

# ОСК

STRENGTH AND POWER AT SEA

FEATURE ONE

## PASSENGER FLEET

FOR VOLGA,  
YENISEI,  
FAR EAST

NIZHNY  
NOVGOROD IS 800

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UNITED  
SHIPBUILDING  
CORPORATION



**STRENGTH AND POWER AT SEA**





## CEO COLUMN

not easy, especially because at the time a common shipbuilding industry existed not only across all the republics of the USSR, but also the Comecon countries. To address this challenge, it is necessary to introduce new technologies, to upgrade the production system, to acquire new competencies. And sometimes to show imagination, creating projects of tomorrow.

Two historical dates associated with the life of one person, Peter the Great, fall on this year. We commemorate the 325th anniversary of the Navy established in 1696 by the Boyar Duma, and the 300th anniversary of the Russian Empire. These events, separated by only 25 years, are interconnected: The second could not have taken place without the first, without a strong victorious navy, without the efforts and heroic commitment of the generation of Peter's shipbuilders and sailors. That is why we go back, time and again, to the figure of Peter the Great. We need his example today.

We live in a world where we are witnessing dramatic changes in global trade, technology and, as a result, in geopolitics. For Russia to continue its development, to become stronger and richer, to strengthen its position in the world, in the global division of labor, we need to correctly assess current global trends and know our strengths and weaknesses. Both of them have roots in the past. Remembering it well, one can change the future.

Dear readers,

This issue of the magazine features civil shipbuilding. For the United Shipbuilding Corporation, which includes major defense industry enterprises, this area of operations is becoming more and more important with every passing year, because the time when the percentage of the USC's civilian output is to equal military produce is not far off.

Our enterprises do have civil commissions, and this issue of the periodical tells you how they are carried out at the Admiralty Shipyards, at the Baltic Shipyard, at the Sredne-Nevsky Shipyard, at the Nevsky Shipyard and at the Krasnoye Sormovo Shipyard. People on Sakhalin, in the Krasnoyarsk Territory and other places are waiting eagerly for every ship that we build. This must always be borne in mind.

We are faced with a large-scale task of national importance: We must replace with new ships the civilian fleet that is going down in history, a fleet built during the golden age of Soviet shipbuilding, associated with the name of Minister Boris Butoma. This is

**Alexey L. Rakhmanov**

Chief Executive Officer,  
Chairman of the Management Board,  
JSC USC



ОБЪЕДИНЕННАЯ  
СУДОСТРОИТЕЛЬНАЯ  
КОРПОРАЦИЯ

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*The opinion of the authors may  
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# At the highest level

At a meeting with President of the Russian Federation **Vladimir Putin**, **Alexey Rakhmanov**, CEO and Chairman of the Board of United Shipbuilding Corporation, told about the Corporation's activities and results, the prospects for the shipbuilding industry, new transport corridors and human capacity development

**V. Putin:** *Let's talk about the industry's performance in the reporting period.*

**A. Rakhmanov:** Dear Mr. President, the industry and the Corporation demonstrated steady performance in 2020, despite all the pandemic turmoil. Our revenue fell slightly in 2020 compared to 2019, but by less than one percent.

**V. Putin:** *Is the order book good?*

**A. Rakhmanov:** The order book is very good: we are booked until 2028. Here we are grateful to the support measures provided to the industry by the Ministry of Industry and the government as a whole.

We delivered 11 warships last year, which is one of our best results. We continue strengthening compliance with deadlines, because suppliers of large-



**WE WILL OPEN  
TRANSPORT  
ROUTES THAT  
DO NOT DEPEND  
ON FOREIGNERS**

sized equipment still let us down badly. But I hope the situation will improve gradually.

As regards civil shipbuilding, we have commissioned 20 vessels, as I reported to you earlier. This is one of our best results, and revenue in the civil shipbuilding sector has grown. This is actually 21% on the way to the 50% target that you have directed us to achieve.

The Corporation pays special attention to cost optimization. This year, we have saved about 18 billion rubles compared to last year through process improvement initiatives, procurement process optimization and financial instruments that help us implement our projects in many ways.

We are actively working on new products. In civil shipbuilding, it's about opening up segments that are fundamentally new for us, including, for example, a small fleet, which few have dealt with in a systemic way, and, accordingly, solutions on river trams and excursion vessels for Russian cities.

