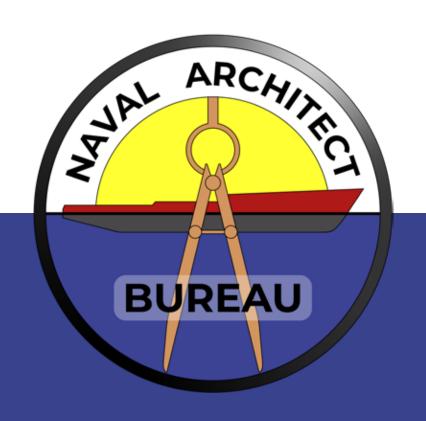
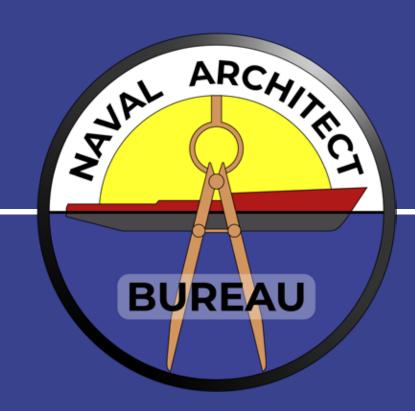
# LIMITED LIABILITY COMPANY «NAVAL ARCHITECT BUREAU»





# ABOUT THE COMPANY

LLC «NAVAL ARCHITECT BUREAU» – is an engineering company providing design, consulting and research services for sea and river fleet.

Company was established by graduates of the Naval Architect Department of Odessa National Maritime University in 2014 and provides a wide range of marine engineering services, like as new designs, redesigns, modifications, feasibility studies, drafting, 3D modeling/FEA, stability and tonnage analysis.

Our specialists have developed and successfully implemented new shipbuilding projects, reclassification and modernization projects, operational documentation, navigation area expansion groundings and software applications.

Works have been carried out both for Ukrainian shipping companies and for our clients from near and far abroad: Turkey, Austria, Kazakhstan, Moldova, Singapore, UAE, Georgia and other countries.

