



**ALWAYS SIGNIFICANT  
IN THEIR CLASS**

Member of DIV GROUP



## OUR HISTORY

**SHIPBUILDING INDUSTRY SPLIT Inc.** is located in Split, the regional centre of the east Adriatic coast and the second largest city in Croatia with a history going all the way back to the Roman emperor Diocletian. Significant development of shipbuilding in this area began by the establishment of several small service shipyards which merged in 1922. Brodosplit has been situated in its current location since 1932.

The location in the north area of Split, in Kaštela Bay, is extremely favourable and includes all required infra and suprastructure for shipbuilding activities. Passenger and cargo ports are in close vicinity, both are among the largest ports in Croatia and the Mediterranean. The international airport is only twenty kilometres away, while a ten-minute walk takes you to the city centre with all of its historical and cultural tourist attractions. In this location, Brodosplit grew to become **the largest Croatian shipyard, with a surface of 599.569 square meters**. Strong expansion of Brodosplit and the placement of its products on a demanding world market began in the second half of the last century.



The power that Brodosplit enjoys in international shipbuilding circles today, along with the trust of its many clients, are the result of many years of successful high-quality work and a wide product range. Brodosplit product quality is recognized all over the world by buyer and builder alike.





## OVERVIEW

**Our strong technological edge enables us to build world-class vessels, as well as develop advanced solutions, tailored to the needs of the clients deploying them.**

The wide use of modern ICT technology that ensures speed, precision and optimal production plays a special role in shipbuilding. Combined metal sheet cutting technology (plasma underwater cutting and oxyacetylene cutting) is used in manufacturing processes. Two robot devices, also using combined technology, are used in the manufacturing of profiles. The cutting capacity while working in mirror mode is 1,200,000 meters per year, or about 137 meters per hour. Manufacturing lines are supported by automated and robot stations. Every phase from design to delivery occurs in the shipyard. It is no longer “mission impossible” to produce a modern and sophisticated ship. This can be attributed to the creative solutions of Brodosplit experts and the quality of subcontracted companies, suppliers and associates. While cooperating with clients from the very beginning, the shipyard design team is capable of producing a design, and the production team can successfully complete a project in accordance with quite specific requirements and wishes of a ship owner. This represents the greatest advantage of Brodosplit.





In this context, special tankers that Split shipyard delivered for a Greek client are quite interesting. This is the first such design in the world; we built ships with a cargo carrying capacity of 2000 tons, a combination of tanker and ro-ro ship. These ships fulfil two important functions at the same time: they transport oil products from the mainland to Greek islands, and they also transport trucks by which the oil is further distributed throughout the islands.



During the last ten years Brodosplit's oil tanker was its most acknowledged product on the world market. The most prominent were tankers with a cargo carrying capacity of 65,000 tons for navigation in ice covered waters, class 1A and 1B. These ships are specially designed to fulfil the highest standards of ecological and navigational safety with two separate engine rooms and a 30% increase in cargo carrying capacity in relation to standard tankers of that size. Oil tanker Stena Paris from that series was awarded Ship of the Year in its class by The Royal Institution of Naval Architects (RINA) in 2005. Brodosplit is among the few shipyards that can build this kind of vessel, particularly in demand in today's market, because of its sophisticated design intended for ice covered water surfaces.

Mari Ugland is another in the long line of awarded ships built on Brodosplit slipways. It is an oil tanker for navigation in ice covered areas with a cargo carrying capacity of 74,999 tons that was also awarded the Ship of the Year Award in 2008 by RINA.

In the late eighties and early nineties Brodosplit built four ships for transportation of passengers and cars for Baltic companies Viking Line and Sealink. **American maritime magazine Maritime Reporter and Engineering News awarded three ships from this series Ship of the Year for 1988, 1989 and 1992 (Amorella, Isabella, Frans Suell).**

Very similar to a mentioned projects is a ship for transport of passengers ship for transportation of passengers and cars built by Brodosplit in 2011 for French client CMN. It shows the core business focus of Brodosplit: building more complex ships. At the same time, company management continuously works on rationalization of building and shortening delivery deadlines in order to keep a competitive position in the international market. This ship is a sophisticated RoPax built according to the newly established SOLAS 2009, BUREAU VERITAS 2008 and the Stockholm Treaty regulations, by which the highest standards of stability, safety at sea and environmental protection are ensured with the highest level of comfort in its class.

- **During last eighty years the shipyard has delivered more than 400 ships with an overall cargo carrying capacity of more than 12 million tons.**
- **80% of Brodosplit production is for foreign clients.**
- **Many of these ships were given awards by respectable international institutions. Thirteen ships from Split slipways have been on the lists of the best projects in their categories in the last twenty years alone.**







Brodosplit can design and build all known types of ships and special constructions, such as towers for wind power plants, roof constructions for sports halls (Spaladium Arena), oil platform piles (Labin, Ivana A), various types of cranes for hydroelectric power plants (HE Lešće) and electric power plants (TS Dugopolje) and ship and roof cranes for the restoration of cultural heritage monuments, such as Temple of Jupiter in Diocletian's Palace.



Rigorous quality control is carried out and all products have a warranty period during which all observed or emerging imperfections are speedily and efficiently removed in close cooperation with the shipyard experts and the client. The company has had a certificate of Quality management ISO 9001 since 2007.

Integral parts of Brodosplit's business management policy include the systematic investment in quality and education of employees through the Training and Employment Program for Vocations in Demand, such as welders, ship pipefitters and crane operators, and the granting of scholarships to pupils and students in shipbuilding vocations.

## GLOBAL OPERATIONS

**The company's record of excellence, pre and post-delivery services and its proven ability to remain within budget have been underpinned by a history of repeat business from respected international clients.**

The company continuously follows contemporary world achievements in the shipbuilding sector and successfully applies them in practice through their own efforts, and in cooperation with scientific-research institutes. Competitive prices, high quality and excellent maritime characteristics of built ships help to expand the list of new Brodosplit ship owners beyond the existing clients in Argentina, Brazil, Venezuela, UK, Finland, Greece, Norway, Sweden, Poland, Germany, Switzerland, Russia, India, Liberia, Nigeria, Pakistan, Mexico and USA.

Our shipbuilders' many years of experience and professionalism in construction of sophisticated ships for different purposes - from passenger to container ships, from liquid and bulk cargo carrier ships to military ships - make Brodosplit a successful and internationally recognized shipyard.

- **SHIPBUILDING**
- **OFFSHORE AND ONSHORE ENGINEERING**
- **RENEWABLE ENERGY**
- **INDUSTRIAL PLANT & ENGINEERING**











## REFERENCES

BRODOSPLIT has a long tradition and experience in designing and building a wide range of ships: tankers, product / chemical / bulk carriers, OBO and COMBO vessels, container vessels, refrigerated cargo vessels, passenger vessels, car passenger ferries, luxury motor yachts, dredgers and naval ships, with high quality and good maritime characteristics / performance.

