

MANGALIA SHIPYARD

Corporate and Operational Presentation

PRODUCTION PROCESS

1. SSY – Steel Stock Yard
2. TLS – Treatment Line Shop
3. CAS – Cutting & Assembly Shop
4. CSS – Component & Subassembly Shop
5. OHS – Outfitting & Hull Shop
6. EAS – Engine Assembly Shop
7. CMS – Comp. Fabr. & Maintenance Shop
8. BTC – Blasting Cells
9. PTC – Painting Cells
10. BPC – Blasting and Painting Cells
11. SBC – Steel Outfitting Blasting Cells
12. UGS – Unit Module & Galvanizing Shop
13. APS – Accommodation Pre-outfitting Shop
14. HCS – Hatch Cover Grand Assembly Shop
15. MES – M/E Storage Shop
16. PBS – Panel Section Shop
17. NGA – Grand Assembly Platform
18. QAP – Quay "A" Platform
19. QBP – Quay "B" Platform
20. QCP – Quay "C" Platform
21. PEP – Pre-Erection Platform
22. 1DK – No.1 Dry Dock
23. 2DK – No.2 Dry Dock
24. 3DK – No.3 Dry Dock
25. 3DW – Pre-Erection Platform
26. 3DS – Pre-Erection Platform



CUTTING AND BENDING

Activity / Layout Code	Facilities		Concept / Remarks
Steel Stock Yard (SSY)	Capacity (Area, Bays): Cranes:	~30,000 Tons (~16,100 m ² , 6) 8 x 20 Tons mag. O/H	
Treatment Line Shop (TLS)	Capacity, Lanes: Max. breadth & thickness:	~30,000 Tons / month, 2 Lanes 4.2 m x 150 mm	Modern facilities with blasting system, dry oven and marking
Cutting (CAS / CSS / PBS)	Plasma (Dry & Wet): Oxy-Gas:	7 6	<ul style="list-style-type: none"> - ~15,000 Tons / month - Marshalling systematization - Automatic beveling
Bending (CAS)	Equipments:	<ul style="list-style-type: none"> - 2,000 Tons roll bending x 1 - 1,000 Tons press x 1 - Profile bending x 2 	<ul style="list-style-type: none"> - Maximum length of plate in case of 2,000 Tons roll bending: 13 m - Maximum plate thickness bending in case of 2,000 Tons roll bending: 44 mm



SECTION BUILDING



PIPING FABRICATION



PRE-OUTFITTING



ASSEMBLY



3 CUTTING & BENDING

STEEL OUTFITTING FABRICATION

PAINTING & BLASTING

OUTFITTING & COMMISSIONING

SECTION BUILDING

Activity / Layout Code	Facilities		Concept / Remarks
Panel Section Shop (PBS)	Total Area: Section max. dimensions: Section max. weight:	27,460 m ² 22 m x 21.6 m 540 Tons	PBS –Semi-automatic line
Cutting & Assembly Shop (CAS)	Total Area: Section max. dimensions: Section max. weight:	30,048 m ² 16 m x 16.2 m 120 Tons	
New Grand Assembly Area (NGA)	Total Area: Section max. dimensions: Section max. weight:	10,530 m ² 22 m x 21.6 m 230 Tons	



SECTION BUILDING

PIPING FABRICATION

PRE-OUTFITTING

ASSEMBLY

CUTTING & BENDING

STEEL OUTFITTING FABRICATION

PAINTING & BLASTING

OUTFITTING & COMMISSIONING

OUTFITTING FABRICATION

Activity / Layout Code	Facilities		Concept / Remarks
Pipe Fabrication Shop (OHS)	Bays: Bending Machines: Pipe Rotators: Cutting Machines: Cranes:	3 5 10 5 3 x 5 Tons O/H, 2 x 3.2 Tons O/H, 6 x 1 Ton column	TIG 300, Semi-auto Arc CO ₂ , Burning Cell Facility
Steel Outfitting Fabrication Shop (OHS)	Bays: Cranes:	2 2 x 3.2 Tons O/H	
Galvanizing Shop (UGS)	Area, Bays: Pre-Treatment Baths: Galvanizing Bath:	979 m ² , 1 bay (60.8 m x 16.1 m x 9.5 m) 9 7.5 m x 1.5 m x 1.7 m (435~450 °C)	Automatic control of temperature and environmentally friendly



