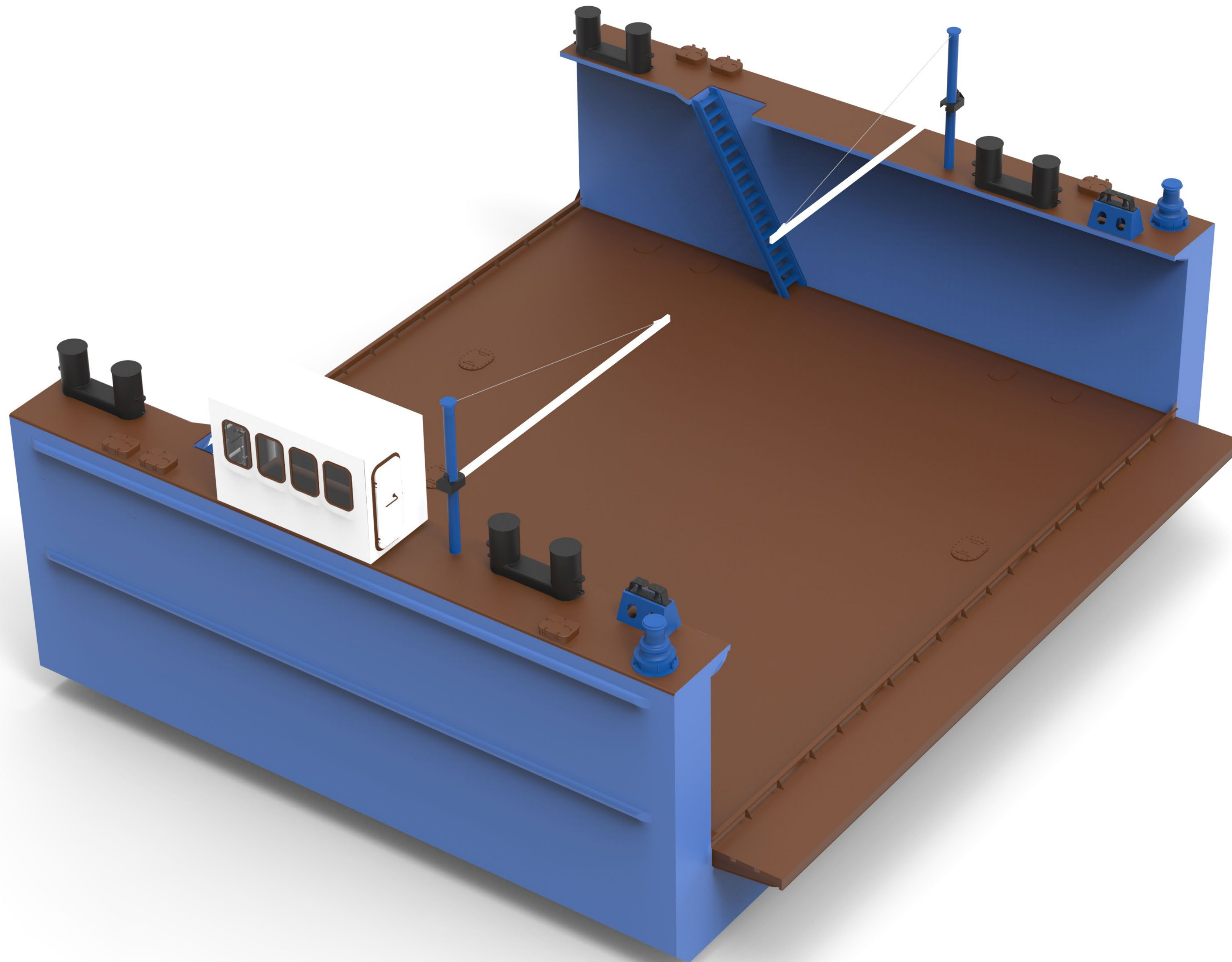


FLOATING DOCK PROJECT WITH USE OF DONOR VESSELS HULLS



NAVAL ARCHITECT BUREAU

Ship design
Vessels modernization and reclassification projects
Developing of operational documentation
Evaluation of ships technical condition





1. PROBLEM DESCRIPTION

Today a lot of vessels are not operated just staying at backwaters.

Reasons are common and known to many Shipowners:

- ✓ unprofitable operation;
- ✓ market situation changing and absence of contracts;
- ✓ technological obsolescence;
- ✓ vessels age;
- ✓ necessity of huge investments for ship's repair and class renewal.





2. TYPICAL PROBLEM SOLUTIONS (disadvantages)

There are several solutions in such situation:

- ✓ sale (long term and not guaranteed);
- ✓ utilization (small profit);
- ✓ ships repair and class renewal (huge investments needed and depends on the hull and machinery condition);
- ✓ ships modernization according to new market tasks (individual estimation, spent money may not be paid back).



3. OUR OFFER

Hulls of unoperated vessels can be used for building of a **FLOATING DOCK**.
Own floating dock can make the difference either for shipping company or for shipbuilding-shiprepair yard:

- ✓ low-cost repair of own fleet;
- ✓ quick docking especially in case of emergency repair;
- ✓ docking hours decreasing;
- ✓ providing shiprepair for other shipping companies.