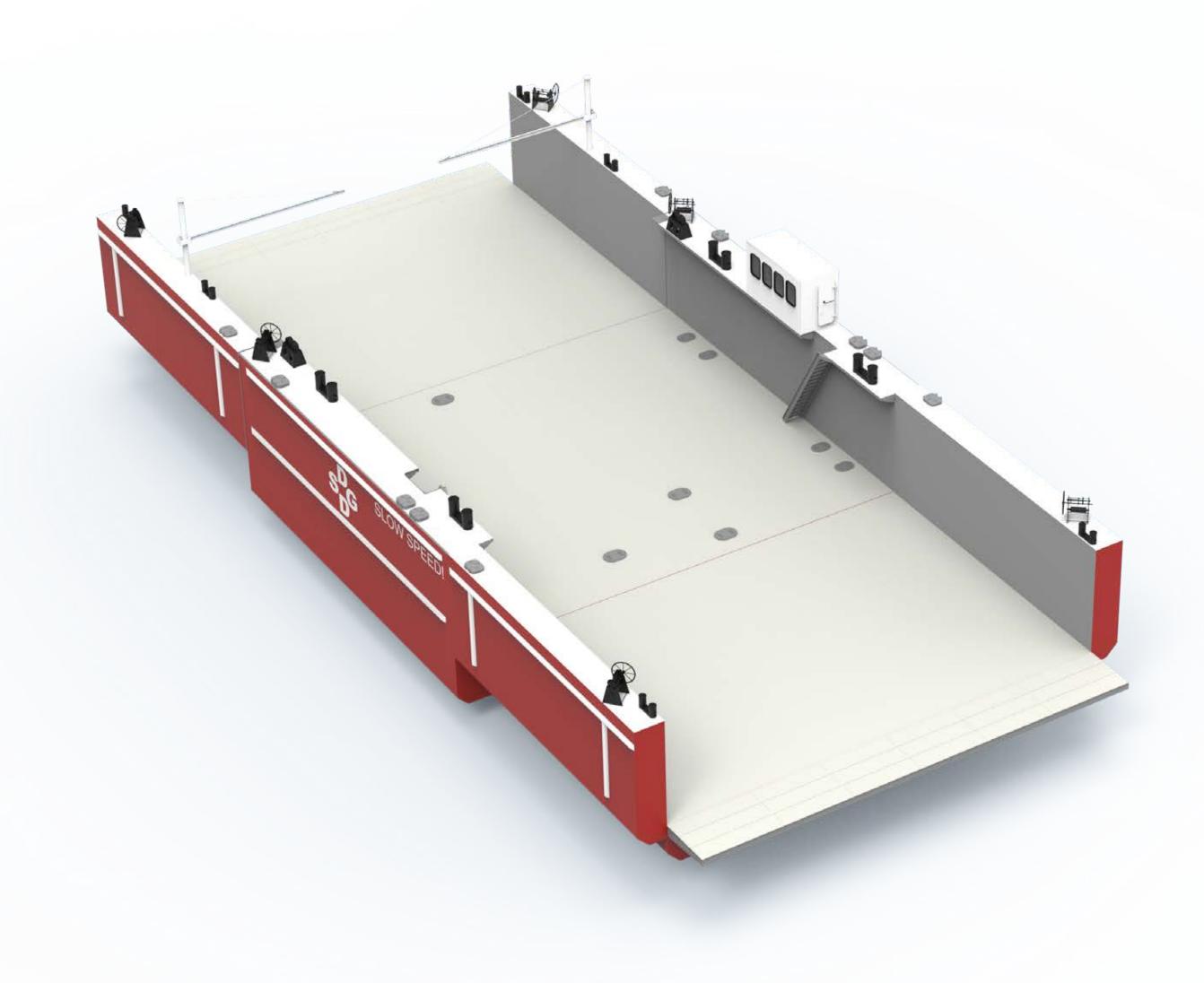


# OUR PROJECTS

Since the company was established our naval architects have been successfully working on a wide variety of projects, solving both typical and non-standard issues. More than 204 orders were successfully fulfilled.

We provide a wide range of marine engineering services for the vessels in service and naval architecture for newbuilding projects. We successfully realized:

- ✓ vessels lengthening and shortening projects;
- ✓ more than 40 projects of <u>navigation area expansion</u> (including projects without any reclassification) were fulfilled;
- ✓ more than 20 <u>conveyance projects</u> were carried out;
- ✓ <u>operational documentation</u> for typical vessels of Black Sea region and Ukrainian inland waterways is constantly being developed or recovered (about 120 vessels);
- ✓ over 40 ice category groundings for dry cargo vessels, tugs and floating cranes (including reinforcement and modernization of the fore part) were fulfilled;
- ✓ more than 25 <u>exception analysis</u> to escape International Convention requirements were developed;
- ✓ <u>dangerous goods transportation projects</u> were carried out;







## Shipbuilding projects:

- ✓ fully detailed project of floating dock with lifting capacity 350 t was carried out. In 2019 the object was built and brought into service. The highlight of the project is the ability to partly lift long vessels;
- ✓ fully detailed lengthening project of floating dock in service was developed and in 2022 the object was modernised;
- ✓ fully detailed project of catamaran length 15.7 m. The object was built and brought into service in 2021;
- ✓ fully detailed project of dry cargo vessel convertion into the pusher. The object was modernised in 2021;
- ✓ a number of reclassification projects from river vessels to seagoing vessels with various modernisation aspects;
- ✓ Modular self-elevating platform (jack up);
- ✓ craft vessels (houseboats, catamarans).



## Tug and tow caravans projects:

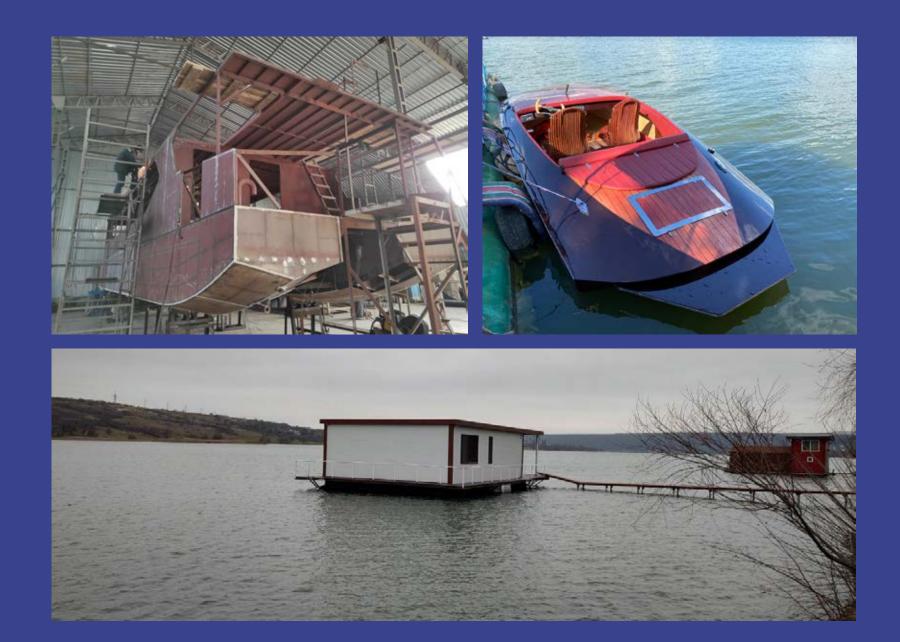
- ✓ grounding of caravan operation including 1 <u>pusher and</u> 12 barges with total loading capacity 19 000t on European inland waterways, which allowed our Customer to approve his leading position in the field of river transportation of goods;
- ✓ reclassification projects for river class barges to operate in coastal zone;
- ✓ engineering works on aft part reinforcement of barges in order to provide possibility of pushing;
  - ✓ actual hull strength calculations for barges and tugs;
  - ✓ pusing box projects for different types of pushers;

