

LET'S DESIGN
FUTURE SHIPS TOGETHER!



SHIP DESIGN & ENGINEERING

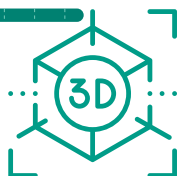
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NEW BUILD
VESSELS & INNOVATION



100 HIGHLY QUALIFIED
IN-HOUSE ENGINEERS



CONVERSIONS AND
RETROFITS FOR EFFICIENCY
AND CLEAN SHIPPING

THE WESTERN SHIPYARD GROUP

Trusted partner and innovative ship designer – words that best describe Western Baltic Engineering, a ship design company with 100 passionate in-house engineers.

EMPLOYEES LIST

Hull department	50
Mechanical department	30
Outfitting department	10
Project management	4
Administration	5



ABOUT THE COMPANY

Established in 2003, the company has grown into to a center of expertise for the maritime industry, focused on a wide range of vessel types and maritime structural design:

- Newbuild projects (fishing trawlers, passenger vessels, RO-PAX vessel, LNG Bunkering vessels, MPV vessel, Dredgers, Special purpose & offshore vessels, Workboats)
- Retrofit projects (3D laser scanning, BWTS, EGCS, and etc.)
- Conversions (change of vessel purpose, vessel lengthening or propulsion/fuel system)
- On-site supervision and project management

RETROFITS & CONVERSIONS



PERFORMANCE ANALYSIS



DIGITALIZATION & SUPPORT



NEWBUILD



CERTIFICATES



TECHNOLOGICAL BASE

Licensed Software: we use latest CAD licensed software tools in order to be innovative & perform most efficiently.



SHIP DESIGN & ENGINEERING

Autonomous Electric Passenger Ferry	4
Ro-Pax Ferry	5
LNG Bunkering Vessel	6
Inland Waterways Electric Pusher	8
Inland Waterways Barge	9
Fishing Vessel, Trawler	10
Fishing Vessel, Crab Catcher	12
Multi-Purpose Cargo Vessel	13
Sea-River Coaster	14

AUTONOMOUS ELECTRIC PASSENGER FERRY

AUTONOMOUS ELECTRIC PASSENGER FERRY		
Type	PASSENGER VESSEL	<ul style="list-style-type: none"> Innovative hull form for electric passenger ferry development. Development and optimization of electric propulsion complex for electric ferry. Specially designed vessel for safe and cost-effective ferry service. The vessel has zero carbon footprint and zero NOx emission. Communication system. Cyber security system. <p>Project developed in cooperation with Klaipeda University and was partly financed by European Union funds investments in Lithuania.</p>
Scope of work	CONCEPT DESIGN	
Length	35 m	
Breadth	11.9 m	
Depth	3.4 m	
Draft	1.7 m	
Ice class	IC	
Propulsion	ELECTRIC ENGINE, PROPELLER	
Energy system	BATTERIES, CONVERTER / INVERTER, SOLAR PANELS	
DCMS	ELECTRIC ENGINE / SYSTEM DATA, BMS DATA, NAVIGATION DATA	
VCS	NAVIGATION CONSOLE, CONTROL FROM SHORE SYSTEM	
Navigation system	RADAR, AIS, DISTANCE SENSORS, ECDIS, LIDAR	