We are paying special attention to the South-North Corridor, primarily the Caspian Sea. This year we are starting to design a container ship that will run through the Caspian Sea to Helsinki. Thus, we will open up routes that do not depend on foreigners.

**V. Putin:** *Through the Caspian Sea to Helsinki?*

**A. Rakhmanov:** Yes.

That is, it is possible to pick up cargo in the north of Iran or in the west of China and deliver it to Helsinki through the Port of Olya. The ship will sail from Olya to Helsinki at 19 km/h for seven to eight days. And there no Somali pirates, no problems with steamers stuck in the Suez Canal. This is actually a real alternative. The key issue is the cost of this transportation. We're working on this issue jointly with shipping companies.

**V. Putin:** *Volga, then?..*

**A. Rakhmanov:** The Volga, then the Volga-Baltic Canal, the Moscow Canal, then we go north directly to St. Petersburg. If necessary, we can also go to the White Sea, because there is such a possibility. The dimensions are slightly smaller there, so the load-carrying capacity will be slightly lower.

**V. Putin:** *Are the hydraulic facilities working properly there?*

**A. Rakhmanov:** To date, the key problems are in the Gorodets area near Nizhny Novgorod. Unfortunately, the draft does not exceed 2.6 meters there, whereas we need a 3.6 meter cargo draft to meet the requirements of main shipping companies and passenger vessel operators.

We are actively working with young people. We have set up shipbuilding classes in Nizhny Novgorod.

**V. Putin:** *It's a good thing.*

**A. Rakhmanov:** Our Krasnoye Sormovo Shipyard turned out to be a pace-setter.

They are good at it, especially since we have aroused interest. You know, there are difficult teenagers who after visiting our "factory of processes" – a facility engaged in lean manufacturing training – said: we don't want to go to university, but we want to work in production. It's pretty cool.

Young engineers and designers are another pride of ours. Here, at the end of the presentation, are the results of our creative competition, which we held among the youth of art and design classes. This is how our young people think. In fact, this is very cool, because it inspires confidence that the shipbuilding industry has a huge good future.

**V. Putin:** *All right, Alexey Lvovich. Thanks.* 




## Civil shipbuilding in the spotlight

In July, Russian Prime Minister Mikhail Mishustin visited the Amur Shipbuilding Plant, met with its management and employees

**A**fter visiting the enterprise, the Prime Minister appreciated its performance: «...the fact that you are booked is already very good. Of course, we need to produce combat vehicles operating not only on the ground, but also at sea. You are dealing with it well. There are both small missile ships and corvettes. Their required maintenance services have been provided to date.

But it's very important, as you said, to diversify production. In the segment of civil shipbuilding, these are, in particular,

emergency rescue vessels. You are already carrying out such projects. And ferries are also quite serious projects that make it possible to connect Sakhalin with the mainland on the Vanino – Kholmsk line.

I thank the whole team, a young, active team. You said that there are many engineers here, local workers, including from Khabarovsk, from other places. Please tell everyone a huge thank for their work, for their very important and in-demand work for the country. Thank you.» 

## Reviving the fishing fleet


On Navy Day on July 25, 2021, Vladimir Putin took part in the launching ceremony for the large freezing fishing trawler Mekhanik Sizov, built at the Admiralty Shipyard. The President watched the launching ceremony from a boat on the way from Kronstadt to St. Petersburg during the Main Naval Parade



**T**he trawler received its name in honor of Vladimir Abramovich Sizov (1936-2013), the veteran of the domestic fishing fleet who worked as chief engineer.

Alexander Buzakov, General Director of Admiralty Shipyard, congratulated all the participants of the solemn

ceremony and stressed the symbolism of the event: «The launch of the fishing trawler Mekhanik Sizov will be especially memorable for everyone, since it takes place on Russian Navy Day. It should be noted that the third vessel in the series is launched in a higher degree of readiness compared to the first two ones. These are the advantages achieved precisely in series construction.»

In his report to President of the Russian Federation Vladimir Putin, who led the launching ceremony from the Neva River, Alexander Buzakov called the construction of a series of large freezing fishing trawlers a national task. According to him, the implementation of this project will make a significant contribution to the revival of the Russian civil fleet. 