- ✓ towing device projects for tugs;
- ✓ sketch and fully-detailed projects of <u>main engine</u> <u>replacement</u> on tugs;
- ✓ design concepts of <u>hatch covers modernization</u> of river fleet to provide watertightness and strength for operation in coastal zone;
- ✓ full detailed projects of light hatch covers (tent-type)for river fleet;
- ✓ consulting in selection of on-sale barges and pushers to operate on Ukrainian inland waterways, Black Sea coastal zone, Danube river.

## Small craft projects:

More than 15 small craft objects of various types and purposes for operation on inland waterways were built according to our projects:

- ✓ pleasure yachts;
- ✓ multihull vessels;
- ✓ houseboats;
- ✓ floating bridges;
- ✓ floating births;
- ✓ speed craft vessels.

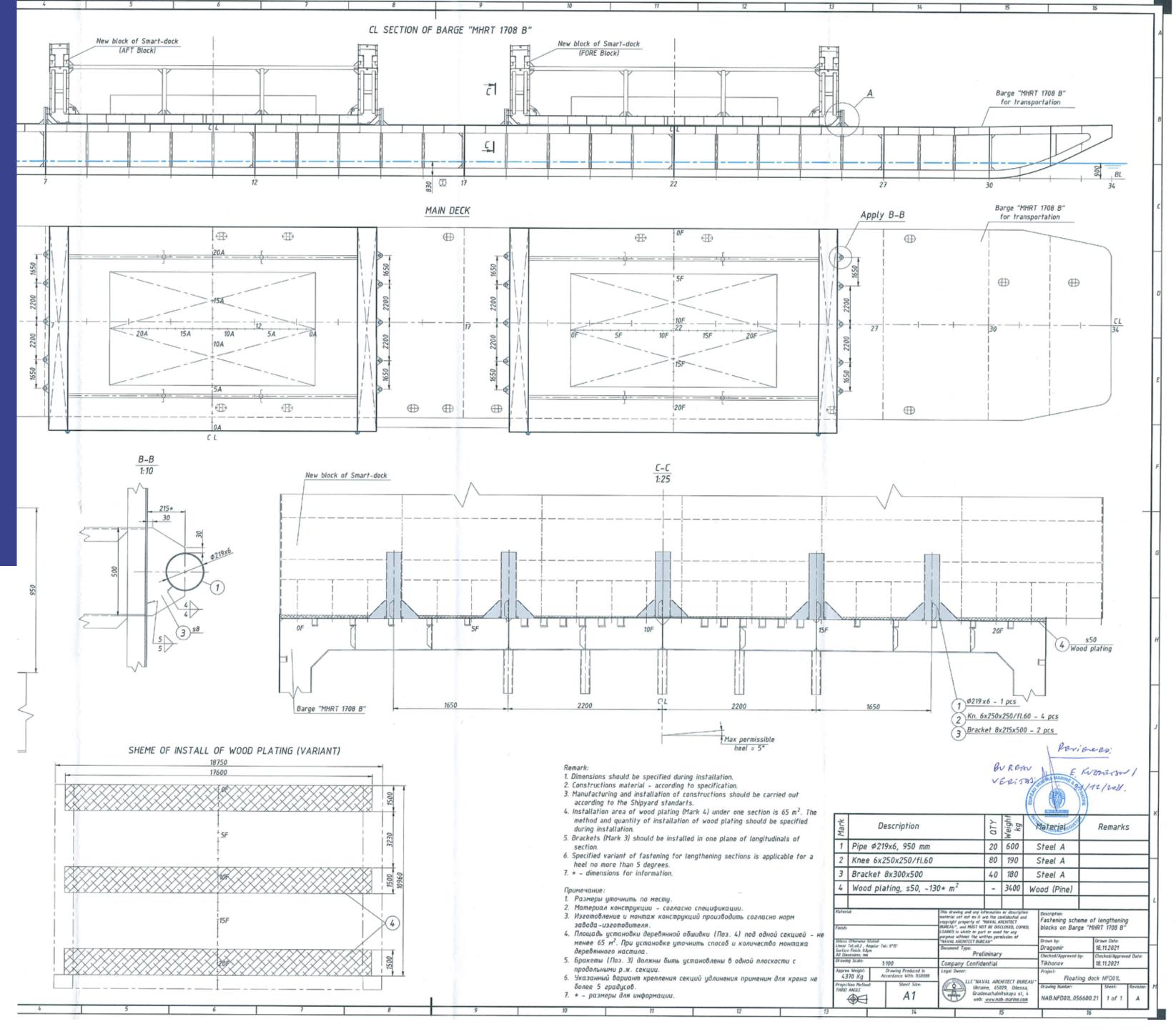




Our projects were successfully approved by the following classification societies:

- ✓ Shipping Register of Ukraine
- ✓ Bureau Veritas
- ✓ Phoenix Register
- ✓ Mediterranean Shipping Register
- ✓ International Naval Surveys Bureau
- ✓ Agenția Navală a Republicii Moldova
- ✓ Register of Shipping of Kazakhstan
- ✓ RMRS
- ✓ RRR









#### СВИДЕТЕЛЬСТВО О ТИПОВОМ ОДОБРЕНИИ ПРОГРАММЫ РАСЧЕТОВ ДЛЯ ЭВМ

#### TYPE APPROVAL CERTIFICATE FOR COMPUTER PROGRAM



20

23

25

4.49244

4.456673

4.403143

4.250

2.130

0.000

0.000

0.591857

0.538327

0.50256

0.490

0.490



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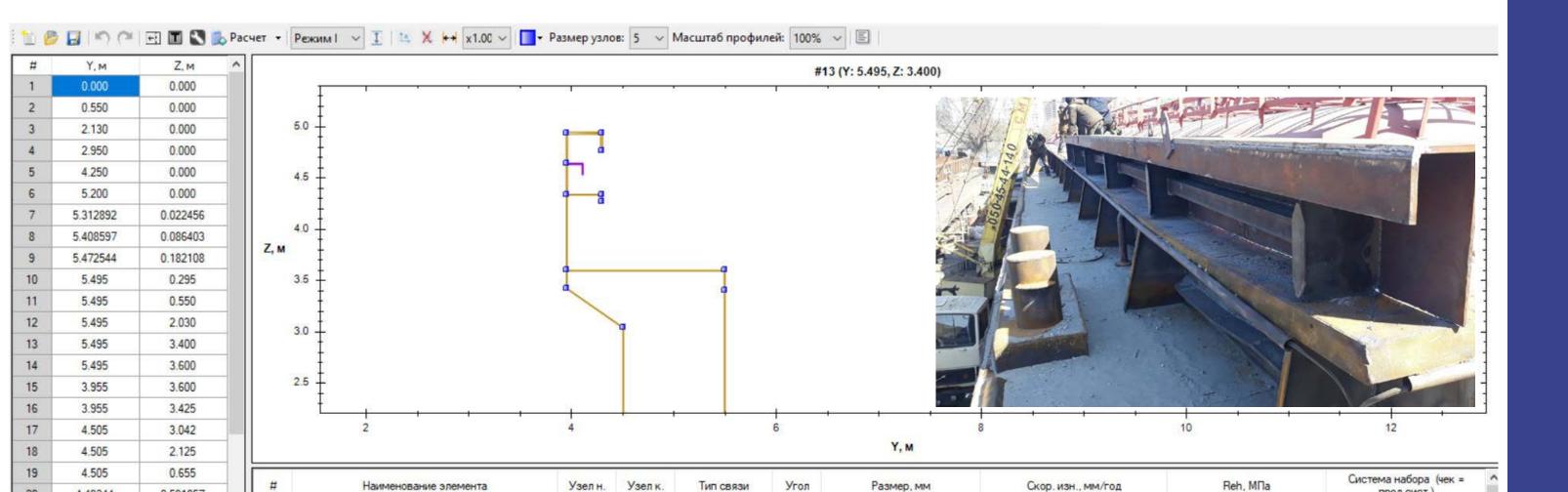
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Обшивка днища