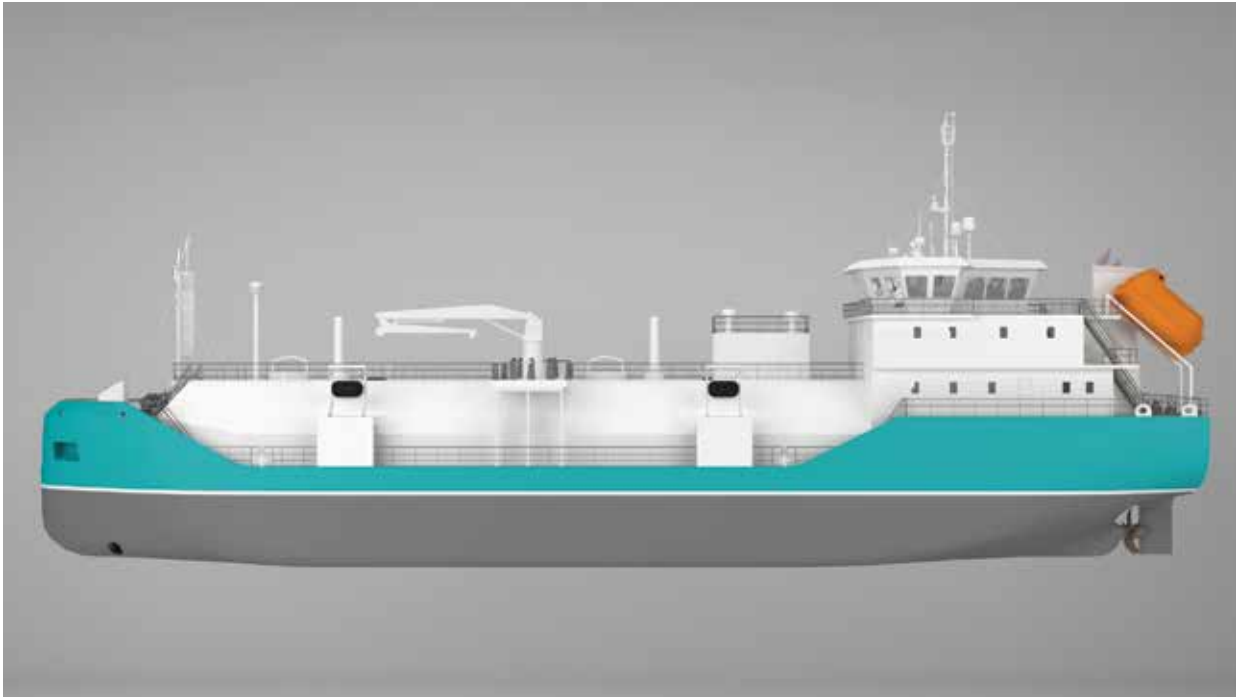
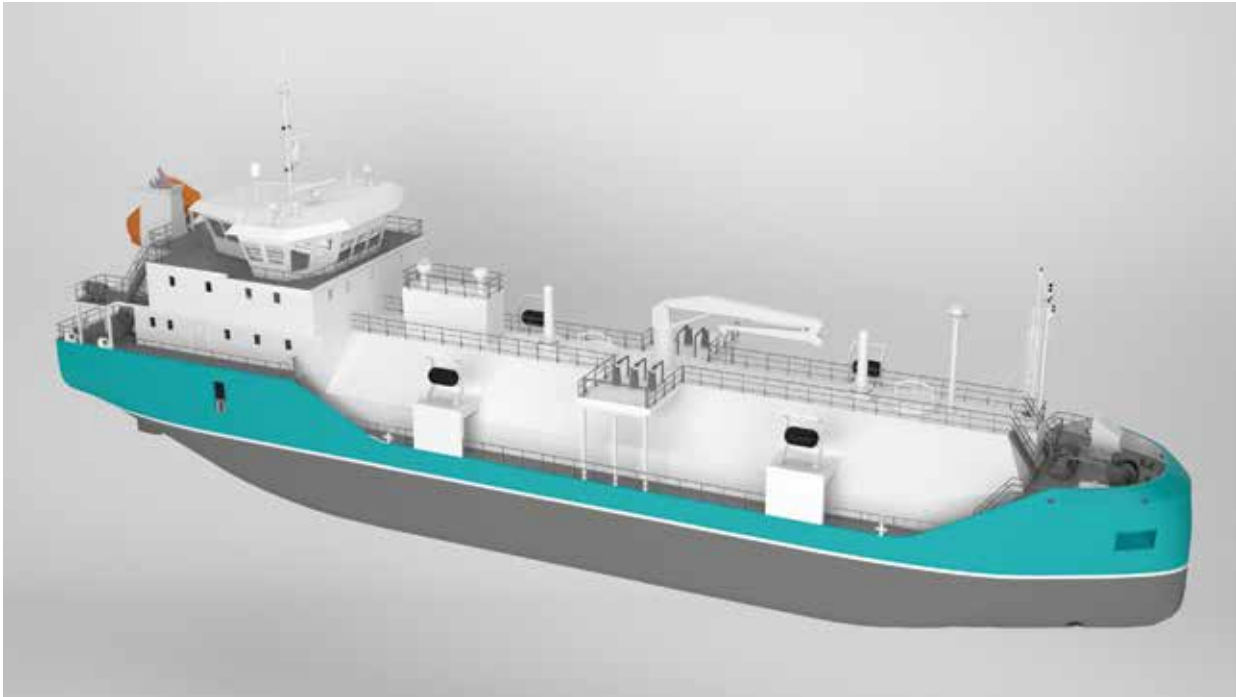