SECTION BUILDING



PIPING FABRICATION

STEEL OUTFITTING FABRICATION

PRE-OUTFITTING



ASSEMBLY

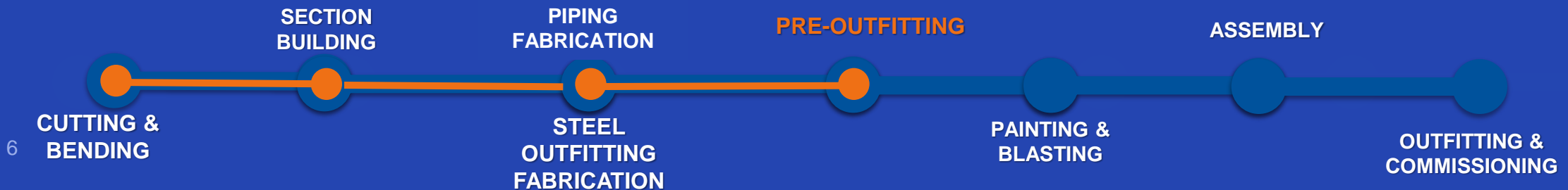
PAINTING & BLASTING

OUTFITTING & COMMISSIONING

CUTTING & BENDING

PRE-OUTFITTING

Activity / Layout Code	Facilities		Concept / Remarks
Unit Module Fabrication Shop (UGS)	Area, Bays: Cranes:	979 m ² , 1 bay (60.8 m x 16.1 m x 9.5 m) 2 x (5+5) Tons O/H	Maximize the productivity of pre-outfitting through pre-assembly of: supports, pipes, equipment, electrical, etc.
General Pre-Outfitting Shop & Platforms (PSN / PGA / POP)	North Platform Bays: Cranes: Pre-Outfitting Platforms: Cranes: Welding: Tools:	4 (largest shelter: 22 m x 20 m x 12 m) 4 x 2 Tons O/H (1 for each bay) 1,140 m ² , 22,000 m ² 1 x 3.2 Tons JIB, 2 x 14 Tons tower Semiautomatic CO ₂ Specialized related Pipe, Steel Outfitting, Electrical – Pneumatic impact wrench, etc.	
Accommodation Pre-Outfitting Shop (APS)	Dimensions: Cranes:	34 m x 18 m x 10 m 2 x 3.2 Tons O/H	



PAINTING AND BLASTING

Activity / Layout Code	Facilities		Concept / Remarks
Section Blasting Cells (BTC)	No. of Cells:	2 (30 m x 22 m x 15 m)	Steel shot blasting
Section Painting Cells / Shelters (PTC)	No. of Cells: Painting Shop: Shelter:	1 (36 m x 22 m x 15 m) 1 (97 m x 22 m x 13.5 m) 1 (40 m x 22 m x 10 m)	
Section Blasting Cells (BPC)	No. of Cells:	2 (32.5 m x 31 m x 18.5 m)	Steel shot blasting Environmentally friendly
Section Painting Cells (BPC)	No. of Cells: Shelter:	1 (32.5 m x 31 m x 18.5 m) 1 (32.5 m x 31 m x 18.5 m)	Environmentally friendly
Steel Outfitting Blasting Cells (SBC)	No. of Cells:	2 (18.4 m x 17.6 m x 9 m)	Steel shot blasting Environmentally friendly



PAINTING AND BLASTING

Activity / Layout Code	Facilities		Concept / Remarks
Pre-erection Platform for Dock no. 1 & 2 (PEP)	Area: Cranes (Working in Tandem): Jib Cranes:	19,350 m ² 2 x 480 Tons (max 860 Tons) 2 x 120 Tons, 1 x 50 Tons, 2 x 15 Tons	Pre-erection welding joint paint remedy is performed before erection in Dry Dock
Pre-erection Platform for Dock no.3 (3DW / 3DS)	Total Area: Goliath Crane: Jib Cranes:	19,100 m ² 1 x 1,000 Tons (max 880 Tons) 2 x 50 Tons, 2 x 15 Tons	Pre-erection welding joint paint remedy is performed before erection in Dry Dock
Transportation	Heavy Transporters:	1 x 500 Tons 2 x 430 Tons 1 x 300 Tons 1 x 138 Tons	430 Tons units - possibility to work in tandem: -Maximum capacity: 800 Tons -Maximum load dimension: 52 m x 22 m x 15 m



OUTFITTING & COMMISSIONING

Activity / Layout Code	Facilities		Concept / Remarks
Outfitting (E/R, Cargo Area, Accommodation, Electrical) & Commissioning	Dry Dock No. 1 (1DK)	302 m x 48 m (150 t / m ²)	Gantry Cranes (Working in Tandem): 2 x 480 Tons (max 860 Tons) Jib Cranes: 2 x 120 Tons, 1 x 50 Tons, 2 x 15 Tons (for Dry Dock No. 1 & 2)
	Dry Dock No. 2 (2DK)	322 m x 48 m (150 t / m ²)	
	Dry Dock No. 3 (3DK)	360 m x 60 m (110 t / m ²)	Goliath Crane: 1 x 1,000 Tons (max 880 Tons) Jib Cranes : 2 x 50 Tons, 2 x 15 Tons
	Quay Side Length	A : 620 m B : 430 m C : 540 m Total : 1,590 m	Jib Cranes: 1 x 50 Tons, 1 x 15 Tons Jib Cranes: 1 x 120 Tons, 1 x 15 Tons Jib Cranes: 2 x 50 Tons