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Ширстрек

Настил палубы

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# OTHER COMPANY ACTIVITIES

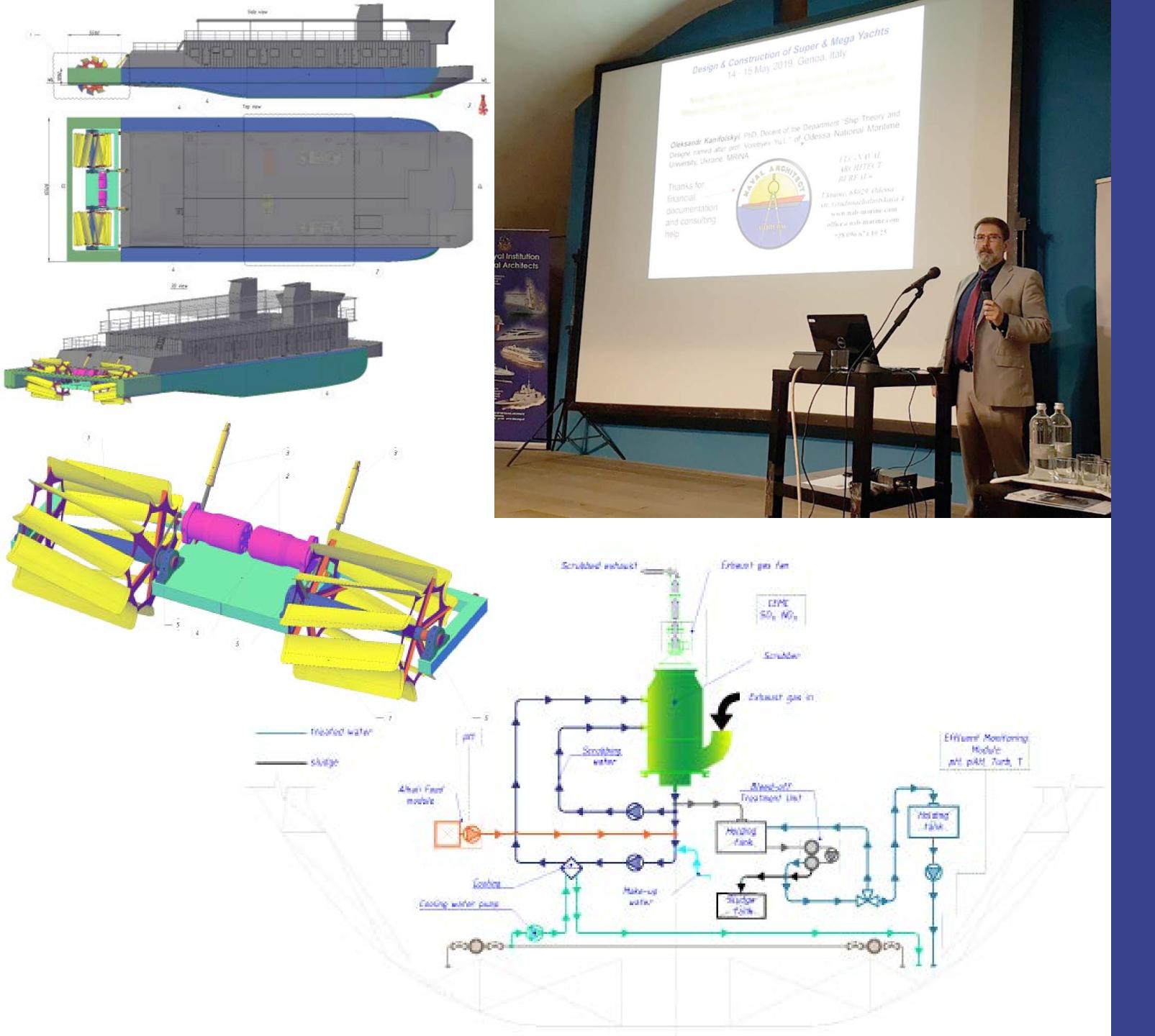
## Software Development

In order to optimize the working process, we have developed our own software for performing calculations of longitudinal strength of ship hulls called «TIBRUS».

«TIBRUS» has successfully got «Type approval certificate for computer program» of Russian Maritime Register of Shipping №18.80007.180 from 14.03.2018. Since 2022 we have stopped supporting RS Rules and have implemented methodics of Bureau Veritas methodology for further use.

The main features of the application are the ability to perform simultaneous calculations according to the requirements of various classification societies and considerable reduction in the complexity of calculations.

NAVAL ARCHITECT BUREAU



## Research engineering

We constantly maintain relations with magistral staff of Odessa National Maritime University: change experience and work together on actual shipping and shipbuilding problems.

With the participation of our company, ONMU lecturers attend scientific conferences in Europe.

Our company is actively exploring latest trends and problems of sea and river fleet.

Our specialists are carrying out sketch investigations in the following areas:

- ✓ installation of gas or hybrid engines;
- ✓ paddle-wheel operation in small depth areas;
- ✓ exhaust filter systems (scrubbers) installation;
- ✓ modern low-draft vessels for Danube river;
- ✓ shipbuilding using previously operated constructions of the hulls.

# OUR LONG-TERM CUSTOMERS

Over the years of successful work, we have got the following biggest shipping companies as our long-term customers:





When interacting with each Customer, we try our best to build individual and proper strategy for solving client's tasks, taking into account all possible technical features of the vessel and terms of work, paying much attention to shipping safety and regulatory requirements.

Each important stage of work is preliminarily agreed with the Customer and before our submitting of the design documentation for the Classification Society review and approval, the Customer already has information about its future results, which eliminates unpleasant factor of suddenness. These work principles allow us to provide our services with quality and on time.

## OUR PARTNERS

We effectively co-operate with other design bureaus and shipyards.