Yet big **FLOATING DOCKS** have some disadvantages:

- ✓ necessary big water area;
- ✓ expensive maintenance and operation;
- ✓ profitability depends on the number of repaired vessels.

STERNLIFTERS can be of a greater interest in case of own fleet repair:

- ✓ small length (15-40 m);
- ✓ big water area is not necessary;
- ✓ more economic in maintenance;
- ✓ fast docking of vessels fore and aft parts to repair propeller-rudder complex and bow thruster.

ADVANTAGES OF USING DONOR HULLS:

- ✓ big percentage of using donor hulls in total weight of new hull: from 50 to 90%;
- ✓ the majority of donor sections can be used entirely;
- ✓ short time of hull building;
- ✓ main expenses just for equipment and dock systems.

4. WORK STAGES

PROBLEM FORMULATION

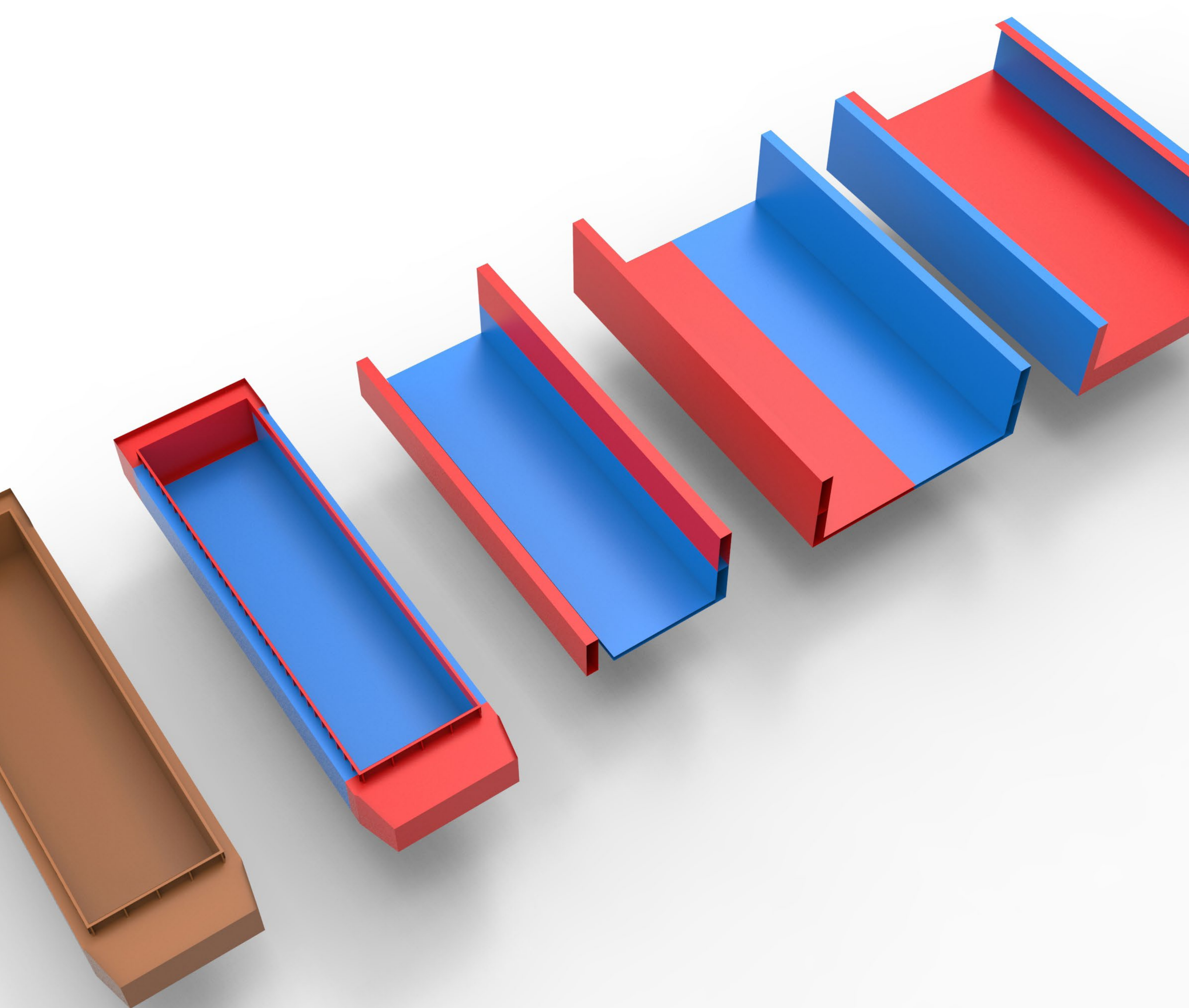
- **DEFINING NECESSARY LIFTING CAPACITY OF THE FLOATING DOCK**
- **EVALUATION AND SELECTION OF SUITABLE DONOR VESSELS**

DESIGN

- **DEVELOPING OF SKETCH PROJECT**
 - **calculation of optimal floating dock particulars depending on:**
 - **vessels characteristics expected to be docked**
 - **depth of harbor area**
 - **dimensions of hull sections of donor vessels**
 - **calculation of floating dock new constructions weight**
 - **preliminary selection of equipment**
- **DEVELOPING OF FULL DETAILED PROJECT**