**It is a place where a ship of 280 meters of length and 166,000 dwt was launched in one piece.**

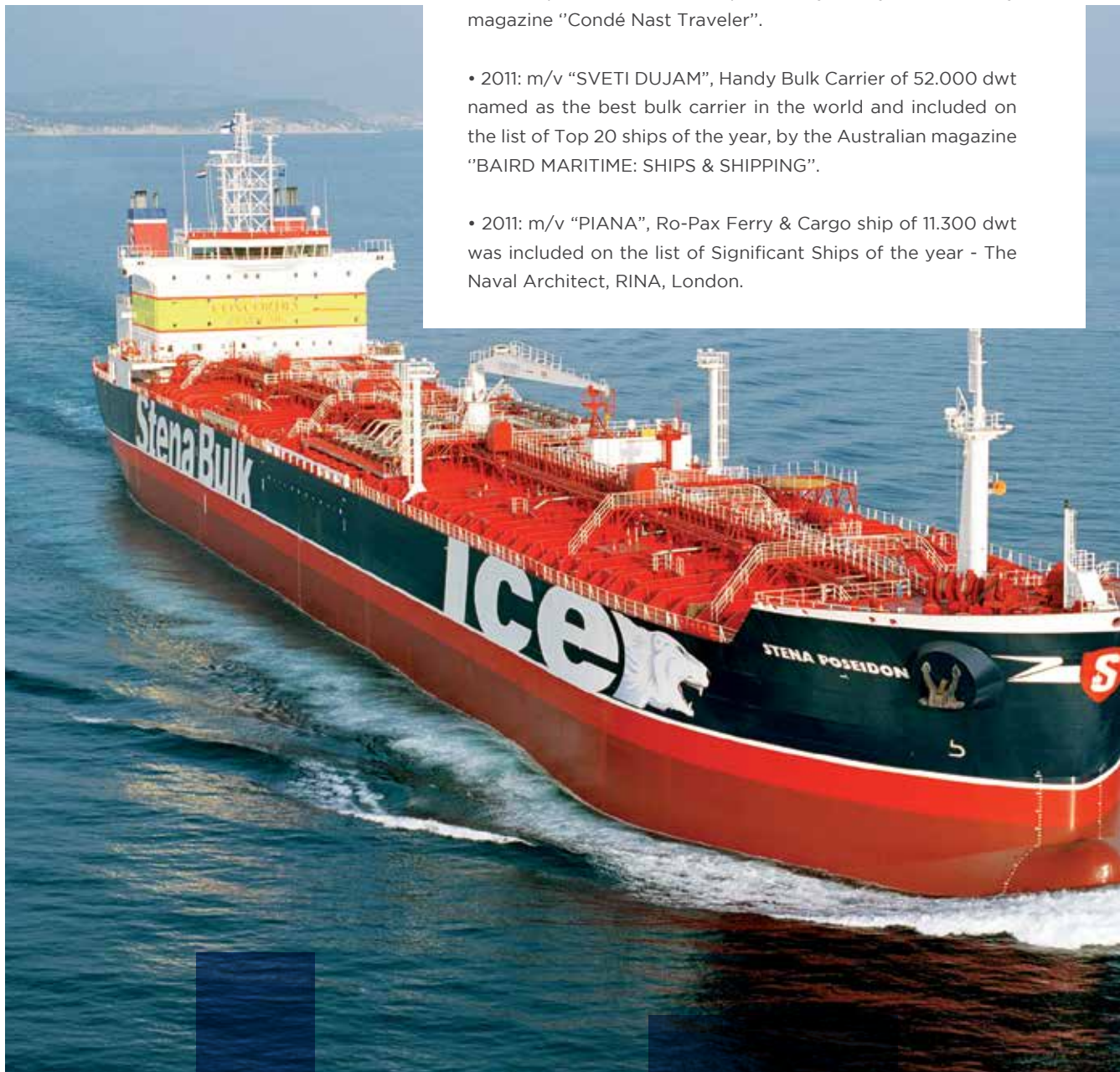
**Our ships were rewarded by many prizes from international institutions, including Significant Ship of the year by RINA, as best projects in their classes in the years of their delivery.**



• 2013: m/v "ARETHUSA", Passenger Cruise Ship named as the best small cruise ship in the world and included on the list of Top 20 small cruise ships of the year, by the UK luxury magazine "Condé Nast Traveler".

• 2011: m/v "SVETI DUJAM", Handy Bulk Carrier of 52.000 dwt named as the best bulk carrier in the world and included on the list of Top 20 ships of the year, by the Australian magazine "BAIRD MARITIME: SHIPS & SHIPPING".

• 2011: m/v "PIANA", Ro-Pax Ferry & Cargo ship of 11.300 dwt was included on the list of Significant Ships of the year - The Naval Architect, RINA, London.



• 2011: m/v "ORANGE STAR", Handy Orange Juice Carrier of 35.750 dwt was included on the list of Significant Ships of the year - The Naval Architect, RINA, London.

• 2009: m/v "STENA PROGRESS", Oil Product Tanker of 65.056 dwt named as the best tanker in the world and included on the list of Top 12 ships of the year, by the Australian magazine "SHIPS & SHIPPING".

• 2008: m/v "MARI UGLAND", Oil Product Tanker of 74.999 dwt was included on the list of Significant Ships of the year - The Naval Architect published by RINA, London.

• 2006: m/v "STENA PERFORMANCE", Oil Product Tanker of 65.000 dwt was included on the list of Distinctive Ships of the year, by the US magazine "Marine Log".





- 2005: m/v "STENA PARIS", Oil Product Tanker of 65.000 dwt was included on the list of Significant Ships of the year - The Naval Architect published by RINA, London.

- 1999: m/v "PODRAVINA", Oil Product/Chemical Tanker of 44.000 dwt was included on the list of Significant Ships of the year - The Naval Architect published by RINA, London.

- 1992: Car Passenger ferry "FRANS SUELL" of 4105 dwt, has been chosen as one of the Most Outstanding Ships of the year, by the US magazine "Maritime Reporter & Engineering News".



- 1990-1992: delivered of four (4) Oil Product Tankers (SUEZMAX size), one of which, "JAHRE TRAVELLER", has been chosen in year 1990 as one of the Most Outstanding Ships of the year, by the US magazine "Maritime Reporter & Engineering News".

- 1989: Car Passenger ferry "ISABELLA" of 4105 dwt, has been chosen as one of the Most Outstanding Ships of the year, by the US magazine "Maritime Reporter & Engineering News".







- 1988: Car Passenger ferry "AMORELLA" of 4105 dwt, has been chosen as one of the Most Outstanding Ships of the year, by the US magazine "Maritime Reporter & Engineering News".

- 1987: m/v "KRITI COLOR", Oil Product Tanker of 43.305 dwt has been chosen as one of the Most Outstanding Ships of the year, by the US magazine "Maritime Reporter & Engineering News".



## MATERIAL PRE-PROCESSING

All metal sheets and profiles go through a surface cleaning process (shot blasting) and an anticorrosion process (one coating of protection) upon entering the production process.

### Line for anticorrosion protection of sheets

## CUTTING OF METAL SHEETS AND PROFILES

- two plasma underwater cutting machines CNC ESAB Telerex TXB 9200 for cutting (straight or angle cut) and marking of metal sheets (shipbuilding steel, aluminium, stainless steel)
- plasma underwater cutting oxyacetylene machine CNC ESAB NXB 6000 for cutting and marking (shipbuilding steel, aluminium, stainless steel)
- plasma underwater cutting machine CNC ESAB NUMOREX NXB 6500 for cutting of metal sheets
- two CNC ESAB ERGOREXI EXA 6500 machines for cutting of metal sheets with acetylene and oxygen
- machine for automated longitudinal cutting of metal sheets (AUR)
- two TTS-Norway line for profile cutting and marking with robot cutting station

## SHAPING OF METAL SHEETS

- large roller for circular metal sheet bending
- small roller for circular metal sheet bending
- horizontal press 1000 t and 2 G presses (300 t, 200 t)
- cutting station