## SEE YOU AT NEVA-2021!

Spring and summer of 2021 will be remembered by numerous forums where USC and its affiliated companies were represented. Of course, the «third wave» of the pandemic made its adjustments, but the most important meetings and discussions still took place




**T**he pandemic and the associated upheaval of the world economy have raised a number of new questions for the world states and companies. These new issues shaped the agenda of the St. Petersburg International Economic Forum, held during the first week of June. On the one hand, it is understandable that people all over the planet would like to return to their normal lives; on the other hand, it is precisely this habitual «normal life» that has largely contributed to the extent of the pandemic and the damage it has inflicted on humanity. That is why so many of the meetings and discussions at the forum focused on how the economy and politics need to change in order to become socially sustainable and continue evolving.

President Vladimir Putin in his speech at the plenary session of the Forum reminded: «World history shows that the restart of economy after serious disruptions has always been connected with the increase of investments into infrastructure, territorial development, development of new

technologies and personnel training». More specifically, he pointed to the main course of the country's economic development for the foreseeable future, which is directly linked to climate change: «I often hear people say that Russia is not very interested in solving global environmental problems. I can tell you right away: this is nonsense, a myth, or outright exaggeration. Just like other countries, we are aware of the risks and threats in this area, including desertification, soil erosion, and permafrost melting. Many of those in the audience know and work in the Arctic: we have entire cities there, in the Arctic, built on permafrost. If everything starts melting, what will the consequences be for Russia? Of course, we are concerned about that. For the shipbuilding industry this question means one thing: Russia needs a more economical and environmentally friendly new civilian fleet, capable of taking on large-scale infrastructure tasks both in the Arctic and in other regions of the country. And the Government is interested in solving these tasks and is waiting for innovative activity, technical reequipment of shipyards and ship repairing plants, higher efficiency and production quality growth from the shipbuilders. USC as the largest shipbuilding company in the country has everything

### RUSSIA NEEDS A MORE ECONOMICAL AND ENVIRONMENTALLY FRIENDLY NEW CIVILIAN FLEET

necessary to create this fleet. The results of the work of the corporation were presented at exhibitions such as «Integrated Safety» (Moscow Region, Patriot Park, May 2021) and «Innoprom» (Yekaterinburg, July 2021), where new civil ship projects were demonstrated which aroused interest of many potential customers. The

next big event is XVI International Specialized Exhibition and Conference on Civil Shipbuilding, Navigation, Activity of Ports, Ocean and Shelf Development NEVA-2021 (St. Petersburg, September 21-24). 



## Shipbuilding is still sometimes perceived as production, where everyone is waving hammers and nailing rivets.

But we stopped riveting ship sheets together back in 1957. Today, we work in conditions when all vessels must comply with certain standards, including carbon dioxide emissions. Its contribution to the purification of the shipbuilding industry was made by natural gas which is used as fuel for engines. But for the last 60 years, Russia has been developing the use of natural gas on civil ships as well, and in the Navy, the use of atomic energy has been developing. From my point of view, this is one of the most environmentally friendly engine options, with a zero carbon footprint, with a closed cycle. In recent years we built a floating nuclear power plant; it's probably the safest way to deliver electricity and heat to coastal areas. Everyone, of course, remembers the situation at Japan's Fukushima power plant. So, if something like that happens, a floating nuclear power plant



From **Alexey Rakhmanov's** speech at the Russia-Finland business dialogue at St. Petersburg International Economic Forum

can be taken far out into the ocean, and everyone will be safe. Russia and Finland are active participants in the Arctic Council and the Arctic Economic Council, where I have been a member of the delegation for the past several years. We see that a lot is going on in this direction. Everybody understands that this is one of the richest sources of natural resources for the future of the planet. We all need to be careful in how we treat these resources. I want to give you an example of the Pirazlomnaya platform,

which was built almost 10 years ago. It's one of the first examples of zero-emission technology. We are proud that we managed to do this - nothing spills out there, there is no waste. And last but not least, the Arctic areas where there is permafrost are now in the process of degradation, thawing. It is becoming dangerous to build on such melting permafrost. We have interesting technologies that can be offered to society to build infrastructure in the Arctic not on land, but on water, naturally, with zero emissions, with responsibility to society, with assistance to indigenous peoples, so they can continue their current economic activities. And at the same time, we are solving the problems of developing the Northern Sea Route, which is becoming the shortest route between East Asia and Europe and can be used, for example, to deliver hydrocarbons to Southeast Asia. We see a lot of interesting technologies that Russia and Finland could use together. Let's recall the famous dual-fuel icebreaker *Polaris*, built at the shipyard, which used to be a part of our corporate structure. Our accumulated experience in the field of engineering cooperation with Finnish companies is the basis for future joint projects between Russia and Finland. [CC](#)