BUILDING OF STERNLIFTER

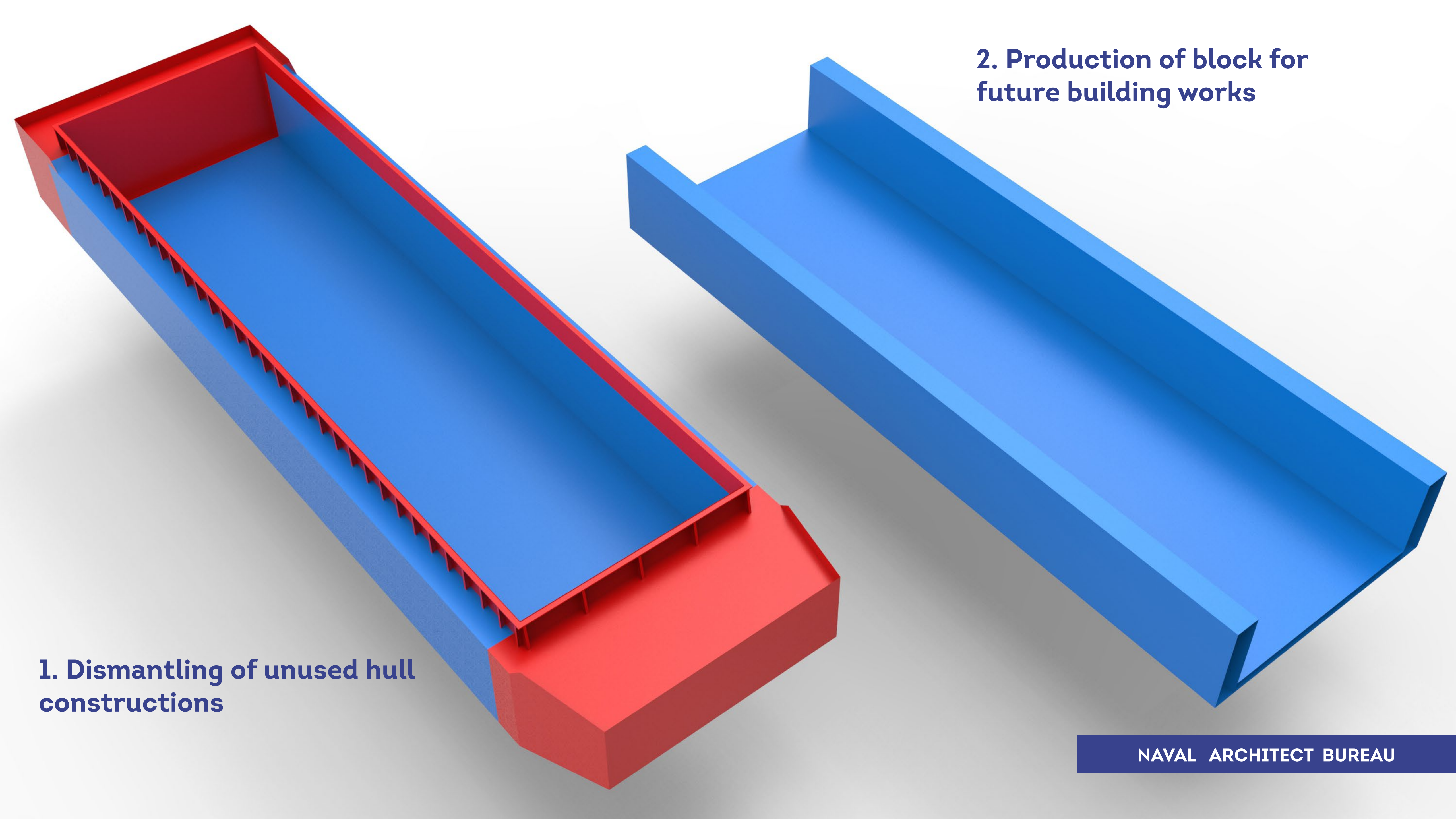
- **BUILDING HULL USING DONOR VESSELS**
- **EQUIPMENT AND SYSTEM INSTALLATION, OUTFITTING**
- **TESTING AND BRINGING INTO SERVICE**