## LINE FOR MAKING OF FLAT PANELS

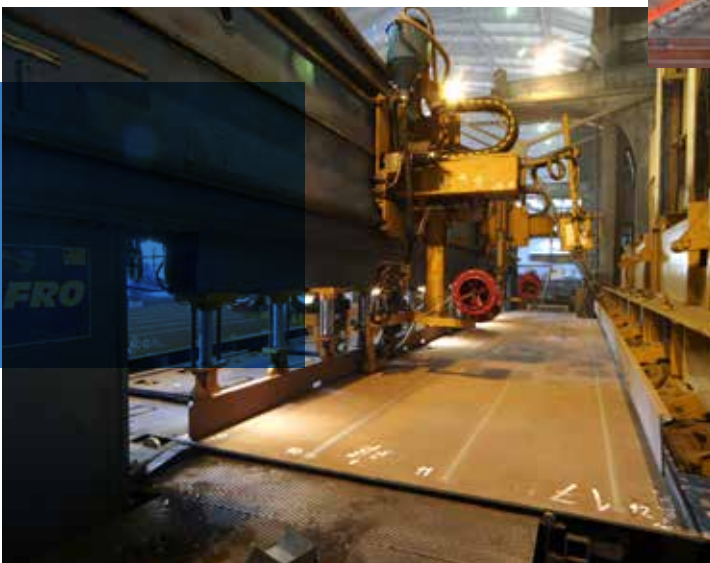
- metal sheets - 400 x 3.200 mm (min. panel) / 13.000 x 18.000 mm (max. panel)
- automatic powder welding of metal sheets (thickness 4 - 25 mm)
- trimming of panels, sand blasting of positions of panel stiffeners, marking of theoretical panel lines
- 3-axis gas cutting (oxyacetylene) CNC ESAB
- installation and welding of stiffeners



## ASSEMBLY LINE (SEMI) SECTION

### Gantry-Type Fabrication Portal

- rails span: 14.500 mm
- rails track: 35.000 mm







### GANTRY WELDING

- rails span: 14.500 mm
- number of semi-automated welding devices: 6
- lift capacity: 250 kg
- 6 working places with connections for gas cutting

### TRAIN FOR TRANSPORT OF SHIP SECTIONS

- train cargo carrying capacity: 160 t
- length of train: 19 m
- lifting height: 100 mm
- length of railway tracks: 210 m

### TRANSPORT OF MEGA SECTIONS

- SELF-PROPELLED MODULAR TRANSPORTERS
- The self-propelled, electronically steered heavy load combination
- Extremely robust, extremely strong
- SPMT modular system - 2 X 4-axle SPMT/2 X 6-axle SPMT
- Drive unit 2 X PPU Z250
- Max. payload 600 tons

### OUTPUT STATION FOR SHIP SECTIONS

- cargo carrying capacity of hydraulic lifting platform: 160 t
- length of hydraulic girders: 16 m
- lifting height: 1800 mm



## **ROBOT LINE FOR MAKING OF SHIP ASSEMBLIES**

### **WELDING FLOOR**

- placing and fixing of processing parts
- marking and welding of steel parts

### **GANTRY-TYPE WELDING WITH ROBOT**

- rails width: approximately 6.5 m
- rails span (from the middle of the tracks): 5 m
- robot's area of work: approximately 3 x 28 m
- speed of movement: approximately 20 m/min
- tracks type: 2 x 32 m

## **ROBOTIC WELDING SYSTEM**

### **ROBOT - STANDARDISED INDUSTRIAL ROBOT MANUFACTURED BY MOTOMAN**

- number of robots: 1
- type: Motoman UP20
- control unit: YASNAC XRC



### WELDING SYSTEM

- electric power supply for welding: Fronius TP4000 Synergic MIG/MAG
- wire feeders for wire diameters from 0.8 to 1.2 mm
- type: Ultramatic
- welding gun with 36° angle, RA300: 320 A/100%

### SPECIAL REQUIREMENT FOR WELDING – SAND BLASTING OF PROFILE BORDERS (STIFFENERS)

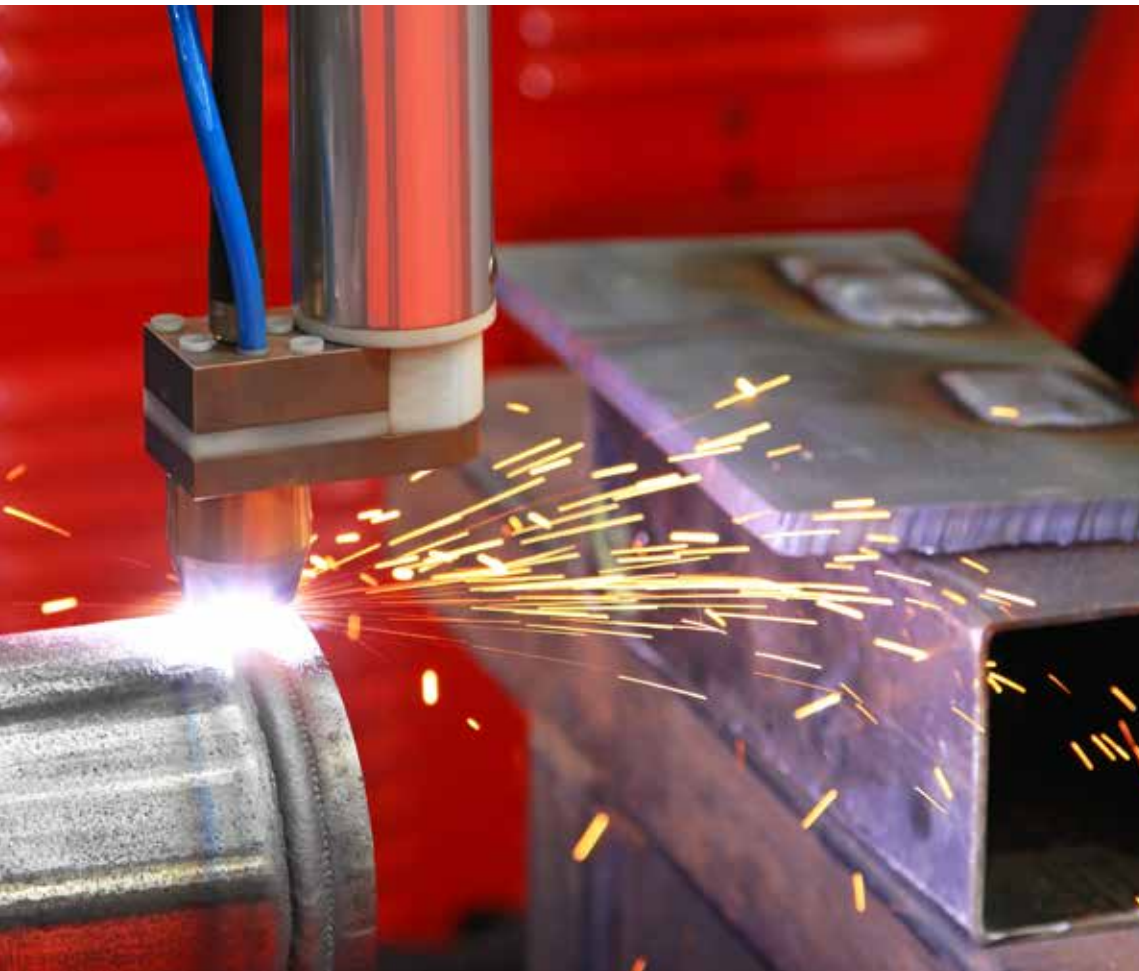
### WELD MONITORING SYSTEM

- type of welding sensor: ComArc - weld monitoring system and determination of initial welding position