SECTION
BUILDING

PIPING
FABRICATION

PRE-
OUTFITTING

ASSEMBLY

CUTTING &
BENDING

STEEL
OUTFITTING
FABRICATION

PAINTING AND
BLASTING

OUTFITTING &
COMMISSIONING



Yard past references



PERFORMANCE RECORD STARTING 1997

Commercial Vessels	<u>Bulk Carriers</u>	<u>Containerships</u>	<u>Tankers</u>		
	Capesize: 10	Post Panamax: 8	Suezmax Crude Oil Tanker: 2		
	Kamsarmax: 6	Panamax: 22	Aframax Crude Oil Tanker: 11		
	Handysize: 1	Feeder: 32	Aframax Product Carrier: 4		
		<u>Ro-Ro:</u>	Panamax Crude Oil Tanker: 3		
	<u>Heavy Cargo Ships:</u> 4	PCTC: 2	Chemical Tanker: 8		
		Sto-Ro: 2	Juice Carrier: 2		
	<u>General Cargo Ships:</u> 53	Ferry: 2			
	Total: 166				
Offshore and Offshore Support Vessels	<u>Drilling Rig:</u> 2	<u>AHT:</u> 2	<u>AHTS:</u> 1	<u>PSV:</u> 2	<u>OCV:</u> 3
	<u>Module Carriers:</u> 2	<u>Mining Vessel:</u> 1			
	Total: 13				
Floating Docks	Total: 5				
Barges	<u>Split Hooper Barges:</u> 4	<u>Pontoons / Barges:</u> 46			
	Total: 49				
Others	<u>Floating Crane:</u> 1	<u>Dredger:</u> 3	<u>Fishing Vessel:</u> 1		
	<u>Cruise Passenger Vessels:</u> 5		<u>Expedition Cruise Vessels:</u> 3		
	<u>Research Vessel:</u> 1				
	Total: 14				

Projects successfully executed by the yard in 2018 - 2024



Projects executed in the yard

STEEL BLOCKS FOR EXPEDITION CRUISE VESSEL

More than 20.000 tonnes of sections, part of double bottom and hotel areas, requiring extensive quality, successfully delivered.


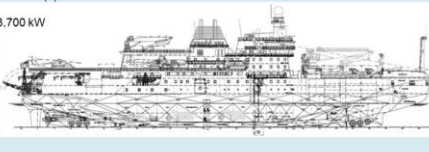

VARD Expedition Cruise Vessel

<p>VESEL PARTICULARS</p> <p>Subcontracted by : VARD Tulcea Shipyard Owner : Ponant No. of vessels : Three(3) Hull no.'s : H.7019, H.7021, H.7022 VARD's yard no. : NB848 (20 hull blocks) NB849 (90 hull blocks) NB850 (13 hull blocks) (VARD 6 08 design)</p> <p>Vessels names : Le Lapérouse Le Champlain Le Bougainville</p> <p>MAIN PARTICULARS</p> <p>Length overall : 131.0 m Length between perp.: 127.0 m Breadth, moulded : 18.0 m Depth, moulded : ? m Design draft (Td) : 4.6 m</p> <p>Deadweight at Td : appr. 1,400 Tons Service Speed : 15.0 knots Cruising Range : appr. ? N.miles</p> <p>Class : BV, Ice class 1C, Cleanship Flag : French</p> <p>PASSENGERS/CREW CAPACITY</p> <p>Passengers: 184 persons Crew : 110 persons Cabins for passengers: 92 (88 with balcony) Cabins for crew : 72</p> <p>HULL STRUCTURE</p> <p>Steel material : Mild steel Higher-tensile steel</p> <p>PAINTING</p> <p>WB tanks : ? Side Shell : ?</p>	<p>TANK CAPACITY</p> <p>HFO tanks : appr. 365 m3 MGO tanks : appr. 179 m3 POT tanks : appr. 247 m3 TFW tanks : appr. 84 m3 WB tanks : appr. 736 m3 Grey W. tanks: appr. 160 m3</p> <p>DECK MACHINERY</p> <p>Fin stabilizers : Two(2) Bow thruster : One(1) x ? kW, El. CPP type Steering gear : Two(2) x El. Hyd., rotary-vane type Fwd Windlass/mooring winch : 2 / 2 x El. Type Aft Mooring winch : 4 x El. type Provision crane : Two(2) x El.-hyd., telescopic knuckle boom type</p> <p>STEAM GENERATION</p> <p>Aux. boiler : Two(2) x ? kg/h x 7 bar.g.</p> <p>POWER GENERATOR</p> <p>Diesel generator : Four(4) x 1,520 kW, AC 690 V, 50 Hz (Wartsila 8L20) Em'cy generator : One(1) x ? kW, AC 690 V, 50 Hz</p> <p>PROPULSION</p> <p>Two(2) propulsion shafts with CPP, El. Driven</p> <p>BALLAST SYSTEM</p> <p>Ballast pump : Two(2) x ? m3/h x ? mTH BWTS : One(1) x ? m3/h</p> <p>NAVIGATION EQUIPMENT</p> <p>2 – Radars (ARPA) 2 – Gyro Compasses & 1- Auto Pilot 1 – Speed Log 2 – DGPS Navigators 1 – 3D sonar DP system</p>	  
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STEEL BLOCKS FOR ANTARCTIC SUPPLY & RESEARCH VESSEL