5. GENERAL DESCRIPTION OF STERNLIFTER BUILDING USING HULLS OF DONOR VESSELS

1. Dismantling of unused hull constructions

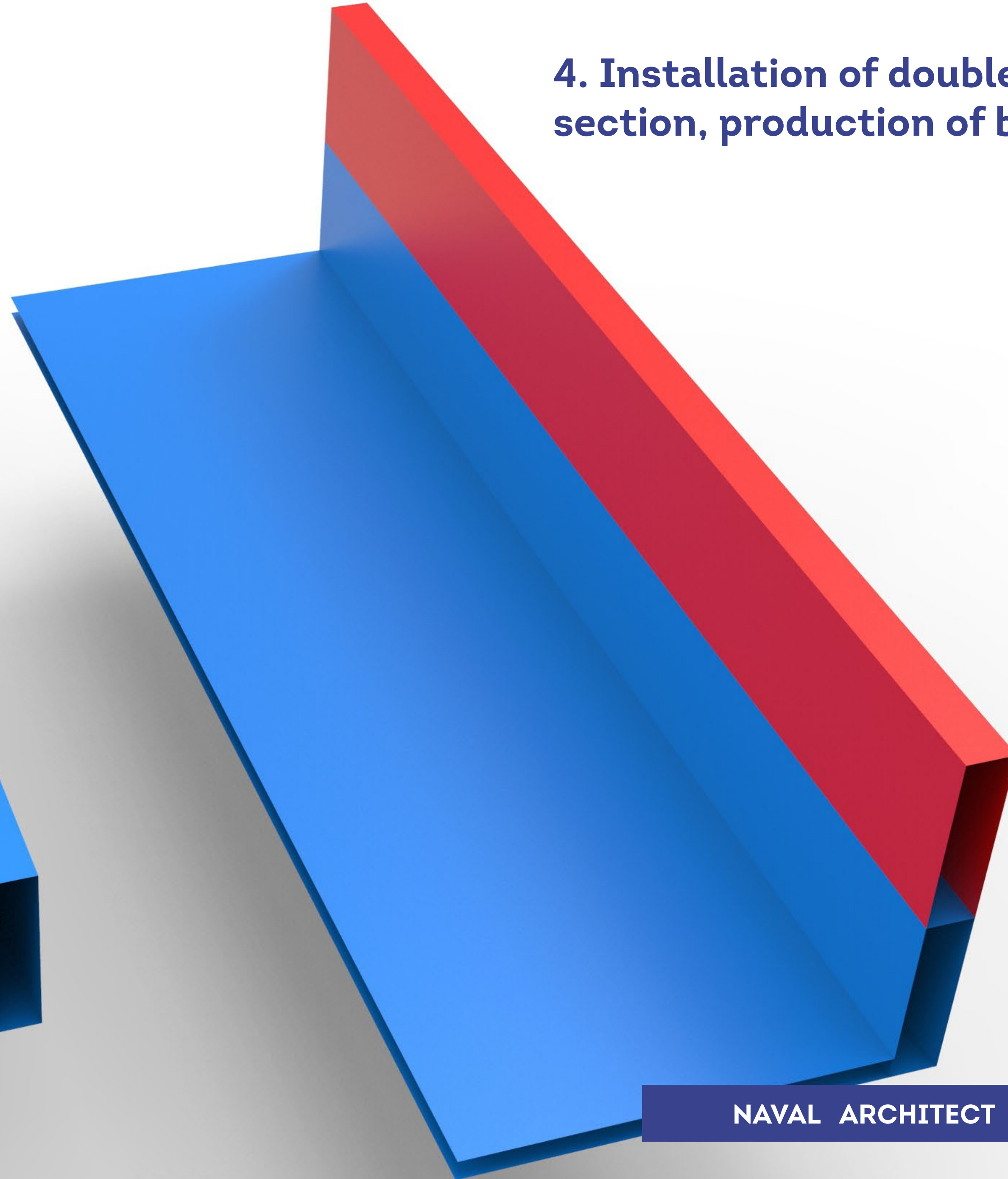
2. Production of block for future building works