### WELDING NOZZLE CLEANING SYSTEM

- automated system for nozzle cleaning: Motoman
- Impact sensor – Welding gun holder has built-in protection from possible impact with obstacles





### **DEGASIFICATION**

- type of exhaust device: Effex MB500A

### **AUTOMATED LINE FOR MAKING OF SHIP ASSEMBLIES**

- number of working units: 6 x 2
- unit length: 13 m
- working unit width, effective width of working surface: 3.5 m
- max. load capacity of working unit: 5000 kg
- max. point load: 500 kg
- drive engine, electric 0.37 KW: 2 per working unit

### **WORKING UNITS TRANSPORT SYSTEM**

- two lifting platforms for loading and unloading;
- four immobile platforms on upper transport level

### **GANTRY-TYPE POSITIONING OF STIFFENERS (SWG)**

- type: semi-gantry
- movement span: approximately 30 m
- control unit: hanging bracket with control unit

## MAGNETIC GIRDER WITH EQUIPMENT

- magnetic girder lifting: hydraulic
- lifting height: approximately 640 mm
- trolley turning: manual 390°
- cylinder pressure force: approximately 1.500 kg
- number of magnets: 5
- change of positions of external magnets: on both sides 500 mm
- cargo carrying capacity of magnets (SWL): 400 kg
- recommended profile length: approximately 5-6 m
- depending on profile weight and stiffness, magnetic girder can be used for assembling longer profiles than indicated

## WELDING EQUIPMENT

- quantity: 1 set
- type: ESAB MIG 325
- wire feeder unit: ESAB Feed 30-4,M13i
- welding gun: PSF 305 4.5m

## EQUIPMENT FOR HEAT TREATMENT IN WELDING PROCESSES

- RESISTANCE HEATING POWER SUPPLY
- Type THERMOCONTROL ARES R6 BT 70/MSA/80
- Induction Heating
- Resistance Heating
- 6 independent thermocouple outputs

## AUTOMATED GANTRY-TYPE WELDING MACHINE (AWG)

- type: semi-gantry
- movement speed, variable: 0 - 10 m/min
- movement length: approximately 30 m

## AUTOMATED GANTRY-TYPE ANGLE WELDING MACHINE CAN WELD IN ALL DIRECTIONS IN HORIZONTAL PLANE

- quantity: 1 pc.
- type: ESAB MBVA-330 or similar
- welding equipment: 2 pcs. A2-S MIG/MAG

## EQUIPMENT FOR HEAT TREATMENT IN WELDING PROCESSES

- PHASED ARRAY FLAW DETECTOR - TOFD
- Type OmniScan MX2
- Weld Inspection of Small-Diameter Pipes
- Pressure Vessel Weld Inspection
- Composite Inspection
- Corrosion Mapping Inspection



### CONSOLE HOLDERS

- number of console holders: 3 pcs.
- console length (from rotation centre to the farthest point of console): approximately 6 m

### WELDING EQUIPMENT

- quantity: 1 set per holder
- type: ESAB MIG 400tw
- wire feeder unit: ESAB Feed 30-4w,M13i
- welding gun: PSF 510W 4,5m







# OPENING A **NEW ERA**

## **HISTORICAL STEP FOR BRODOSPLIT – BUILDING OF STEEL FLOODGATES TO SAVE VENICE FROM FLOODING**

Costruzioni Mose Arsenale (COMAR) and Shipbuilding Industry Split Inc. signed an agreement for building 41 steel floodgates in Venice. Brodosplit won this project on a highly competitive international tender. The floodgates will be installed at the mouth of Malamocco and Chioggia, two out of three mouths leading from Venetian Lagoon towards Venice, with the purpose of stopping the effect of tide on the City of Venice.

As Tomislav Debeljak, Brodosplit's Chief Executive Officer, pointed out, Brodosplit is extremely proud of this Contract because they won it on an international tender, among very strong competitors – shipbuilders and steel construction manufacturers. It will remain listed as one of the companies that participated in one of the biggest Italian construction projects ever, worth more than 7 billion euros and contributing to saving Venice from problems caused by tide. Brodosplit will deliver 41 steel floodgates, with dimensions of 29 x 24 meters, thickness of 6 meters and weight of 300 tons. Works are to commence immediately. Several hundred workers will be engaged during a period of two years. Three floodgates at a time will be loaded on a special cargo barge and tugged to the estuary where they will be installed, in cycles of 90 days after making, depending on the requested dynamics. The work on several floodgates will proceed simultaneously.





Floodgates are designed as special tanks filled with air or water. When they are filled with water, they will lie down at the sea bottom, and when they are filled with air, they will be lifted up to the sea surface and used for closing the entrances to the Lagoon. When air is drawn out, they will be filled with water again and will go down to the bottom of the sea.

Currently, the sea floods Venice about 50 times per year, mostly in autumn and winter months, and the entire City gets flooded once in five years. Italian architectural-construction consortium chose Split Shipyard on this tender because of experience and expert knowledge of its shipbuilders. The authority and trust that Brodosplit's experts enjoy among its many clients are a result of many years of successful work and high quality of various production assortment. Total project executed by Brodosplit includes over 12,000 tons of built-in steel, with overall works and logistics value of about 50 million.



The project of saving Venice from sinking is called MOSE (Italian abbreviation for Modulo Sperimentale Elettromeccanico), and the title itself can be an association to the Old Testament and Moses, who divided the Red Sea. It is planned that three canals leading to the Venetian Lagoon will be closed prior to the tide coming from the open sea. They are Mouths of Lido, Malamocco and Chioggia, and project envisages installation of 80 floodgates with 50 years lifecycle. The project is an integrated protection system consisting of mobile floodgates capable of separating the Venetian Lagoon from the Adriatic Sea in cases of tide higher than the established level (110 cm) up to the maximum of three meters. During this several hours the Venetian Lagoon would be closed for boat traffic.

## BRODOSPLIT IS BUILDING THE LARGEST SAILING BOAT IN THE WORLD

Brodosplit Shipyard is building the largest square-rigged ship for a Monaco buyer, for which they already concluded Building Agreement with the Company Star Clippers Ltd. It will be 162 meters long and 18.5 meters wide, with deadweight of 2000 tons, five masts and sails, with overall surface of 6.347 square meters. The type of Clipper sailing boat with such sail-plan is called a barque. Marine platform that will be at the stern will be equipped with the mechanism for opening and lowering until the sea level so that the passengers will have direct sea access.

Three swimming-pools with fresh or sea water and underwater lights, heating and bubbles are planned on the ship as well. One of the pools could be used for diving, and the largest swimming pool will have the volume of 50 cubic meters. There will be five decks, with accommodation for 450 persons, 300 passengers in 150 luxury cabins, and 74 crew cabins for 150 crew members. This ship is specific for its sails, which will be operated by only a few crew members, but also by passengers if they wish. The ship is intended exclusively for sailing, although it will have two fully independent electric propulsion engines. It will have the Safe Return to Port system that will be installed in Croatia for the first time. Everything will be literally doubled on the ship so that, in case of any defect, fire or flooding of any space or zone on the ship, the ship will be able to return safely to port from the distance of almost 2000 NM, which is the farthest point from land to sea. It is planned that the ship will be able to sail in all seas of the world, even in the Arctic and Antarctic regions, so it will be built to comply with Ice Class Requirements. The ship's speed with the sails will be around 16 knots, and it is envisaged that it will be able to navigate up to 20 knots under the favorable weather conditions and operated by capable crew. It will navigate at 16 knots of speed powered by its two engines, it will have pitch propellers, bow thruster and two rudders enabling it with extreme maneuvering abilities.