Blocks from both hull and superstructure are built in Mangalia

DAMEN Antarctic Supply & Research Vessel

<p>VESEL PARTICULARS</p> <p>Subcontracted by : DAMEN Shipyard Galati (DSGa) Owner : DMS Maritime No. of vessels : One(1) Hull no.'s : H.6013, H.6014 (3,314 hull blocks) DSGa's yard no. : 312417</p> <p>MAIN PARTICULARS</p> <p>Length overall : 160.3 m Length between perp.: 149.0 m Breadth, moulded : 25.6 m Depth, moulded : 19.2 m Design draft (Td) : 9.3 m</p> <p>Displacement : 24,000 Tons Speed max. : 16+ knots Range at 12 kn : 16,000+ N.miles</p> <p>Class : LR +100A1 Research/Supply Ship, Icebreaker (+), Ice Class PC3, IWS, Helideck, TA3, Winterisation H(-40), D(-30), S(B), ECO (BIO, BWT, GW, NOX-2, OW, P, R, SOX, IHM, SEEMP, ENMS, IBTS), LA+ +LMC, UMS, DP(AA), CAC(2), PSMR* Shipright (SERS, ES, SCM)</p> <p>Flag : Australia Complement : 149 persons</p> <p>DECK MACHINERY</p> <p>Bow thruster : Three(3) x ? kW, El. CPP type Stern thruster : Three(3) x ? kW, El. CPP type Fwd Windlass/mooring winch : Two(2) x El. Type Aft Mooring winch : Two(2) x El. Type</p> <p>THERMAL OIL SYSTEM</p> <p>Aux. Thermal Oil heater : Two(2) x ? kW</p>	<p>TANK CAPACITY</p> <p>MGO tanks : appr. 4,273 m3 Helic. Fuel tanks : appr. 146 m3 Grey W. tanks : appr. 144 m3 Black W. tank : appr. 23 m3 POT tanks : appr. 290 m3 TFW tank : appr. 37 m3 WB tanks : appr. 5,295 m3</p> <p>MAIN ENGINE & PROPULSION</p> <p>Two(2) CPP, Diesel-Direct and PTI Type & no. : MAN B&W 16V32/44CR x two(2) set MCR : 9,600 kW x 750 rpm PTI : Two(2) El. motors x 3,700 kW</p> <p>HULL STRUCTURE</p> <p>Steel material : Mild steel Higher-tensile steel</p> <p>PAINTING</p> <p>WB tanks : ? Side Shell : ?</p> <p>RESUPPLY CAPACITY</p> <p>Solid Cargos : 96 TEU in two(2) cargo holds Station Fuel tanks : appr. 1,979 m3 Potable W. from POT tanks : 200 m3 Cargo cranes: Two(2) x 55.0 Tons(SWL), knuckle boom type One(1) x 15.0 Tons(SWL), knuckle boom type Flight deck : 760 m2, Hangar : 330 m2 Helicopters : Two(2) medium or Four(4) light Landing craft : Two(2) x 35 Tons/ 40' container barges Four(4) x 5 Tons amphibious LARC Tenders : Three(3) x 10 person fast RHIB</p> <p>POWER GENERATOR</p> <p>Diesel generator : Three(3) x 3,000 kW One(1) x 2,000 kW Em'cy generator : One(1) x ? kW</p>	  
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OFFSHORE FLOATING STRUCTURES

floating structures (sponsoons, blisters and platforms) for Stena Don rig platform, under the offshore standard DNVGL-OS-C401.



STEEL BLOCKS FOR MAD VESSEL (MAD 3500)

All sections, except funnel and extreme aft and fwd part, were built by the shipyard in Mangalia.



COMPLETE FLOATING DOCK

Floating dock for GARDEC



Corporate presentation

4X INLAND TANKERS

Hull of double propeller Inland Waterway type “C” chemical tanker.

Double wall tanker with a raised deck with cargo area, engine room located aft and with accommodation located in a flexibly mounted aft deck.



- * Start cutting held in November 2019**
- * Launching event held in November 2020**
- * 2 tankers delivered in November 2020**
- * 2 tankers delivered in January 2021**

Main Dimensions

Length overall: 85,000 m
Breadth mld. : 9,500 m
Depth mld. : 4,500 m
Draught : 3,250 m



COMPLETE DIAMOND MINING VESSEL

The AMV 3 for DeBeers, the largest diamond mining vessel in the world.

7,500 tonnes of hull net weight, high outfitting complexity, in accordance with offshore construction standards.