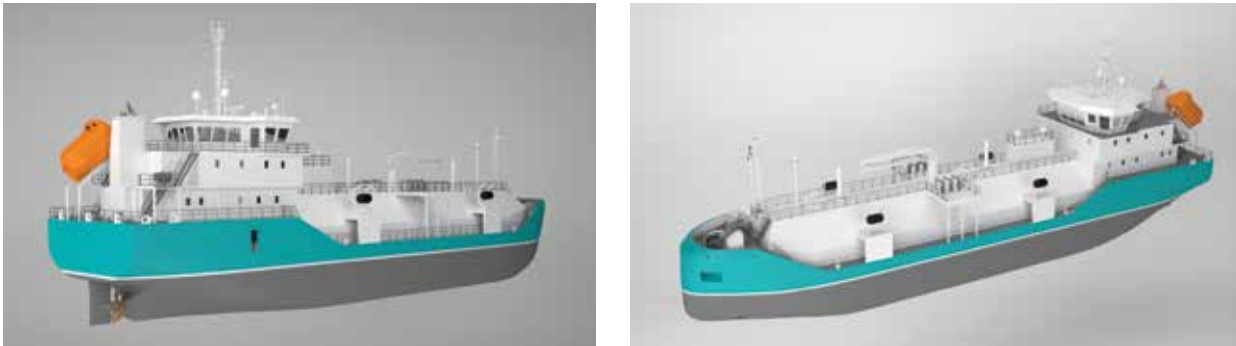
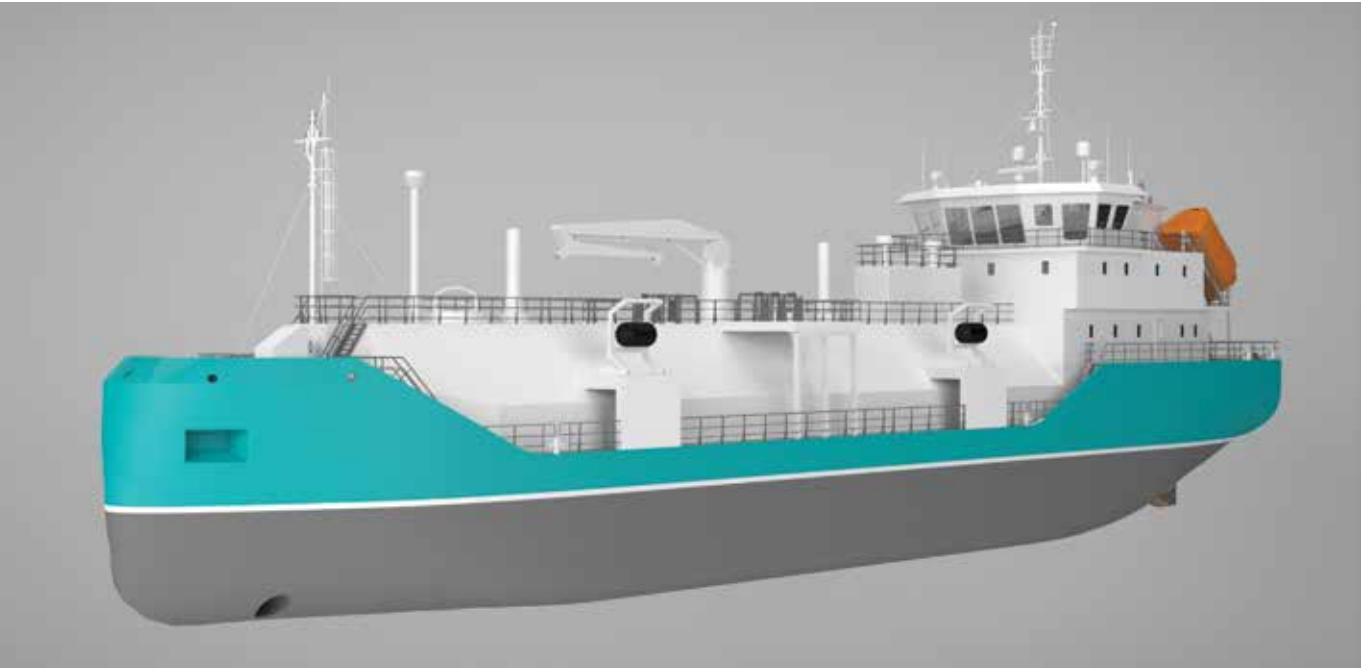
RO-PAX FERRY