## BRODOSPLIT BUILT SOPHISTICATED HEAVY-LIFT VESSELS

Building of the most complex projects in the history of Split Shipyard is completed. Heavy cargo vessels 'Jumbo Kinetic' and 'Fairmaster' contracted for Dutch buyer, Company Jumbo, have been delivered. Besides a number of technical specificities, the ships are mostly used for transport and set up of extremely heavy and valuable equipment for undersea oil platforms, as well as heavy lifter. Each is 152 meters long and 27 meters wide, and is equipped with two cranes, each with maximal lifting capacity of 1,500 tons, or jointly up to 3000 tons, which is currently the largest cargo lifting capacity in this ship class in the world. Deadweight of the ships amounts to 14 thousand tons at 8.1 meters draft, and speed of 17 knots is ensured by two 4500 kW engines working at 750 revolutions per minute. Storage space, with dimensional tolerances of barely few millimeters, consists of several dozens of covers. By rearranging these covers, storage space can be adapted to the type of transported cargo. Covers can be put at any position in regard to their width or height, therefore the mentioned dimensional precision of the storage space was of extreme importance and as such represented a challenge and advanced technological preparation for the Shipyard. Apart from the specific characteristics of the hull of this design, it is also special because of very sophisticated equipment built in relatively small technical spaces of the ship, during which respecting technology and advanced shipbuilding solutions was part of everyday work for the shipbuilder throughout the realization of this project. Thanks to this, we are witnesses to a completely automated high-quality vessel built in accordance with the highest shipbuilding standards and class notations. Ships are built in Lloyd's Register class "1A super", which means that they can break up to one meter thick ice without the assistance of icebreaker, and their realization represents very good references in the niche of specialized vessels with high added value, as one of the core business activities of Brodosplit.







### **BRODOSPLIT BUILT 'GRAND BLOCKS' FOR FINCANTIERI GROUP**

The most demanding part of ship's hull that includes bulbous bow, bow structure with three built-in bow-thrusters, few ballast tanks and hull structure consisting of several decks with built-in equipment was loaded on a special cargo barge in Brodosplit Shipyard on December 2014 and towed to Monfalcone Shipyard where they are assembled on the ship built in dry dock. This is first and unique project for shipbuilders from Split who, by building sections or so called 'grand-blocks', became equal business partner to one of the largest shipbuilding groups in the world – Fincantieri group, in joint building of luxury passenger cruiser. After expressing its satisfaction with delivered blocks, and being convinced of extreme quality, possibilities and competitive offer from Brodosplit, Fincantieri decided to accept Brodosplit's proposal for continuation of collaboration in the best possible way, by signing new contracts for building of new mega blocks. With this project, Brodosplit proved quality and established collaboration with its Adriatic neighbor, which employs 20,000 people all over the world for the first time in its history. In order to present the quantity and importance of contracted work, let us say that the number of working hours corresponds to that required for building of two Adriatic ferries.







## BRODOSPLIT BUILT COASTAL PATROL VESSEL'S

It is a project of building five vessels for the needs of Croatian Navy Coastal Guard, which are supposed to enable Croatian Coastal Guard to come in tune with more modern coastal guard services on a global level. Armed forces will receive new capabilities and Brodosplit Shipyard will get a new product that we could launch further on international markets.

### MAIN CHARACTERISTICS

- Length, overall 43,50 m
- Length, on water line 39,11 m
- Breadth, max 8,00 m
- Breadth, hull 7,50 m
- Depth 3,89 m
- Draft, design TD 1,80 m
- Draft, scantling TS 2,48 m
- Speed, 90% MCR 28 knots
- Rated output 2 x 2525 kW
- Range/15 knots 1000 NM
- Crew 14+3 members



The 43.50 long vessel will be fitted with the basic weapon of all coastal guards today, 30 mm automatic gun, two manually operated 12.7 mm machine guns 30 mm. The vessel can reach the speed of 28 knots and is very capable of pursuit. It has a large navigational range and can stay at sea for ten days with 14 crew members. The vessel is certified in accordance with Croatian Register of Shipping Rules (CRS). The basic purpose of the vessel is patrolling for the sake of supervision and protection of Croatian interests at sea. They will be used as support to island population and in search and rescue sea operations. In war times coastal patrol vessels are used for protection of internal waters and fighting and logistics support tasks.





## BRODOSPLIT BUILDING OF GANTRY CRANES FOR CONTAINER HANDLING

In Split, two large gantry cranes of a type Boxer 6000 for container handling contracted for German Company KOCKS KRANE are being built.

Split shipbuilders will process 600 tons of steel, which includes making of steel construction of the 130-meters long main horizontal girder, making of steel anchoring's, engine room and main energy supply plant, and making of main drum spools, approximately 5 meters long.

This is a continuation of successful collaboration between Brodosplit and German Consortium Kranunion, three manufacturers of cranes specialized for lifting and transport of heavy cargo: Kirow, Ardel and Kocks, leaders on the global market for manufacturing of gantry cranes and rotating portal jibs intended for vertical transport in ports and shipyards.

The buyer's satisfaction is best reflected by the fact that in the last year Brodosplit delivered seven different cranes for Kranunion:

- (1) one rotating portal jib, type IHK- Brest, cargo carrying capacity 38 tons and outreach 60 meters
- (3) three gantry port cranes, type TUKAN 3000, cargo carrying capacity 40 tons and outreach 50 meters
- (2) two rotating portal jibs, type Kranich 3000, cargo carrying capacity 25 tons and outreach 40 meters
- (1) one rotating portal jib, type ERG-Brasilian, cargo carrying capacity 25 tons and outreach 50 meters





Brodosplit proves with these deliveries that it is a competitive and quality company in international relations and that, apart from being capable of building ships, it is also capable of building demanding and complex steel structures which makes it sole manufacturer with the possibility of direct loading on a ship in the South-East Europe and Mediterranean.

In that context, when the beginning of the expansion of the Ploče Port, the second largest Croatian cargo port and the farthest point of Vc Pan-European Corridor, starts, we definitely want to participate because we think that we can be competitive in all three key areas: deadlines, quality and price.

## BRODOSPLIT YACHT AMONG THE WORLD ELITE

Among almost 120 of the most glamorous super yachts in the world, the largest Croatian super yacht, Brodosplit's beauty 'Katina', owned by BS Star Shipping Inc., had its world premiere at the prestigious fair of luxury mega and super yachts Monaco Yacht Show, which was held for the 25th time.

Monaco Yacht Show has the longest European tradition of presenting super and mega yachts and is held under the patronage of His Serene Highness Prince Albert II of Monaco. It was visited by 35,000 people from all over the world, who came to admire a large number of super and mega yachts from 25 to 100 m of length at one place.

Luxury motor yacht 'Katina' is 60 meters long and can accommodate 12 passengers on its four decks in six VIP cabins. 13 crew members take care of all the passengers' needs and the yacht is primarily intended for cruising in the Mediterranean and Caribbean, but it is classified for ocean navigation as well, according to certificate of Croatian Shipping Registry and LY2 code. The hull and superstructure are made of steel and wheelhouse is made of aluminum alloy. Two propulsion engines with power of 1000 kW will enable it to sail at speed higher than 14 knots. Propulsion will be controlled remotely from the wheelhouse and with additional portable plug & play console.

Two pairs of top zero speed stabilizers will ensure comfortable travel and reduction of rolling while the yacht is moored, while tanks (fuel and water) and provisions storage capacity will provide its autonomy for 4000 NM. The galley capacity makes it possible to prepare meals for up to 50 persons.