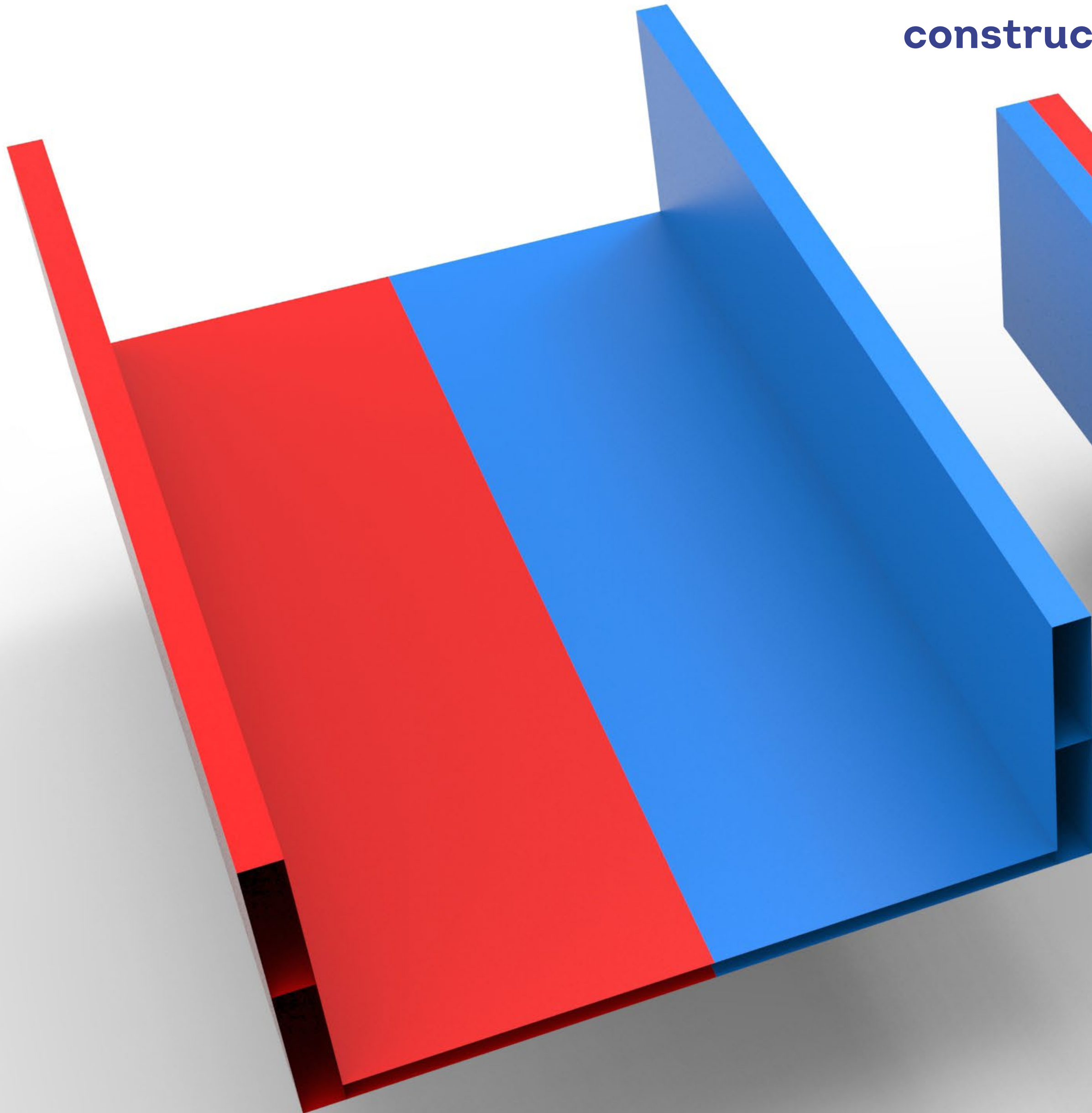
3. Dismantling of double side section



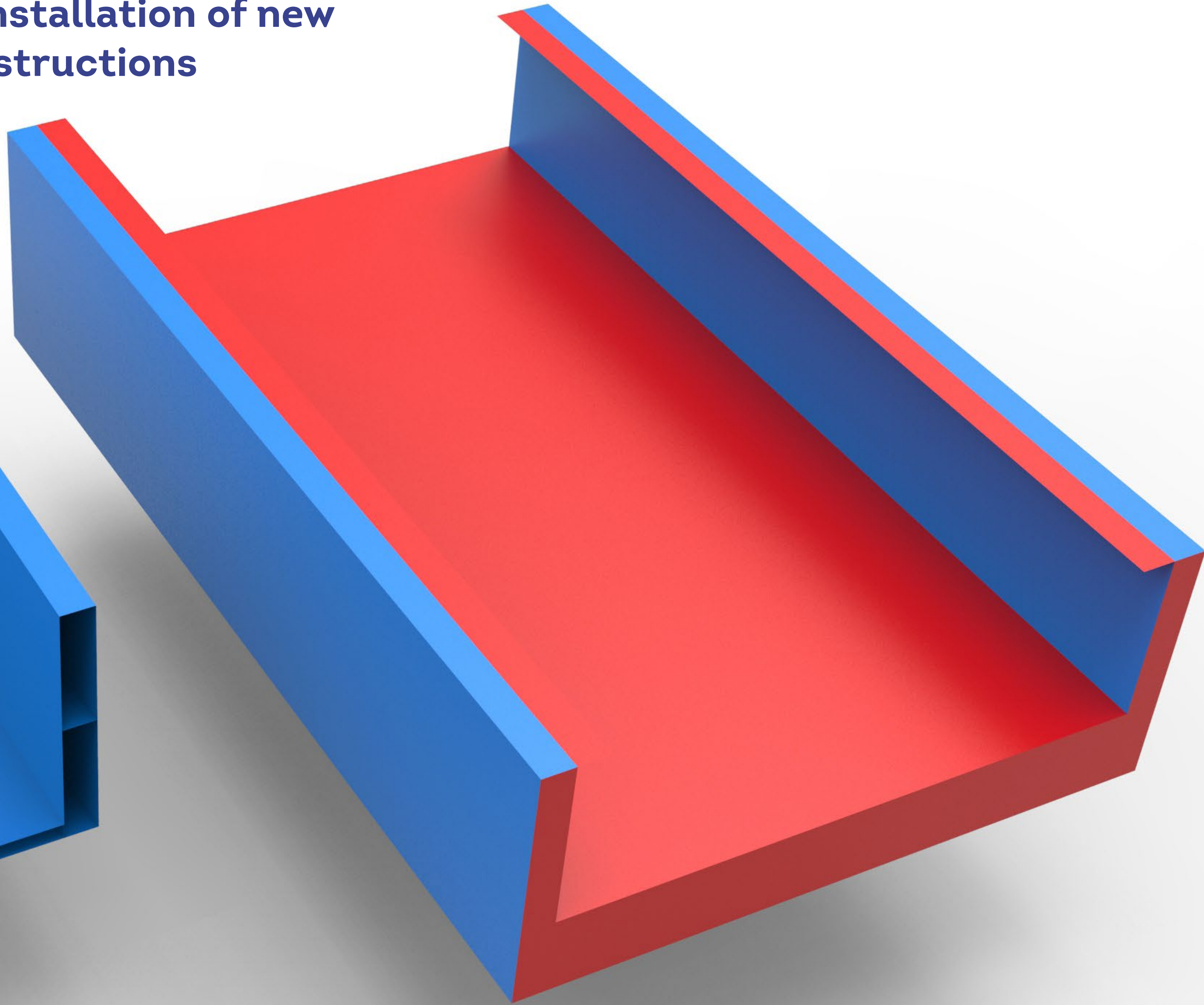
4. Installation of double side section, production of block