RO-PAX FERRY		
type	RO-PAX VESSEL	<ul style="list-style-type: none"> The ship is a single-hull structure, symmetrical in relation to the midship, Double-ended type The hull structure and thrusters allow the ship to operate in forward and reverse motion without turning around, and can operate under the conditions where ice thickness is up to 30 cm. The ship's propulsion complex – diesel and the steering mechanisms are azimuthal, with a 360° steering angle, located at the front and rear of the ship. The superstructure of the vessel is formed on the right side of the ship. The car parking and passenger areas are located on the main deck. The passenger area is a heated passenger cabin. The crew rest rooms are located on the second deck, while the wheelhouse – on the midship of the upper deck. The engine rooms and technical rooms are in the ship's hull.
scope of work	CONCEPT & BASIC DESIGN, PRODUCTION DOCUMENTATION	
length	59.9 m	
breadth	14 m	
depth	3.4 m	
draft	1.75 m	
speed	9.7 KNOTS	
amount of passengers	1000 PASSENGERS	
amount of passengers + cars	600 PASSENGERS + 40 CARS	
ice class	Ice-40	



LNG BUNKERING VESSEL

1000 m³ LNG BUNKERING VESSEL		
type	BUNKERING VESSEL	<ul style="list-style-type: none">• Specially designed vessel for safe and cost-effective LNG Bunkering and Coastal Feeder Service servicing off-grid consumers and LNG powered ships.• Small environmental footprint, Ship type 2G, low running costs and cost-effective solution.• Lean Gas Main engine utilizing LNG cargo boil-off accommodation• Single screw propulsion plant• “Take me home” by shaft generator• Custody Transfer System with optograph laser technology for measuring energy content of LNG• Cargo handling by deep-well pumps• Double hull throughout the cargo area
scope of work	CONCEPT DESIGN	
length	64.8 m	
breadth	12.5 m	
depth	5.5 m	
draft	3.95 m	
ice class	ICE-C	
LNG cargo tank capacity	1000 m³	
ballast water	450 m³	
fresh water	30 m³	
MGO	10 m³	
LO	7.5 m³	
oily water	1 m³	
sludge	0.5 m³	
engine type	WARTSILA 6L20DF @ 1110 kW	
thruster	TUNNEL BOW THRUSTER @ 300 kW	



INLAND WATERWAYS ELECTRIC PUSHER

INLAND WATERWAYS ELECTRIC PUSHER		
scope of work	CONCEPT DESIGN	<ul style="list-style-type: none"> Electric pusher for pushing a non-self-propelled barge in the inland waterways. Shallow draft to be suitable for sailing in shallow inland waters. The electricity used for the ship's propulsion comes only from the batteries, resulting in completely environmentally friendly solution Powered by two azimuth columns. Steering and all the necessary equipment will be installed in containers and located on deck. Modular battery pack
length	27.35 m	
breadth	9.2 m	
draft	1.2 m	
weight of pushed barge	2000 t	
upstream speed	10 km/h	
downstream speed	12 km/h	