Six luxury fitted VIP cabins are located on the upper deck and spacious salon and meeting rooms could accommodate up to 35 persons for business meetings, presentations or parties at the same time. The entire yacht is covered with audio-video entertainment system, iPod connections and Internet network. All four decks are connected with the passenger's lift, and a special lift is used for taking the food from the galley to the salon. Underwater lights and lighted name of the yacht create a special effect at night. The yacht is fitted with sauna, whirlpool, hospital, gym, diving equipment, kayaks, sailboards and lots of additional equipment. By building this yacht Brodosplit entered into a world of yachts without changing its original concept, since the strength and virtue of Split Shipyard is in the fact that it can design and build small, medium and large ships of various purposes.



### **BRODOSPLIT'S TOWER FOR WIND TURBINE**

Brodosplit Shipyard was contracted to build a steel tower for a wind turbine with a power of 2.5 MW for a Croatian buyer - company Končar-Power Plant and Electric Traction Engineering Inc. The tower is 78.6 meters high, with a diameter of 4.2 meters at the base and 2.9 meters at the top. It is mounted in Pometeno brdo Wind Park, near Konjsko, in the vicinity of Dugopolje.







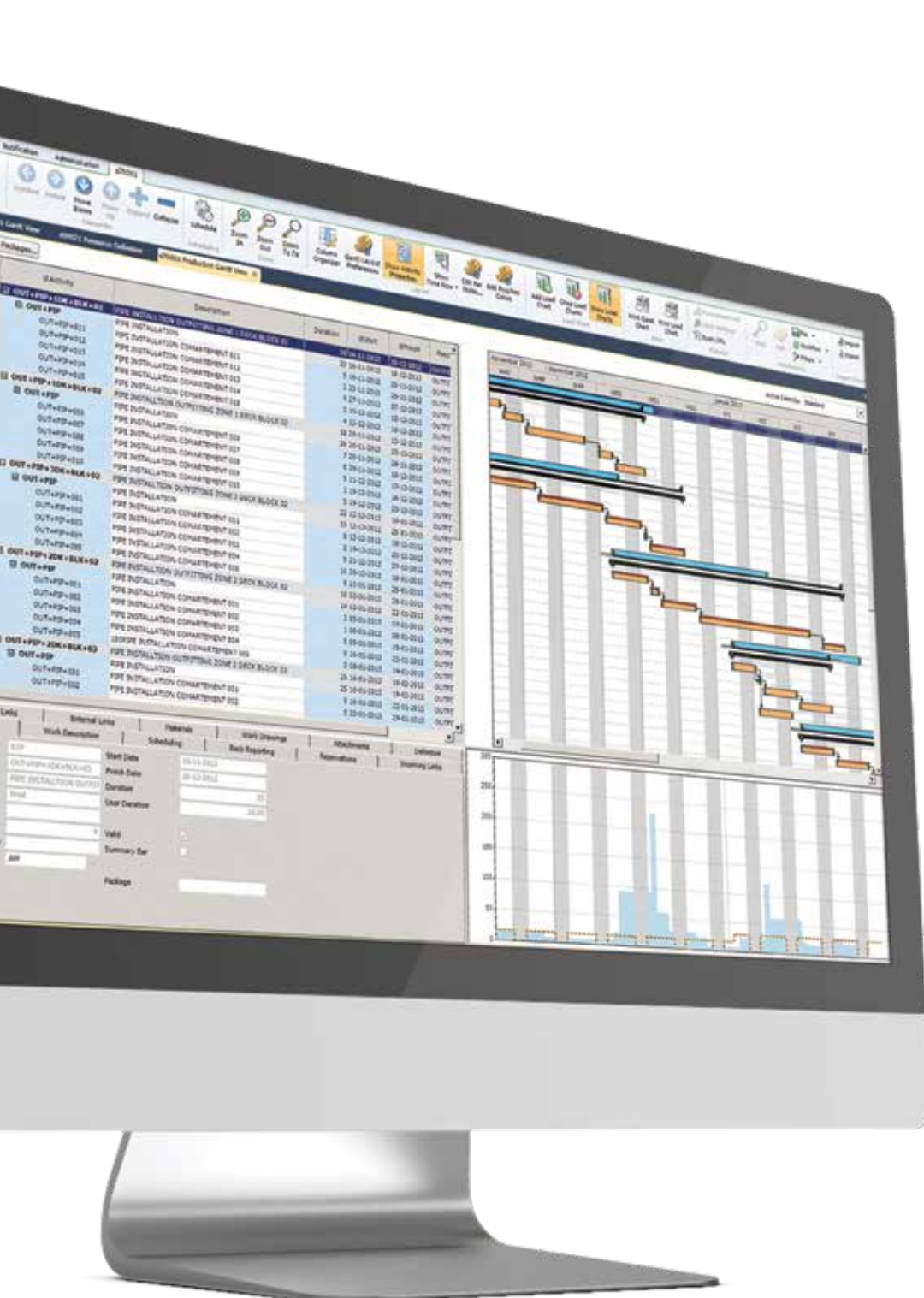
## AVEVA Marine™

Shipbuilding Industry Split Inc. implements the AVEVA Integrated Shipbuilding solution on all new projects. Shipyard highly developed capabilities for generating, coordinating and managing a complex mix of information, materials and resources to meet tight delivery and cost requirements. AVEVA has the industry's most comprehensive proposition for shipyards. An Integrated Shipbuilding strategy helps customers to minimize costs and delivery time, while maximizing overall productivity and profitability, providing a measurable competitive advantage for their business.

AVEVA Marine™ is AVEVA's top-of-the-range portfolio of integrated applications which allow engineers and designers at multiple locations to simultaneously create, control and manage changes to marine engineering and design data as a project is developed in the most productive and risk-free way. These integrated applications are based on AVEVA's powerful object-centric technologies and is the most productive engineering and design software available for marine and offshore industries.

Brodosplit's key objective is to improve the shipyard's efficiency and productivity with AVEVA. Combining Integrated Engineering & Design with Enterprise Resource Management enables us to ensure that all key processes have the correct information about materials and resources at the right time throughout the project life cycle.





**QUALITY MANAGEMENT SYSTEM**



**BRODOSPLIT GROUP HAS ESTABLISHED AN INTEGRATED MANAGEMENT SYSTEM THAT INCLUDES ISO 9001, ISO 14001 AND OHSAS 18001 WHICH ARE CENTRALLY MANAGED.**

Quality Management System according to ISO 9001:2008 has been certified according to the “multi-site” model. Additionally, daughter companies Brodosplit Naval & Special Vessels Shipyard Ltd. and Brodosplit - Diesel Engine Factory Ltd. are independently certified.

Daughter Company Brodosplit - Holding Ltd. with included subsidiary daughter companies has been certified for building steel structures with the highest requirements in class EXC4 according to EN 1090-2 and ISO 3834-2.

The environmental management system according to ISO 14001:2004 applies to a single location Brodosplit and includes all daughter companies. Health and safety management system according to OHSAS: 2007, was also certified at the level of Brodosplit, and includes all daughter companies.