Close interaction in engineering services with our partners from SDC Ship Design & Consult GmbH allows our specialists to change experience with each other and improve professional skills.

During cooperation with design companies we have got great experience in design of floating docks, platforms and in small craft, especially in calculations for vessels made from high-density polyethylene (HDP).

Our teamwork with Intellectual Maritime Technologies Company (Nikolaev, Ukraine) which is specialised on ship's propulsion design and calculations, gives us an opportunity to carry out projects on main engine replacement, propeller-rudder complex modernisation, and also to develop full-scope design for new building of self-propelled vessels.

While carrying out detailed projects for vessels modernization we have become long-term partners with shipyards and supply companies:

- ✓ Chernomorsk ship-repair yard, Ukraine
- ✓ Sigo Marine (small craft shipbuilding, Ukraine)
- ✓ Hidrodinamik (ship-repair yard, Turkey)
- ✓ Intellectual Maritime Technologies
- ✓ Electric Engineering (supply and service company, Ukraine)







Naval Architectural Consultant and Calculation Services







NAVAL ARCHITECT BUREAU

## 1. MODERNIZATION AND RECLASSIFICATION PROJECTS



Cargo carrying capacity increasing



Navigation area expansion



Dangerous goods transportation



Specific goods transportation



Double bottom and double side installation



Bow thruster mounting



Crane equipment installation



Increasing volume of cargo spaces



Decreasing draught without deadweight changing



Air draught decreasing



Propulsion modernization for low draught vessels



← Length changing



Passenger capacity increasing



Main engine changing



Main engine cooling system modernization



Towing gear installation



Hull reinforcement



Ice category grounding



Ballast water management system installation Ship's



purpose or type changing



Build of new vessels with the use of donors



Exhaust filter systems (scrubbers) installation



Additional fire system installation



MARPOL or Environmental protection projects



Unstallation or modernization of sewage and oil waste systems



Propeller-rudder complex optimization



Pushing boxes installation



Ship's electric powerplant modernization



Monitoring system of fuel consumption



Anchor and mooring gear modernization

### 2. OPERATIONAL DOCUMENTATION



Strength and stability booklet for the Master



Loading manual



Information on ship's stability loaded with grain



Strength and stability booklet for the ship loaded with solid bulk cargoes



Damage stability booklet



Technical grounding of the exception from the International Conventions requirements



Inclining tests and lightweight check



Emergency towing booklet (ETB)



Plans and procedures for recovery of persons from water



Cargo securing manual



Sounding tables for ship's tanks



Tug and tow caravans groundings and calculations



Damage control plan



Ship garbage management plan



Ship energy efficiency management plan



Schedule of maintenance of life-saving appliances



Schedule of maintenance of fire-fighting appliances



Inventory of hazardous materials (IHM)



Load line



Draught marks and deadweight scale drawing



Cargo plan



Docking plan



Capacity plan



Damage stability calculations



Freeboard calculation



Gross and net tonnage calculation



Fire and safety plan



Ballast water management plan (BWMP)



Ship oil pollution emergency plan (SOPEP)



Conveyance projects



Analysis of actual fulfilment of International Convention or Code requirements



Analysis of actual fulfilment of Classification Society requirements

### 3. SHIP'S HULL AND ITS CONDITION ANALYSIS



Actual hull strength calculation based on

UTM reports



Hull condition expert analysis



Repair recommendations and sketches



Shell platting elements retaining groundings



Strength FEM (Finite element method) calculation



Vibration strength calculations



Overall deflection analysis and unbending plan

## 4. VESSELS DESIGN



Small pleasure craft



Berth-connected vessels



Floating offices



Tugs and pushers



Barges and lighters



Tug and tow caravans



Docking facilities



Special purpose vessels



Floating bridges



House boats



Floating platforms



Floating trans-shipping terminal



Floating module constructions

### 5. SMALL CRAFT AND PLEASURE YACHTS



















# 6. RECOVERY OF LOST DOCUMENTATION AND DRAWINGS



Construction drawings



Operational documentation

### 7. PROPULSION SYSTEM CALCULATION





Bracket bearing stiffness calculation

Shaft alignment design

Torsional, whirling and axial vibration analysis

## 2 8. SOFTWARE DEVELOPMENT

## 9. OTHER



3-D modelling



## REFERENCIES



**DANUBE BUNKERING S.R.O.** PRIBINOVA 10 811 09 BRATISLAVA, SLOVAKIA

DATE 21.08.2023

*About co-operation with* LLC "NAVAL ARCHITECT BUREAU" (www.nab-marine.com)

To whom it may concern

#### REFERENCE LETTER

I am writing this letter to provide a reference for the exceptional services provided by LLC "NAVAL ARCHITECT BUREAU" (Odesa city, Ukraine) during their engagement with our organization, "DANUBE BUNKERING s.r.o.". I had the pleasure of working closely with Mykhailo Tikhonov and their team on a critical project involving technical consulting and engineering support for our fleet.

