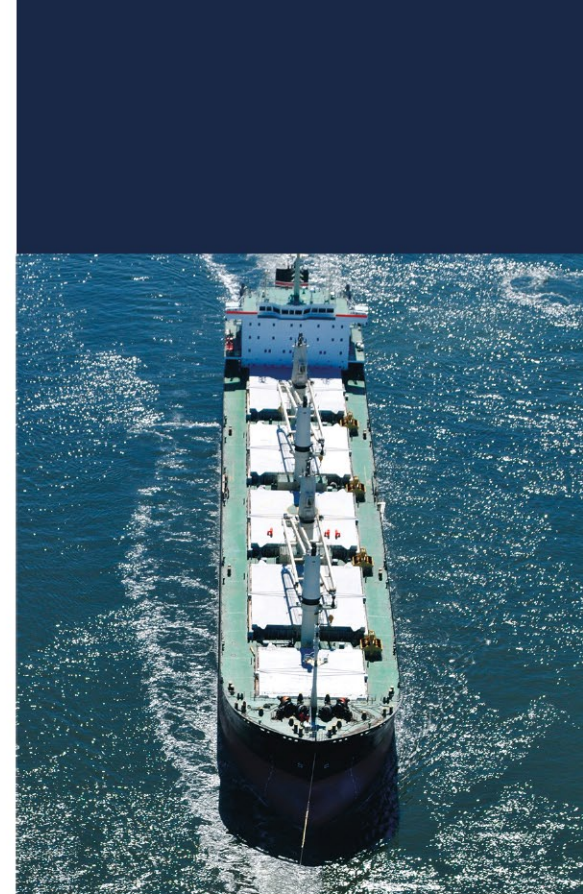
The most important market for the operation of Polsteam ships is the Atlantic market and transport between North and South Americas and Europe, North Africa and the Middle East. The market of the American Great Lakes is also very important for Polsteam, where the company operates his laker-type ships. In terms of the size of this niche fleet, the Polsteam ranks second in the world.

Polsteam commercial offer:

- World-wide bulk cargo tramping.
- Ferry service in the Baltic Sea.
- Commercial, operational and technical fleet management.
- Charter and brokerage.
- Agent service in Polish ports.
- Comprehensive technical fleet management.
- Casco insurance consulting.
- Manning with highly qualified maritime staff.
- Advice giving and intermediary service while negotiating employment terms and conditions for seafarers, including ITF standards.

FLEET:

Polsteam Group operates 54 vessels with a total tonnage of 2.1 million DWT. The fleet can be divided into panamaxes and a large group of handy-size vessels. Apart from bulkers Group operates 4 ferries: m/f Polonia, m/f Gryf, m/f Wolin, m/f Skania managed by Unity Line.



www.polsteam.com.pl

Polska Żegluga Morska
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CONSULTING

WORK AT HEIGHT TRAINING

SALES OF PPE EQUIPMENT

INSPECTIONS OF PPE

FALL ARREST SYSTEMS

SAFETY WORK AT HEIGHT

ABOUT US

ROJAM is one of the leading companies offering services using specialised techniques to perform work at heights. Our services are used by all those who work at heights in their daily lives or are just taking their first steps in this industry.

We want to ensure that everyone who works at height approaches it consciously and safely.

Work at heights is classified as particularly dangerous work and involves a high risk of accidents. It is the responsibility of every employee to undergo and complete training in this area. The equipment used during the execution of orders should be properly selected and inspected once a year.



WORK AT HEIGHT TRAINING

IRATA TRAINING FOR WORK AT HEIGHT USING ROPE ACCESS



GWO TRAINING FOR WORK ON WIND TURBINES



ITRA TRAINING IN ROPE RESCUE TECHNIQUES



INSPECTION OF PERSONAL PROTECTIVE EQUIPMENT WITH PETZL CERTIFICATE



- CONFINED SPACES TRAINING
- OTHER SPECIALIST TRAINING



SALES OF WORK AT HEIGHT EQUIPMENT

Personal protective equipment for work at height.



INSPECTIONS OF PPE

Periodic inspections of personal protective equipment against falls from a height.



FALL ARREST SYSTEMS

We carry out investments related to the permanent protection of employees working at height. Authorization by 3M.



MOBILE TRAINING CENTER

We have the ability to carry out training in almost any place thanks to our Mobile Training Center.

The trailer is certified for GWO onshore mobile training.