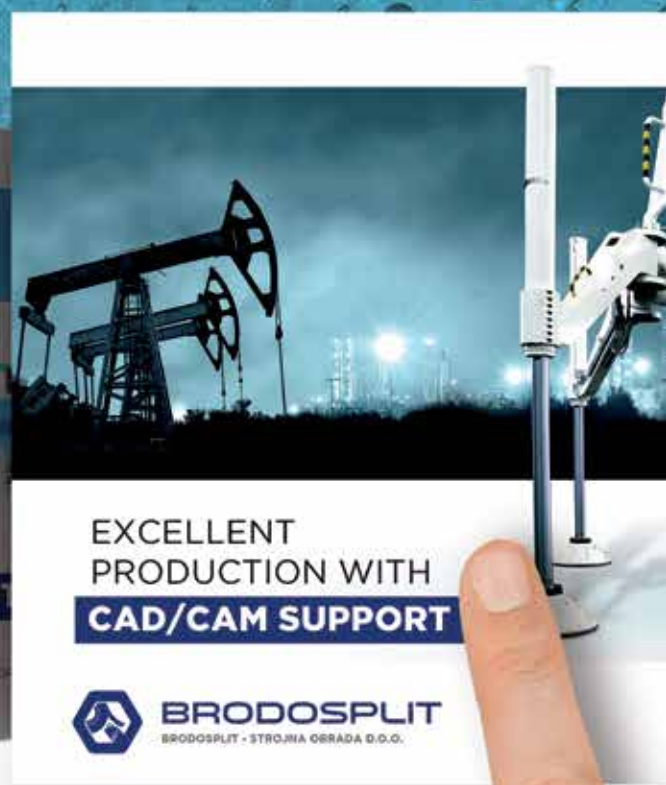
Brodosplit Laboratory Ltd. is a recognized test laboratory by Bureau Veritas and Croatian Register of Shipping.



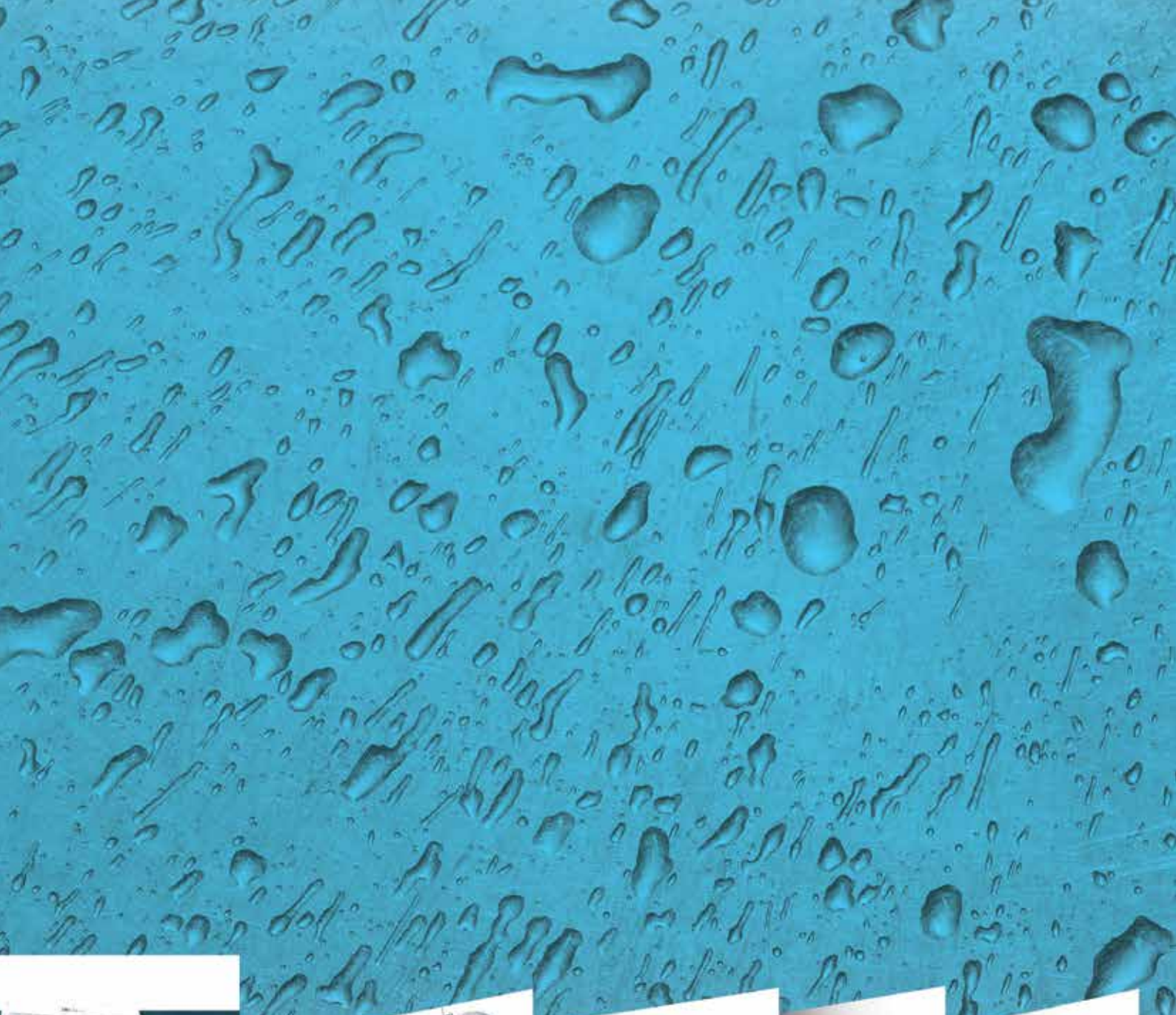
ISO 9001-ISO 14001  
OHSAS 18001  
BUREAU VERITAS  
Certification



CREATION OF NEW VALUE BASED ON  
**TECHNOLOGICAL ABILITY AND EXPERIENCE**







Member of DIV GROUP



Member of DIV GROUP



Member of DIV GROUP



Member of DIV GROUP



Member of DIV GROUP



# OUR COMPETITIVE **STRENGTHS**

## **SHIPYARD WITH A LONG TRADITION**

Shipyard with a long tradition and experience in designing and building various types of ships

## **FULL RANGE OF SERVICES**

Brodosplit has the experience and confidence needed to participate in the highly demanding and evolving industry