## About the seas without borders

On June 4, the panel discussion «Time to erase boundaries in the ocean: on the way to international integration projects» was held within the business program of St. Petersburg International Economic Forum



Experts who took part in the discussion included Director General of United Shipbuilding Corporation Aleksey Rakhmanov; Executive

Secretary of the Intergovernmental Oceanographic Commission of UNESCO Vladimir Ryabinin; scientist and journalist Philippe Cousteau Jr.; Chairman

of the Board of Directors of AEON Roman Trotsenko; ocean advocate and Ocean Patron of the United Nations Environment Programme (UNEP) Lewis Pugh; Deputy Director General and Director of the Northern Sea Route Directorate of State Atomic Energy Corporation Rosatom Vyacheslav Ruksha; Vice-President, Oil and Gas, IHS Markit Head, Consulting Service for Power Industry of Russia and the Caspian J.Sagers; Director at the Secretariat of the Arctic Economic Council Mads Frederiksen; Chairman of the Supervisory Board, MARINET Industry Association Board Alexander Pinskiy. The event was moderated by Ivan Timofeev, Program Director of the Foundation for Development and Support of the Valdai Discussion Club.

The participants discussed what will the water world be like in the future, what engineering and environmental solutions Russian shipbuilders are ready to offer for resource exploration and development of the water transport corridors of the World Ocean. The discussion was also focused on the possibilities of the international cooperation projects on the seas preservation and innovative developments which could contribute to the solution of this task. The speakers agreed that some problems of different seas and oceans have common solutions, but it will be impossible to solve them until the states overcome their differences and agree to work together. That is why an international exchange of views on the subject is needed now more than ever. [CC](#)



◀ Container ship Ever Given, which ran aground at the 151st kilometer of the Suez Canal

# TIME OF ALTERNATIVES

Nowadays the United Shipbuilding Corporation increasingly focuses on the civil segment, developing vessels of all types using the most advanced technologies



**Alexander BRATERSKY**

**Q** uite recently, the giant container ship Ever Given was the main object of popular excursions in the Dutch port of Rotterdam. Tickets worth € 10.95 flew like hot cakes. Passengers from a ferry could watch the container ship with binoculars during unloading. The trip lasted 90 minutes.

It seemed there was nothing interesting here: to observe the banal unloading of containers? But a selfie with this 400-meter-long celebrity was worth the money paid for the tour, because the audience saw the same Ever Given, the name of which is now known to almost every schoolchild. The ship became famous after it blocked the Suez Canal as a result of an incident, which actually blocked the world's major transport artery, and a queue of 450 loaded ships grew on both sides of it. The damage caused by the blocking of the Suez Canal exceeded \$1 billion. The world

media began to trumpet a new «Suez crisis». A week later, the ill-fated container ship was re-floated through joint efforts. But, as they say, «an aftertaste remained.»

## NEW ROUTES

The incident has prompted representatives of the global shipping industry to pay attention to an alternative route – the Northern Sea Route passing through the Russian sector of the Arctic that makes it possible to deliver goods from Europe to the countries in the Pacific region along a shorter route. The government's Rossiyskaya Gazeta's headline read, «The incident in Suez Canal is a signal for global logistics providers in favor of the Northern Sea Route.»

Ivan Timofeev, Program Director of the Russian Council for International Affairs, is also confident that «the international component of the Northern Sea Route will grow,» although the «Suez crisis» alone is unlikely to speed up the development of the route: «It will be impossible to reroute traffic immediately, we need vessels of the appropriate class and a new infrastructure.»

## THE INCIDENT IN THE SUEZ CANAL IS A SIGNAL FOR GLOBAL LOGISTICS PROVIDERS IN FAVOR OF THE NORTHERN SEA ROUTE

Space beyond the Arctic Circle, where 13% of the world's oil reserves are concentrated, has become a field of fierce rivalry between the great Arctic powers, if not a battle, in recent years. Russia is actively increasing its military component in the Arctic, but it does not forget about civilian products as well. Today, Moscow has four advanced nuclear icebreakers in the Arctic, and four more are under construction at the Baltic Shipyard. For comparison: the American «partners» have only two «old» ones, of which only one USCGC Polar Star, built in the mid-1980s, is in service.