Main Dimensions

Length LOA	: 176,56 m
Length LBP	: 148,93 m
Breadth mld.	: 27,00 m
Depth to M. Dk	: 11,70 m
Displacement	: 27.100 Tons
DWT	: 14.700 Tons
Power	: 19.380 kW
MGO	: 4.540 m ³
Station keeping	: DP2
Crew	: 106 staff

Start cutting was performed on the 6th of May 2019

KeeHaying ceremony was held on the 11th of March 2020

The vessel was launched in November 2020

Vessel successfully delivered August 2021



COMPLETE 2X LNG FERRIES

State of the art ferries with battery bank and DC grid turnkey built in Mangalia for Seaspan Ferries Corporation.

The vessels were LNG powered with an independent LNG tank below the main deck.

The start cutting was performed on the 5th of August 2019.

Successfully delivered in 2021



Main Dimensions

Length LOA	: 148,90 m
Breadth mld.	: 26,00 m
Depth to M. Dk	: 7,00 m
Draught (design speed):	4,25 m
Draught (scantling)	: 4,30 m

COMPLETE 20.100 TLC MODULAR FLOATING DOCK FOR DJIBOUTI SHIPREPAIR YARD

Milestones:

- * **Start Cutting** : **October 2021**
- * **Keel Laying** : **May 2022**
- * **Launch** : **April 2023**
- * **Delivered** : **July 2023**



Main Dimensions

Length LOA	: 217,15 m
Length over keel blocks	: 202,15 m
Beam external	: 43,50 m
Beam internal at Upp. Dk	: 36,00 m
Depth to Upp. Dk	: 18,00 m
Depth of pontoon	: 4,00 m
Max. lifting capacity	: 20.100 Tons

OFFSHORE HVDC PLATFORM FOR SUNRISE WIND IN NY, USA

□ Client:

- Aker Solutions AS, Norway

□ Scope:

- The HVDC Topside for an offshore wind platform, part of the [Sunrise Wind](#) project in NY, USA.
- The Shipyard is undertaking the structural fabrication, surface protection, outfitting including insulation, lighting, ducting, local cabling and more, as well as the fabrication of the transport grillages.

□ Milestones:

- Contract award: October 2021
- Delivered: September 2023



OFFSHORE HVDC PLATFORM FOR WIND PROJECT IN UK

❑ Client:

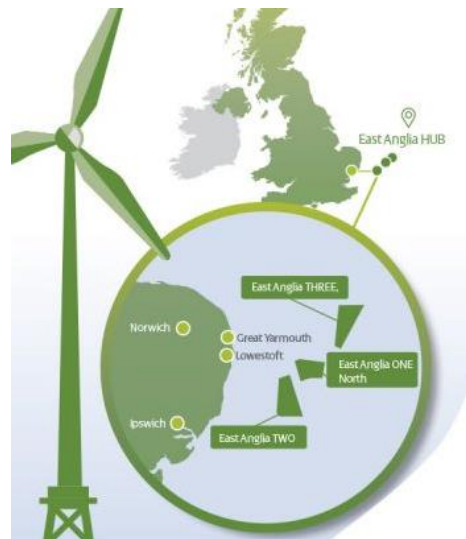
- Aker Solutions AS, Norway

❑ Scope:

- The HVDC Topside for an offshore wind platform, part of the **East Anglia THREE** Wind project in Southern North Sea, UK.
- The Shipyard is undertaking the structural fabrication, surface protection, outfitting including insulation, lighting, ducting, local cabling and more, as well as the fabrication of the transport grillages.

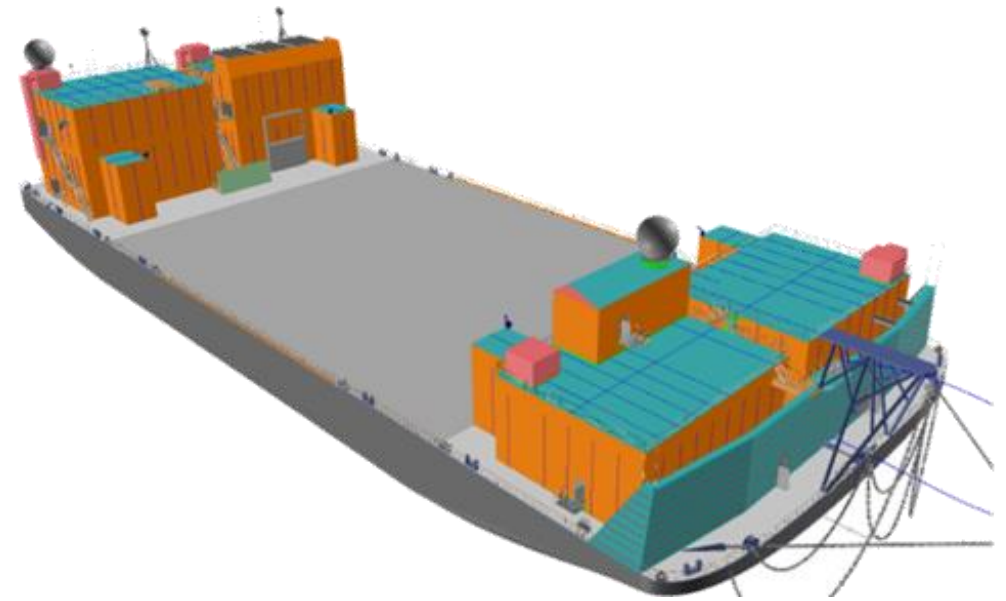
❑ Milestones:

- Contract award: November 2022
- Delivered: April 2024



UNMANNED RECOVERY BARGE

Construction of 116 x 46 x 6,7 m recovery barge, based on the supplied design.