Naval architect bureau was instrumental in helping us address the complex technical challenges associated with our river fleet on Danube. Their expertise, professionalism, and commitment to delivering high-quality solutions were evident throughout the entire project.

We are extremely satisfied with the quality of work provided by LLC "NAVAL ARCHITECT BUREAU" and would not hesitate to recommend their services to other organizations seeking toptier marine engineering and naval architecture. They made a significant and positive impact on our project, and I look forward to future collaborations.

If you have any questions or require further information regarding our co-operation experience, please feel free to contact me.

With respect, director Danube Bunkering s.r.o.

Maksym Zolotonos



МИЛСТЕРСТВО ІНФРАСТРУКТУРИ УКРАЇНИ ПрАТ «УДП» ГВСП «Кілійський суднобудівельносудноремонтний завод» 68303, Кілія, Одеської обл., вул. Миру. 3 Телефон: (04843) 4-14-80 Факс: (04843) 4-14-80 e-mail: ofkssrz@ukr.net

e-mail: ofkssrz@ukr.net

МИНИСТЕРСТВО ИНФРАСТРУКТУРИ УКРАИНЫ ЧАО «УДП» ХОСП «Килийский судостроительносудоремонтный завод» 68303, Килия, Одесской обл., ул. Мира. 3 Телефон: (04843) 4-14-80 Факс: (04843) 4-14-80

28, 10, 2021 No 041/756

Директору ТОВ «БЮРО КОРАБЕЛЬНИХ ІНЖЕНЕРІВ»

#### Шановний Михайло Володимирович!

ГВСП «Кілійський суднобудівельно-судноремонтний завод» дякує Вам і Вашому колективу за плідну співпрацю.

Висловлюємо Вам щиру вдячність за сумлінне ставлення і взаєморозуміння, за хороші робочі контакти між нашими сторонами, проявлені при будівництві секцій подовження плавучого доку проекту NFD011. та конверсії сухогрузного судна «BAROSS» в штовхач.

naskasiama niavia kavinnia niammenerna TOR «EIOPO KOPAREIIKUUV



September 28, 2023

To whom it may concerns

About co-operation with LLC "NAVAL ARCHITECT BUREAU" (www.nab-marine.com)

#### REFERENCE LETTER

Our company "CARLYSMITH SYSTEM S.R.O." had a problem to get highly qualified technical support and engineering services for our vessels "BALKAN MARMARA" (IMO № 9650951) and "BALKAN 1" (IMO № 9481908) in short time, as the vessels were in operation.

We decided to commission LLC "NAVAL ARCHITECT BUREAU" (Odessa city, Ukraine) to help us with our engineering tasks, such as technical consultancy, development of EEXI technical file and other operation booklets.

We were very appreciated with the results of our cooperation. Specialists of the company proved to be highly qualified engineers who work fast and provide quality services. The CEO of the company (Mykhailo Tikhonov) was available 24 hours a day for any discussions and also proved to be a reliable and educated specialist.

Our company is fully satisfied with the cooperation with LLC "NAVAL ARCHITECT

It is my pleasure to recommend LLC "NAVAL ARCHITECT BUREAU" as a professional ship design company with good knowledge of ship operation issues.

If you have any questions, please do not hesitate to contact me.

Mail bulkpasific@gmail.com or directly stavitskiy123@gmail.com

Mob. +380 66 3689097 (also WhatsApp & Viber)

Sergiy Stavytskyy

CarlySmith System S.R.C



АСК «УКРРІЧФЛОТ»

вул. Електриків, 8. r./ф.: +38 044 594 57 88/89

Дата/Date: 12.12.19 1-2-4-1-10/136

JSSC «UKRRICHFLOT» 8 Elektrykiv Street, Kyiv, 04071, Ukraine ph./.f.: +38 044 594 57 88/89

e-mail: office@urf.ua - www.urf.ua

ООО «БЮРО КОРАБЕЛЬНЫХ ИНЖЕНЕРОВ»

#### РЕКОМЕНДАТЕЛЬНОЕ ПИСЬМО

Компания «УКРРЕЧФЛОТ» активно сотрудничает с ООО «БЮРО КОРАБЕЛЬНЫХ ИНЖЕНЕРОВ» с 2014 года по вопросам предоставления инженерных услуг для судов нашего флота.

За этот период проектное бюро разработало и успешно согласовало с Главным



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В.о. Голови Правління ПрАТ «Українське Дунайське пароплавство» пану Яценко П.Д. м. Ізмаїл

Директору «Кілійського Судноремонтно-суднобудівного Заводу» пану Бондаренко О.Г.

м. Кілія

Директору «Бюро Корабельних Інженерів» пану Тихонову М.В.