INLAND WATERWAYS BARGE

INLAND WATERWAYS BARGE		
scope of work	CONCEPT & BASIC DESIGN, PRODUCTION DOCUMENTATION	<ul style="list-style-type: none"> The barge designed to transport containers by water across the river Nemunas and the Curonian Lagoon. Barge operating area - Lithuanian inland waterways. Barge can be loaded with 90 units of 20' containers, the total weight of which must not exceed 1,800 t. Unpropelled, steel, welded, single-deck barge-platform with tank. The hull is divided by transverse watertight bulkheads into 5 compartments.
length	74.54 m	
breadth	15.85 m	
draft	2 m	
cargo hold	1800 T	
displacement	2100 T	



FISHING VESSEL

FISHING TRAWLER		
scope of work	CONCEPT & BASIC DESIGN, PRODUCTION DOCUMENTATION	<ul style="list-style-type: none">• The vessel is intended for the harvest of bottom food fish species: walleye pollock, cod, flounder, squid, greenling, saffron cod.• Possibility for fishing several types of fishing gear• Duration to change the fishing gear is from 10 to 30 minutes.• Bottom trawl• Pelagic trawl• Transportation of the caught catch, cleaned with the help of a cooling system (distribution of liquid ice among six fish holds, the total volume is 300 m3).• Single deck.
length	44.15 m	
breadth	12 m	
depth	5.15 m	
draft	4.1 m	
ice class	ICE 3	
classification society	RMRS	



CRAB CATCHER

CRAB CATCHER		
type	CRAB CATCHER	<ul style="list-style-type: none">Crab fishing vessel with processing, boiling, freezing, and packing of the products, storage on board.The crab processing factory equipped with technological equipment for processing crabs for cooking and freezing crab legs.To freeze the crab legs, brine freezing, and air freezing will be used.The brine freeze line includes four pre-cooling baths, a frost bath, and a glaze bath. On the air-frost line, four quick-freezing units will be installed.The factory equipped with working tables, conveyors, and hoists to move the products along the monorail.Two deck cranes 4000 – 7500 kg.Total quantity of the conus crab pot – 1900 unit.Production: 1000 kg/h.
scope of work	CONCEPT DESIGN	
length	75.2 m	
breadth	14.5 m	
draft	5.6 m	
ice class	Ice2	
accomodation	46 CREW	
crab pot	9020	
cargo hold	2715 m³	



MULTI-PURPOSE CARGO VESSEL

DIESEL-ELECTRIC MPV		
type	MULTI PURPOSE 4600 dwt	<ul style="list-style-type: none">The vessel is design to carry bulk cargo, including Ferro Silizium, logs, timber, containers, paper reels, grain, steel coils and general cargo on world-wide service trade, as well as dangerous goods class 1-8 to IMO-Code, excluding explosive cargos and exclusive corrosive and radioactive cargo.Super-efficient hull shape for effective fuel consumptionThe ship is designed with raked stem, bulbous bow, and transom stern.The vessel has two cargo holds.The continuous double bottom in the cargo holds and engine room.The ship is equipped by a medium speed, four-stroke diesel-generators and azimuth thruster.One bow thruster is designed for this vessel.Welding seams of cargo hold longitudinal and transverse bulkheads are ground, not grinded.
class	100A1 GENERAL CARGO	
scope of work	CONCEPT & BASIC DESIGN, PRODUCTION DOCUMENTATION	
length	89.9 m	
breadth	14.5 m	
depth	7.5 m	
draft	5.63 m	
engine type	WARTSILA 8L20 @ 1600 kW	
speed	10.3 KNOTS	
permissable load on tanktop	15 TONS/SQM	