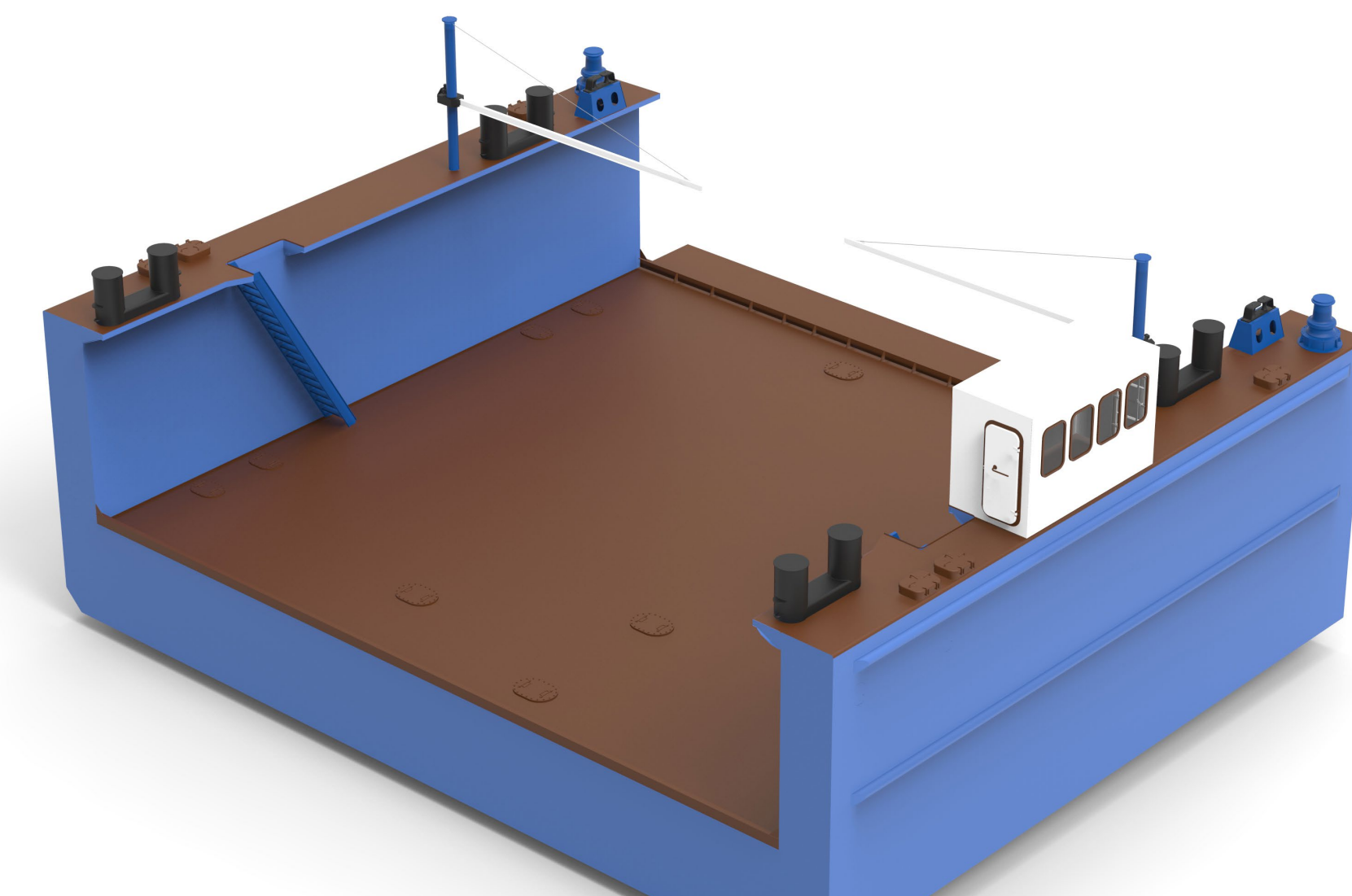
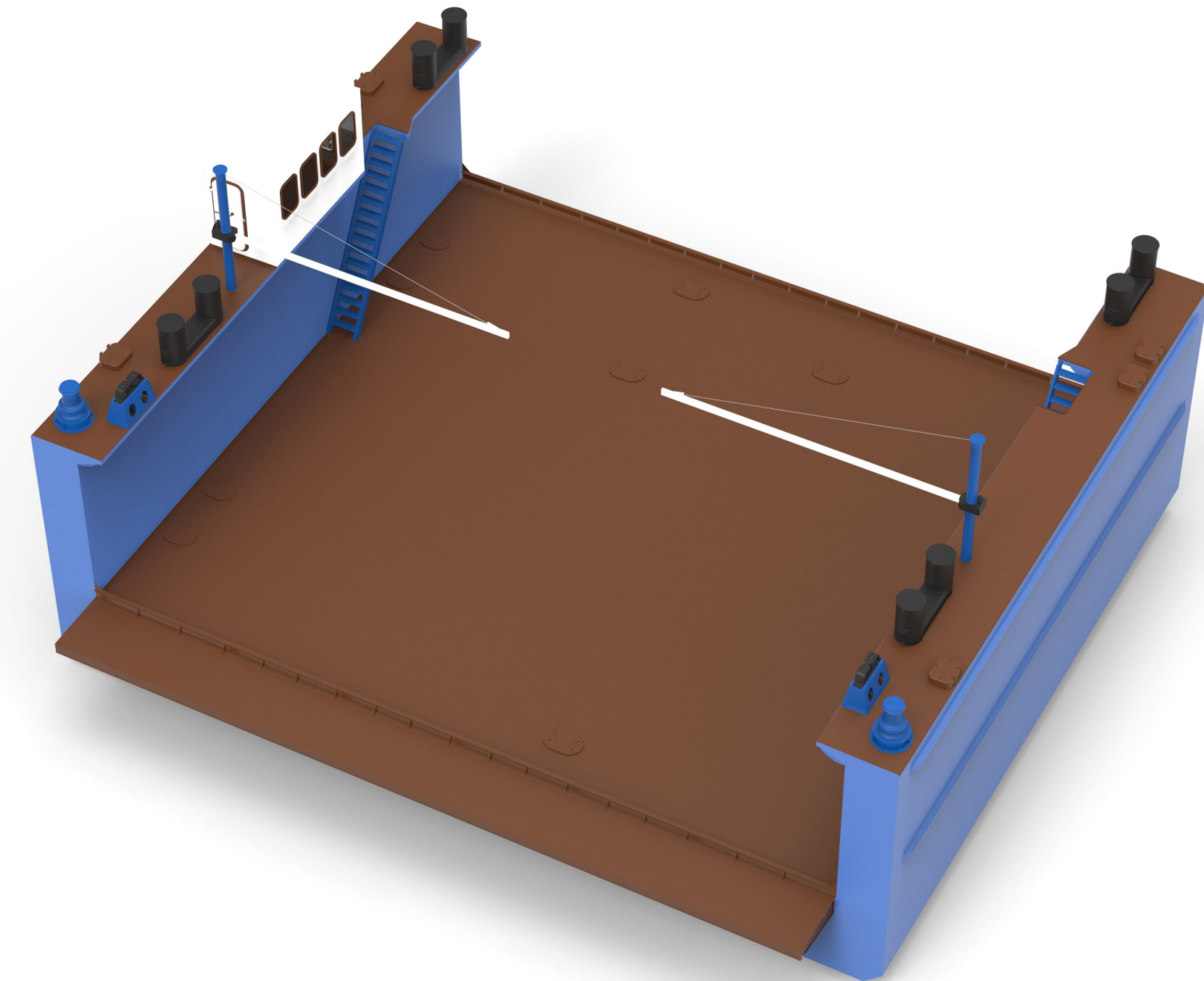