Main milestones:

- Contract signed : 2022-12-09
- Start cutting : 2023-01-10
- Keel laying : 2023-02-21
- 1st Block in dock: 2023-07-18
- Launching : 2023-12-21
- SAT : 2024-04-10
- Delivery ex yard : 2024-04-26

Shiprepair Track record

More than 40 years of experience and competences





M/T Valbruna Project
(Grounded on the Algerian coast)

Large steel renewal DB WBT (5,300 tons) including:

- DB WBT treatment
- Main engine propulsion overhauling and realignment
- New propeller installation
- Rudder fabrication and installation



MSC Flaminia Project
(Major fire in July 2012)

New mid body insertion and large steel renewal (over 7,000 tons) including:

- Main engine propulsion overhauling and realignment
- New propeller installation
- Rudder fabrication and installation
- Bulbous bow retrofit
- Mewis duct installation
- BWTS retrofit
- Complex decontamination and neutralization works

SHIP REPAIR PERFORMANCE RECORD



During the past years, the company has accomplished remarkable success and contributed to the ship maintenance industry by **performing repairs of over 350 vessels and a variety of vessel conversions**, using highly skilled manpower, accumulated know-how and technology, highlighting the remarkable performance of our shipyard.

SHIP REPAIR & CONVERSION



HULL

- Lengthening / shortening / renewal
- Conversions
- Hatch covers
- Major repairs
- Steel works



PAINTING

- PSPC and special coating
- Hull treatment
- Tank treatment
- Cargo hold treatment
- Propeller polishing



MACHINERY & PIPING / VALVES

- M/E overhauling
- Auxiliary equipment overhauling including extensive repairs or re-metallization of components
- Turbo charger overhauling, extensive repairs for any kind of shaft lines, propeller super polish
- Repair of pipeline & valves



ELECTRICAL

- Control system & cabling work
- Navigation equipment
- Electrical equipment
- Electric motors overhauling

SHIP REPAIR SERVICES EXPERTISE

RETROFIT

- Bulb with optimized shape
- High performance anti-fouling coating
- Rudder Bulb and Hub Cap
- Mewis Duct
- Energy Saving Propeller Cap
- Propeller silicone application
- Main Engine Retrofitting for Slow Steaming
- Energy saving devices for E/R Ventilation
- BWTS & Scrubber installation

Increase vessel's performances and efficiency, complying with latest maritime rules and regulations

► *Energy efficiency device install*



► *Ballast Water Treatment System & Scrubber Installation*





REPAIR & RETROFIT EXPERTISE



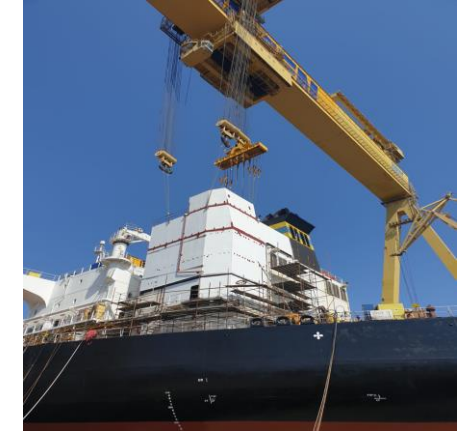
MODERNISATION & RETROFIT PROJECTS

MARINE TUG "PERSEUS"



- Owner: AFDJ (Administratia Fluviala a Dunarii de Jos)
- Classification after modernization: BV I, +HULL, +MACH, Salvage tug, Fire-fighting ship I, Unrestricted navigation, **ICE CLASS IA SUPER**
- Main Engines: 2 x 2700 kW
- Bollard Pull: 100 Tons
- Electrical works
- HVAC
- Carpentry
- Machinery

TANKERS



■ **AFRAMAX & SUEZMAX** vessel

- 2019 – Delivered 7 ships
- 2020 – Delivered 4 ships
- 2021 – Delivered 3 ships
- 2022 – Delivered 3 ships

■ **Main work scope**

- Scrubber retrofit
- WBTS retrofit
- Dry Dock mechanicals works
- Main engine overhauling
- DG ex-change
- Paints : Hull (incl. silicon) and ballast tanks
- Boilers repairs

■ **Working period**

- Two and half month prefabrication, before vessel's arrival
- Total repairs period, per project, 30 to 35 days
- Dry dock period 15 to 20 days

MODERNISATION & RETROFIT PROJECTS

NMS GRIGORE ANTIPA



■ SPECIAL SHIP RO NAVY

■ Main work scope:

- General repair works – Hull, Outfitting, Painting
- Major revision / modernization – Main Engine & Diesel Generators, Navigation, Alarm & Monitoring, HVAC, New electrical sys., Fixed point positioning sys.