## **EXPERIENCED MANAGEMENT TEAM**

Experienced management team and integrated project management capability







## **ACKNOWLEDGEMENTS OF PROMINENT INTERNATIONAL INSTITUTIONS**

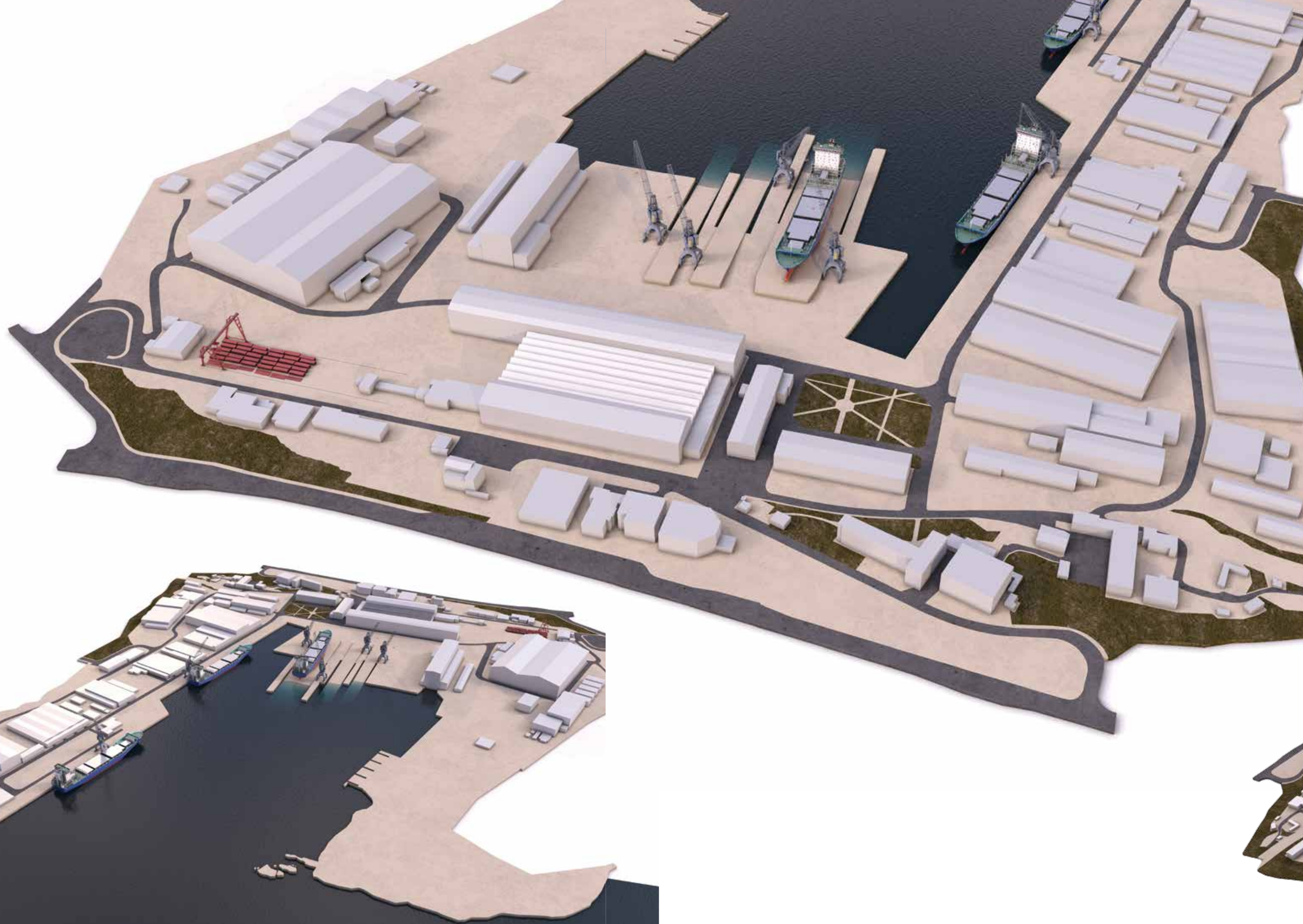
Acknowledgements of prominent international institutions in the last twenty years, thirteen ships from Brodosplit's slipways were listed among the best projects in their respective categories

## **SOPHISTICATED SHIPS OF DIFFERENT TYPES**

The innovation and expertise of our shipbuilders in construction of sophisticated ships of different types- passenger ships, container ships, cargo vessels, oil product tankers or basically, whatever the client desires - are the main features and strong points of Brodosplit as a successful and worldwide recognized shipyard

## **YOUR BENEFITS AT A GLANCE**

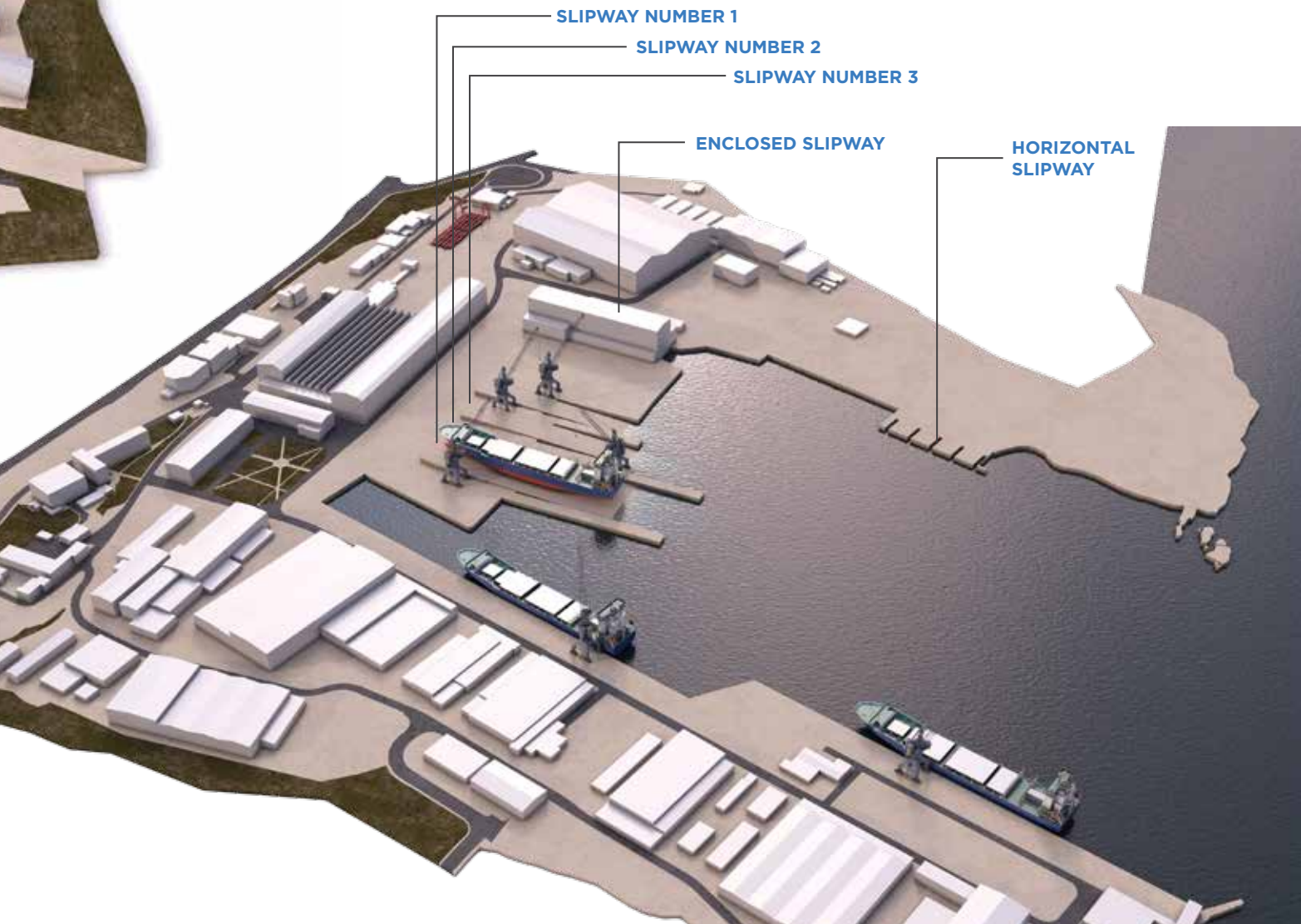






Brodosplit workshops and slipways spread over the surface of **599.569 m<sup>2</sup>** with total of **110,000 m<sup>2</sup>** of covered objects. 1250 m long fitting quay has 5 cranes with lifting capacity from 7 to 80 t and one floating crane with lifting capacity of 100 tons. Slipways can be used for building of ships with characteristics, as follows:

	DEADWEIGHT TONNAGE	MAX. SHIP DIMENSIONS LxB (M)
SLIPWAY NUMBER 1	170.000 dwt	282x50.0
SLIPWAY NUMBER 2	120.000 dwt	250x42.0
SLIPWAY NUMBER 3	30.000 dwt	185x25.0
CLOSED SLIPWAY	1.000 dwt	60.0x12.0
HORIZONTAL SLIPWAY	800 dwt	30.0x17.0



# GLOBAL PROVIDER OF **SIGNIFICANT SOLUTIONS**





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