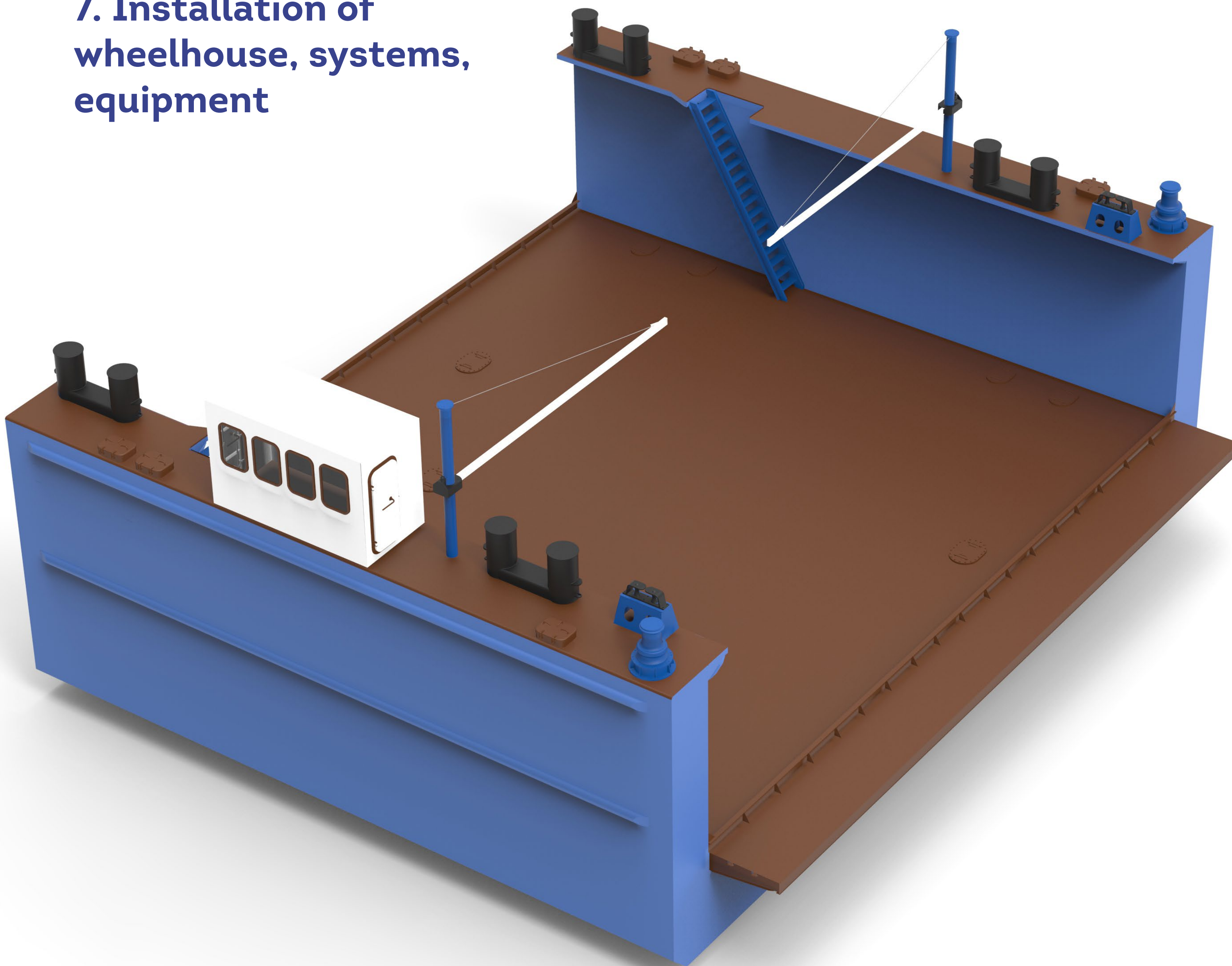
5. Two blocks connection