Certifications



Integrated Management System for Quality, Environmental and Occupational Health & Safety



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 179592-2015-AQ-RDU-RVA Initial certification date: 28 January 2005 Valid: 18 December 2022 – 17 December 2025

This is to certify that the management system of **DAMEN SHIPYARDS MANGALIA S.A.**
1 Portului Str., RO 905500, Mangalia, Constanta County, Romania

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Design, production, delivery and service of steel ships including barges; Design, production, delivery and service of ships repair and conversions; Design, production, delivery and service of on-shore and off-shore plants and steel construction.

Place and date:
Bucharest, 25 November 2022

For the issuing office:
DNV - Business Assurance
169A Calea Floreasca, Building A, Office
2072, 4th Floor, RO 014472, 1st District,
Bucharest, Romania



[Signature]

Dan Razvan Popa
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render the Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance B.V., Zwalweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102022659 - www.dnv.com/assurance



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 179591-2015-AE-RDU-RVA Initial certification date: 18 December 2010 Valid: 18 December 2022 – 17 December 2025

This is to certify that the management system of **DAMEN SHIPYARDS MANGALIA S.A.**
1 Portului Str., RO 905500, Mangalia, Constanta County, Romania

has been found to conform to the Environmental Management System standard:
ISO 14001:2015

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Design, production, delivery and service of steel ships including barges; Design, production, delivery and service of ships repair and conversions; Design, production, delivery and service of on-shore and off-shore plants and steel construction.

Place and date:
Bucharest, 25 November 2022

For the issuing office:
DNV - Business Assurance
169A Calea Floreasca, Building A, Office
2072, 4th Floor, RO 014472, 1st District,
Bucharest, Romania



[Signature]

Dan Razvan Popa
Management Representative

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ACCREDITED UNIT: DNV Business Assurance B.V., Zwalweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102022659 - www.dnv.com/assurance



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 192083-2015-AHSO-RDU-RVA Initial certification date: 05 January 2017 (based on OHSAS 18001) Valid: 18 December 2022 – 17 December 2025

This is to certify that the management system of **DAMEN SHIPYARDS MANGALIA S.A.**
1 Portului Str., RO 905500, Mangalia, Constanta County, Romania

has been found to conform to the Occupational Health and Safety Management System standard:
ISO 45001:2018

This certificate is valid for the following scope:
Design, production, delivery and service of steel ships including barges; Design, production, delivery and service of ships repair and conversions; Design, production, delivery and service of on-shore and off-shore plants and steel construction.

Place and date:
Barendrecht, 01 December 2022

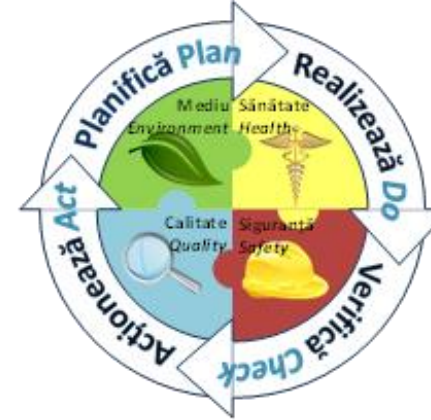
For the issuing office:
DNV - Business Assurance
Zwalweg 1, 2994 LB, Barendrecht,
Netherlands



[Signature]

Eric Kok
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render the Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance B.V., Zwalweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102022659 - www.dnv.com/assurance