м. Одеса

Президенту Компанії «Danube Shipping Management Service GmbH» пану Вдовиченко В.В

м. Віддень

Генеральному директору «Дочірнього підприємства Danube Shipping Management Service Україна»

пані Олейник А.В.

Головному редактору газети «Дунаєць» пані Котовенко Т.А.

#### Вельми шановні Пані та Панове!

Згідно з підписанним у серпні 2021 року контрактом, Кілійський судноремонтно-суднобудівний завод завершив виконання унікального замовлення компаніі «DDSG» по конверсії 95-метрового вантажного судна «Baross» в 42-метровий штовхач, шляхом об'єднання кормової та носової частин, та будівницьтва з трюмної частини судна двох додадкових секцій для нашого плавучого доку «Smart», кожна вагою по 130 тонн та довжиною 11,5 м.

Сьогоні після завантаження згаданних блоків на баржу МАНАRT-1708 250-тонним краном в порту Рені, наш надпотужний штовхач «Tulln» відходить з цією баржею у порт Еннс (Австрія). Штовхач «Baross» з баржами, завантаженними українськими експортними котунами відходить на порт Лінц (Австрія).

Складний проект з конструкторської та технологічної точок зору успішно завершено! Це стало можливим завдяки взаєморозумінню керівників підприємств та яскраво засвідчує високий інтелектуальний та технологічний рівень підприємств-учасників проекту, високий професіоналізм та

FN: 293420a | UID: ATU64270602 | GmbH mit Sitz in Wien | Firmenbuchgericht: Handelsgericht Wien



03150, Україна, м.Київ, Голосіївський район, вулиця Антоновича, будинок 33-8 Тел/факс +380 6153 62794

ООО «БЮРО КОРАБЕЛЬНЫХ ИНЖЕНЕРОВ»

#### РЕКОМЕНДАТЕЛЬНОЕ ПИСЬМО

Компания «АСКЕТ ШИППИНГ» активно сотрудничала с ООО «БЮРО КОРАБЕЛЬНЫХ ИНЖЕНЕРОВ» на протяжении 2019 - 2021 годов по вопросам предоставления инженерных услуг для судов нашего флота.

November 12, 2021

«EUROPROFLINE» SRL Moldova Republic, MD-2062 Chisinau, str. Botanica Veche, 43/1, ap.43 Tel: +373 691 096 18

#### Reference list

To Whom It May Concern

It is my pleasure to recommend LLC «NAVAL ARCHITECT BUREAU» (Odessa, Ukraine) as a professional marine design company.

I have known the Company for the last year. The Company helped me and developed project of floating house. Project was successfully approved by Ship Register (Maritime Administration of Moldova Republic) and we received Classification Certificate for the vessel.

Our collaboration was very fruitful for me. They have been very reasonably priced, and have done exactly what we've asked of them.

I'm happy to recommend the services of LLC «NAVAL ARCHITECT BUREAU». If you have any questions, feel free to contact me.

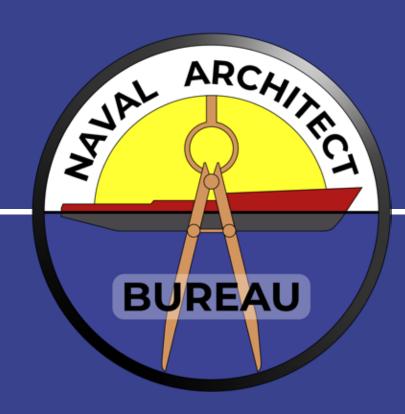
Sincerely.

Jidobin Igor

Director of «EUROPROFLINE» SRL



NAVAL ARCHITECT BUREAU



Thank you for taking the time to read our brochure.

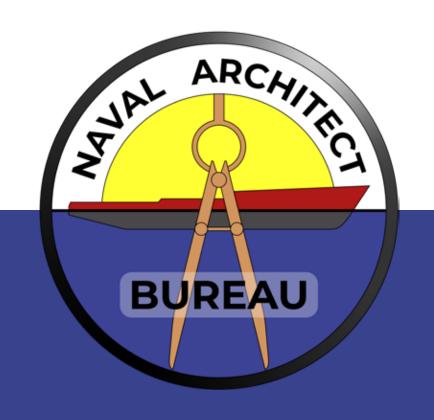
We look forward to building a strong, longterm relationship with you.

Our company is open for different ways of partnership and for solving non-ordinary tasks.

Respectfully yours,
Tikhonov Mykhailo
CEO



# LIMITED LIABILITY COMPANY «NAVAL ARCHITECT BUREAU»





www.nab-marine.com nabmarine@gmail.com +38 096 674 10 25 +38 098 219 82 56

LLC « NAVAL ARCHITECT BUREAU » Ukraine, Odessa, 65029 Gradonachalnitskaya str, 4

Professional engineering services for sea and river fleet