6. Installation of new constructions



7. Installation of wheelhouse, systems, equipment





6. SUCCESSFUL IMPLEMENTATION OF THE PROJECT

In 2019 according to project of NAVAL ARCHITECTURE BUREAU was built and brought into service sternlifter for DDSG - leading shipping company on internal Europe waterways.

Due to productive cooperation of our bureau with Astra Shipyard and Besi Marine Systems the project was short time and good quality implemented.

Under the supervision of our engineers dock was tested. Now sternlifter is successfully operated docking small tugs and barges aft and fore parts.



LLC «NAVAL ARCHITECT BUREAU» is a company providing engineering services for sea and river fleet.

The company was founded by graduates of the Naval Architect Department of Odessa National Maritime University in 2014.

Our specialists have developed and successfully implemented over 100 various projects such as: reclassification and modernization projects, ice category groundings, lost documentation recovery, conveyance projects, barge-towing calculations, actual strength calculations, navigation area expansion, transportation of dangerous goods, replacement of the main engine and other works.

Projects were approved by the following classification societies:

- ✓ Bureau Veritas
- ✓ Russian Maritime Register of Shipping
- ✓ Russian River Register
- ✓ Shipping Register of Ukraine
- ✓ Phoenix register
- ✓ Mediterranean Shipping Register
- ✓ International Naval SURVEYS BUREAU

If talking about small-size shipbuilding, more than 10 objects of various types and purposes for operation on inland waterways were built according to our projects:

- pleasure yachts and boats
- berths
- pontoons

Over the past 6 years our engineers have been constantly working on projects:

- for ship-lifting structures
- tug and tow caravans

OTHER COMPANY ACTIVITIES:

- ♦ software development
- ♦ lost documentation recovery
- ♦ research engineering
- ♦ consulting

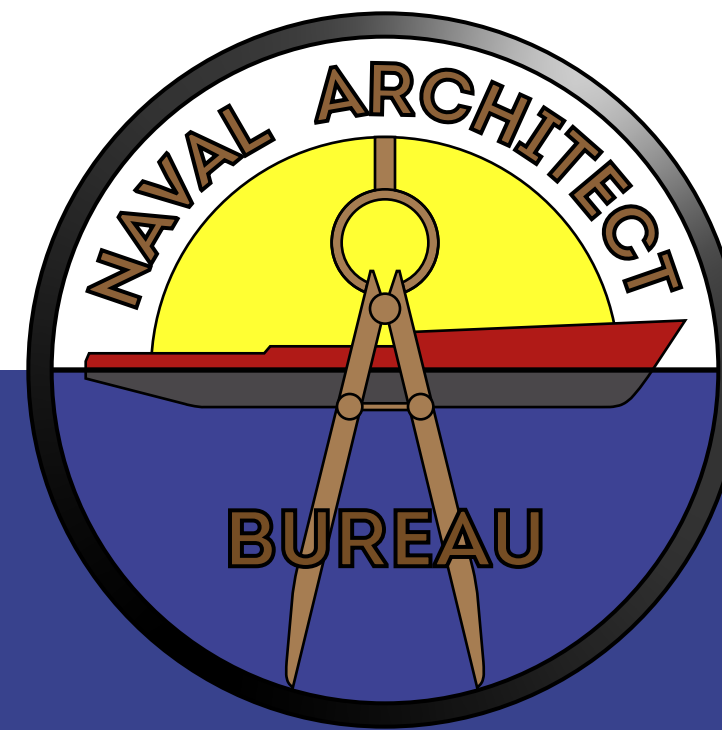
OUR MAIN CUSTOMERS:

- DDSG
- UKRRICHFLOT
- CUNDA SHIPPING
- ASCET SHIPPING



LIMITED LIABILITY COMPANY
«NAVAL ARCHITECT BUREAU»

Providing engineering services for sea and river fleet



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