Alexander Pinsky, General Director of the Marinet Industry Center, an autonomous non-profit organization, calls the Arctic «a platform for the development of innovative shipbuilding». Noting Russia's leadership in the development of nuclear-powered ships, he also names another promising avenue for the development of the Arctic. These are sea and river small and medium passenger vessels able to provide year-round transport accessibility in Arctic conditions at an acceptable cost.

Of course, all this may be a matter of the future, but Russian shipbuilders are already thinking about it today. As Alexey Rakhmanov, the head of the United Shipbuilding Corporation, noted at a recent meeting with Russian President Vladimir Putin, the company today sees alternative opportunities for transporting cargo from Russia and through Russia to Europe.

And this is not only the Northern Sea Route.

Container ships, built at the USC shipyards, will be able to deliver cargo from the Iranian port of Enzeli on the Caspian Sea to Helsinki in 17 days:

«Astrakhan in this

sense may become a base point for container transshipment, and containerization today works very effectively for grain and perishable fruits (if refrigerated sections are used). Similarly, tanks, in which sunflower oil can be transported, are inserted into containers,» Alexey Rakhmanov told the president.

## UNMANNED VESSELS

The sunflower oil spilled by Bulgakov's Annushka, which launched a well-known chain of events, can be recalled in connec-



tion with modern shipping. Here, just as in the famous novel (The Master and Margarita), we need to make it on time, because fleet technology upgrade processes under way are truly revolutionary.

Unmanned vessels are called the future of the industry. Not without reason Norway, one of the trendsetters in shipbuilding, made a bet on them. At the end of last year, the experimental unmanned battery container ship Yara Birkeland, the customer of which was fertilizer manufacturer Yara International, made its maiden voyage.

Russia has a good position in the field of unmanned or autonomous vessels, says Alexander Pinsky, General Director of the Marinet Industry Center: «Russia is now a global leader in the development and introduction of these technologies in the practice of shipping companies.» Among the vessels of this category, the expert notes autonomous vehicles for dangerous or monotonous work: «The latter are already in demand today not only in the military sphere, but also in a wide range of tasks where the use of traditional vessels with a crew is less cost-effective or dangerous for humans: maintenance and monitoring of oil and gas fields, seismic exploration, weather and environmental monitoring, fishery resources monitoring, as well as maritime security.»

Pinsky is confident that successful development in these segments will not only allow Russian shipbuilders to penetrate international markets, but also increase the level of national security: «Internationally competitive innovations generated in civil shipbuilding will automatically increase also the level of military shipbuilding, as well as reduce Russia's dependence on foreign manufacturers.»

Unmanned catamarans may well use hydrogen as a fuel. The French catamaran Energy Observer launched in 2017 was first such vessel. USC sees hydrogen as a promising fuel. «This is one of the alternatives that nevertheless builds on the



A caravan of ships whose ice escort in the Gulf of Finland is carried out by the nuclear icebreaker Vaigach

## RUSSIA HAS A GOOD POSITION IN THE FIELD OF UNMANNED VESSELS

AIP theme, namely the use of hydrogen and oxygen as the main fuel for electric power generation,» said USC CEO Alexey Rakhmanov at the Army Forum in 2019.

The transportation of hydrogen itself, which is seen as the basis for the energy of the future, also provides many opportunities. According to Anatoly Chubais, the special representative of the President of Russia for relations with international organizations, the country has «unprecedented chances» to occupy half of the European hydrogen market, which will amount to 10 million tons in 2030.


## GLOBAL UPDATE

USC strives to increase the share of civil shipbuilding every year. Stories about many projects implemented in recent years began with the word «for the first time». Thus, the passenger liner Mustai Karim became the first large cruise ship built in the country in 60 years. The four-deck passenger ship is designed

to accommodate 342 passengers. Contrary to the opinion of those who are nostalgic for the Soviet era today, in the USSR, where excellent warships were built, few thought about domestically-built cruise ships. They were built in the GDR and Czechoslovakia, and later in Austria to Soviet orders. And the legendary motor ship Mikhail Svetlov (actually Pobeda) – the same one on which Semyon Semyonovich Gorbunkov from the popular Soviet comedy The Diamond Arm went on an overseas cruise – came from the free city of Danzig (launched in 1928).

The situation was similar with fishing vessels. The seas are still plowed by sturdy seiners built at shipyards of once «fraternal» Poland. However, vessels for their replacement are already under construction. Owing to the government's «keel quotas» for building fishing vessels, USC enterprises have signed contracts for the construction of four dozen fishing vessels. Among them is a 160-meter supertrawler.