SEA-RIVER COASTAL CARGO VESSEL

SEA-RIVER COASTER		
type	GENERAL CARGO	<ul style="list-style-type: none"> Designed to operate in sea as well as inland water Low draft as well as low air draft Modular diesel electric propulsion Efficient and environmentally friendly performance 5 Crew on-board Design with Venti foil wings Box-shaped design with movable bulkheads
classification society	BUREAU VERITAS	
scope of work	CONCEPT	
length	89.99 m	
breadth	13 m	
draft	4.3 m	
cargo hold	5040 m ³	
DWT	3500 MT	
MGO	200 m ³	
water ballast	200 m ³	
fresh water	200 m ³	
speed	10 KNOTS	



Western Baltic Engineering covers all design stages – from initial idea to the very last production drawing. All project development stages are developed by using sophisticated tools: AutoCAD, Aveva Marine, ShipConstructor, NUPAS Cadmatic, MAXSURF, Rhinoceros, ANSYS, Solidworks, Naviswork Simulate.

COMPANY OVERVIEW

Year	No. of employees	Turnover	No. of projects
2020	103	4.700 M Eur	123
2019	87	4.500 M Eur	110
2018	75	4.350 M Eur	100
2017	64	3.183 M Eur	80
2016	63	3.022 M Eur	74
2015	63	2.713 M Eur	68
2014	63	2.618 M Eur	64
2013	57	2.446 M Eur	55
2012	57	2.094 M Eur	52
2011	56	2.003 M Eur	50
2010	40	1.237 M Eur	42

CONCEPT DESIGN

Concept design a stage where our engineers listen to a client and finds a solution to implement those needs and requirements to a new vessel project. Naval architects shall take an innovative approach to combine client's ideas, functionality & efficiency of the vessel and surely, the building costs.

- General Vessel plan
- Cost estimating
- Project visualization
- Tender documentation preparation

BASIC DESIGN

Basic design a stage during which skilled naval architects shall transform a concept design to a technical project for classification society approval reflecting all necessary engineering work which comprise of:

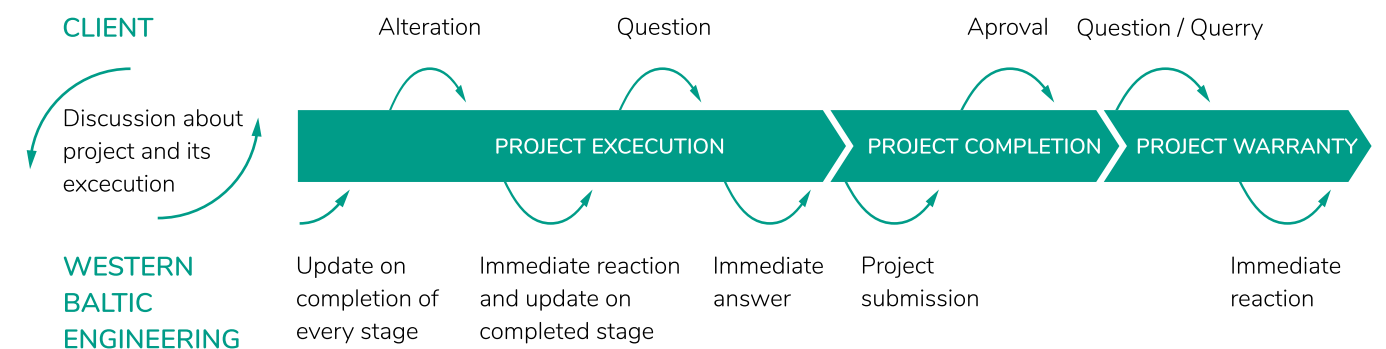
- arrangement of spaces and equipment
- structural design
- structural calculation and CFD analysis
- compartmentalization and intact / damaged stability
- highly efficient hull form design for a perfect performance from the designed ship

DETAIL & PRODUCTION ENGINEERING

Detail & production engineering shall cover the complete range of drawings to allow smooth and well-organized production of your vessel. Being part of a shipyard, Western Baltic Engineering team has real on-site experience and understand production ins and outs:

- Workshop drawings
- 3D modeling
- Hull fairing
- Shell plate development
- Pipe isometrics
- Outfitting
- Preparation of plate parts cutting cards and cutting routes' programs
- Modeling and nesting of ship equipment and mechanisms
- Reports of materials and preparation of data sheets

PROJECT MANAGEMENT



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