Our Mobile Training Center is adapted to training in safe work at height as well as confined spaces.

HEIGHT IS NO LIMIT



ROJAM
ul. Siennicka 25
80-758 Gdańsk
biuro@rojam.eu

The company is located close to the center of Gdansk city and has convenient sea, land and air connections. It makes possible the effective organization of the deliveries in the domestic relations as well as the foreign relations and also enables quick personal contacts, necessary in business relations.

Depending on the client's requirements, our products may be manufactured according to the rules and with approvals of the all major control institutions and Classification Societies.

Shipbuilding / Steel Construction Department and Ship Repair:

- Building of the vessels or another floating units with length up to 90 meters.
- Building sections and blocks of the vessels' hulls.
- Building of the hull outfitting including aluminum super-structures and wheelhouses.
- Building of the rudder blades, Kort nozzles, machining of the propulsion lines.
- Building of the steel constructions for offshore industry and constructions of bridges or viaducts.
- Transport and loading of the heavy and large-sized cargos or construction up to 330 tons with the floating crane, larger - with the operation of pushing to transport pontoon.
- Floating docks with the following parameters: length -155 m, inner width – 24m, lifting capacity – 6000Tons.

Anticorrosive Department:

- Performing anticorrosive works according to NORSOK
- M-501 standard.
- Performing fireproofing protection: Chartek, Interchar, Jotachar, Firetex certified.
- Performing floor systems eg. Hummervoll.
- Performing works according to IMO MSC resolution.
- Performing protection of waste gas desulfurization installations.
- Performing thermally sprayed aluminum and zinc.
- Well experienced management, foreman and quality control with FROSIO level III certificates.



www.safe.gdynia.pl

SAFE Co. Ltd Sp. z o.o.
80-873 Gdańsk, Na Ostrowiu 15/20, Poland
phone/fax: +48 58 350 64 78
e-mail: office@safe.gdynia.pl





Morska Służba Poszukiwania i Ratownictwa

Main tasks of **SAR** Service are searching and rescuing any person being in dangerous at sea, independently of coincidence of this danger, and sea environment pollution combating:

- maintenance in still readiness for receive and analysing notifications about life danger at sea or emergency end pollutions at sea,
- planning, realizing and coordinating of search, rescue and pollution combating actions,
- maintenance in still readiness resources for life rescue and sea pollution combating,
- cooperation with another organisations units during searching, rescuing and pollution combating actions,
- cooperation with another national rescuing systems,
- cooperation with suitable services of other countries, during realization statutory tasks.



EMERGENCY NUMBER



58 620-55-21



Mobile

mobile: (+48) 505 050 971

Maritime radio channels monitored by MRCK:

VHF - channel 11- operational communication of SAR Service

VHF - channel 16:

Associated transceiver stations

Polish Rescue Radio: VHF - channel 16

A1 DSC zone: channel 70

A2 DSC zone: 2 187.5 kHz



Hryniewickiego 10
81-340 Gdynia

SHIPART

SHIPART is an independent service company for marine and land - based industry. Many years of field experience made us what we are today: specialists in propulsions systems and gearboxes. With the same philosophy of being experts through hands-on field experience we also offer propulsion overhaul services, verification and repair of gearboxes, laser alignment services and verification of bearing condition using vibration measurement and analysis.

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www.siark-port.pl

Siark-Port Sp. z o.o. Przedsiębiorstwo Przeładunkowo-Uslugowe
80-561 Gdańsk, Pokładowa 7, Poland
phone: (58)-768-67-56
e-mail: biuro@siark-port.pl



THE YEAR 2022 IN NUMBERS:

1.8 million of tons handled • 130 ships • 54 thousand trucks handled
34 employees • 31 years on the market

We believe that effective cargo handling is shaped by a combination of timing, skilled employees and application of appropriate technical and operational solutions. As a company, we put emphasis on the training and compliance with safety rules by our staff. We highly value feedback from our customers, as it helps us to improve our service, both technology and quality wise.





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WUPROHYD Ltd.
Design office

81-456 Gdynia, Kopernika Str. 78, Poland


















































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Offshore wind is picking up pace...

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landmark step towards the dynamic development of this new sector in Poland – although the industry is well aware that the potential of the Polish part of the Baltic Sea is much greater! This year, we will talk about what is needed to make the most of Poland's potential, both with regard to energy production and to the industrial and service potential of Polish companies.

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