**Performanță prin calitate
Într-un mediu sigur și sănătos**

*Performance through quality
in a safe and healthy environment*



ISO 9001 - ISO 14001
ISO 45001

COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV

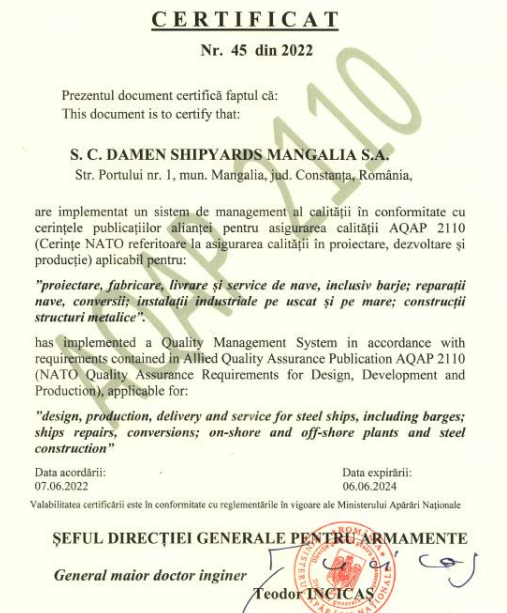
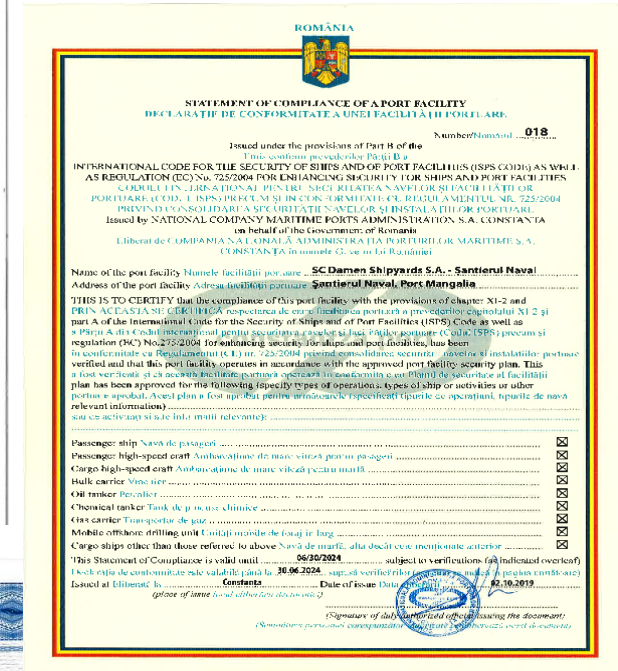
= ISO 9001 =
= ISO 14001 =
= ISO 45001 =

OTHER AUTHORIZATIONS

AQAP 2110 certified for complying with the NATO standards

Authorized by the defence industry to build and repair military ships

Statement of compliance of a Port Facility, under the provisions of the ISPS code



ISO 3834-2:2006
Bureau Veritas
Competence for
Manufacturers of
Technically Welded
Products

EN1090-1:2009
INTERTEK Conformity
assessment of the Factory
Production Control System

intertek
Total Quality Assured.

CERTIFICATE OF REGISTRATION

In compliance with Regulation No. 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product(s):

Structural components and kits for steel structure

placed on the market under the name or trademark of:
DAMEN SHIPYARDS MANGALIA S.A.
Portului street, no. 1, City Mangalia, ZIP Code: 905500, ROMANIA

and produced in the manufacturing plant:
DAMEN SHIPYARDS MANGALIA S.A.
Portului street, no. 1, City Mangalia, ZIP Code: 905500, ROMANIA

This certificate attests that all provisions concerning the attestation of factory production control described in Annex ZA of the standard
EN 1090-1:2009/A1:2011
under system 2+ are applied and that
the factory production control is assessed to be in conformity with the applicable requirements

This certificate was first issued on October 22nd, 2021 and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by Intertek Italia SpA.

This certificate consists of 3 pages including Annex

CERTIFICATE OF CONFORMITY OF THE FACTORY PRODUCTION CONTROL nr.:
2575-CPR-023

Initial certification:
October 22nd, 2021

Issuing date:
October 22nd, 2021

Revision nr.: 00

CE
Notified Body nr. 2575
INTERTEK ITALIA SPA
Via Guido Miglioli 2/A, 20063
Cernusco sul Naviglio (MI)

G. Marchitelli
Eng. Giacomo Marchitelli
EMEA Regional Certification Manager
Intertek Italia SpA
Via Guido Miglioli 2/A, 20063
Cernusco sul Naviglio (MI) - Italy

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This certificate's validity is subject to the continued compliance with Intertek's requirements F 111 & F 112 (ISO Certification Rules) and reviews. Detailed and updated information about the validity and any changes in the status of the certification may be checked by contacting Intertek Italia SpA, telephone no. +39 (0) 26766300 or visiting website https://www.intertek.it/standards/certification/no_2575-CPR-023. The Certificate remains property of Intertek, to which it must be returned upon request.

BUREAU VERITAS
Certification

DAMEN SHIPYARDS MANGALIA S.A.

Head Office and Operative Site:
Mangalia, Portului Street no.1, 905500 - CONSTANTA COUNTY - ROMANIA

Bureau Veritas Italia spa certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

Standard
UNI EN ISO 3834-2:2006

Scope of certification
Design, production, delivery and service of steel shipping including barges
Design, production, delivery and service of ship repair and conversion
Design, production, delivery and service of on-shore and off-shore projects, units/components, plants

Certification cycle start date: 27th May 2020

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: 26th May 2023

Original certification date: 27th May 2020

Certificate No. ITI000372 Rev.0 date: 27th May 2020

Francesco Sutera
FRANCESCO SUTERA - Technical Director

ACCREDIA
CENTRO ITALIANO DI ACCREDITAMENTO
PRD N° 0098
Ministero delle Attività Produttive e della Sicurezza, viale Mazzini 10, 00187 Roma, Italy
Accreditation of the UNI EN ISO 3834-2:2006 management system requirements.

Certification body address: Bureau Veritas Italia spa, Viale Monza, 347 - 20126 Milan, Italy

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Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation. To check this certificate's validity please refer to the website www.bureauveritas.it