Building a modern fishing fleet is an opportunity for Russia to look worthy in comparison with the major fishing powers, engaging in ocean fishing in open areas of the World Ocean and in the sea zones of foreign countries. Alexander Pinsky, General Director of the Marinet Industry Center, calls a fleet for harvesting aquatic biological resources «another avenue of innovative shipbuilding». State support for fishing vessel manufacturers «may become the basis for making and testing a whole line of equipment that is in demand on the world market,» Pinsky believes.

Here, the expert is confident, there's room not only for Russian shipbuilders, but also for domestic developers and manufacturers of innovative equipment for fishing vessels and digital fish processing lines on board the vessels, manufacturers of competitive fish-hunting equipment. As in other industrial sectors, the sanctions forced machine-building companies to engage in import substitution and it suddenly turned out that we can do a lot of things ourselves again. And if we can, then we will. 

# Eduard Bobritsky:

## The best way to create collective immunity is vaccination

**USC:** You have been in charge of the anti-COVID-19 task force at USC enterprises for over a year now. What is the most important outcome of your work?

— Since April of last year, we naturally have learned how to work in a pandemic. A year ago, we tried to figure out how to organize shifts at enterprises, how to work remotely, how many people could be left in the office, how to communicate with the contractors, how to go on business trips and receive inspections at enterprises. Now we know how to organize all this quite well.

For example, all our contractors, those who work in the factory shops and those who arrive when equipment is to be installed, or inspections coming for some kind of checks, they all work in accordance with the established requirements for the staff, and they produce either valid PCR test results or documents confirming vaccination. Let me remind you that last year we had to put people coming to work in quarantine for two weeks.

As for our employees, over the past year we have built a system of ongoing tests. Tests are run a few times a week or a few times a month, depending on the enterprise and the severity of the situation in the region. This system allows us to identify sick cases in a timely manner and promptly limit their contacts, and, of course, we recommend that they seek medical assistance immediately. All information flows to the task force and is scrutinized. Every week, we fill out a very large reporting form, which was introduced by the Industry and Trade Ministry. Over the year, we have updated it significantly, and now it includes information about the percentage of those doing remote work and the severity of cases. There is also a column, recording deaths; unfortunately, our corporation was also affected that way. This year, the columns on vaccination were added: How many people got inoculated with the first vaccine, how many received both shots. Enterprises supply us with all this data in a very organized manner, and by the end of the week we at the task force have accurate information about the epidemiological situation across the USC. We transfer this information to the Industry and Trade Ministry, so it has summary data on the situation across the entire industrial sector of the country.

**USC:** Going back to prior reports, what was the most difficult time?

— Probably the very first months, when it was necessary to build a communication system very quickly. People at the enterprises did not yet know then who should be responsible for this, where they should get information, where they should register it,



**Eduard Bobritsky**, Director of the Human Resources Department of JSC USC, talks about the most pressing global issue of 2020-2021, the coronavirus pandemic, and how it has been handled by the company's enterprises

and so on. Sometimes we had to collect information at night, from more than forty companies, sometimes just by phone. And what could we do if there were calls from the Industry and Trade Ministry at 1 am, new assignments were given, according to which we had to collect and send information to them by 9 am?

Now this is a regular activity that takes place during working hours, almost always. A specialized information system has been put in place, where all data are uploaded, and it works. In accordance with the data received from us, the Industry and Trade Ministry makes recommendations. For example, when the number of infected cases began to grow again in Moscow and St. Petersburg, as well as in other regions, earlier this summer, the Industry and Trade Ministry promptly recommended switching a certain percentage of the personnel at the enterprises to remote work.

But with all this, the military-industrial complex must fulfill its obligations to clients, both the Defense Ministry and civil customers, so offices, the administrative and managerial staff could switch to partially remote work, while the bulk of the production workers,



especially those involved in state defense orders, could not. And they went to their shifts and worked – naturally, in compliance with all safety precautions.

**USC:** On the back of this year of the pandemic, how did it affect the achievement of production targets?

– Well-coordinated work of the management of the enterprises and the corporation and the employees' responsible attitude to sanitary measures allowed us to avoid situations where the pandemic would somehow affect the fulfillment of the orders. As of this moment, we did not and do not have situations where we did not fulfill an order due to the pandemic. Yes, we had to spread shifts: For example, previously, everyone used to come by 8 am, now people may come, say, from 7 to 10 am, in order to avoid crowds at the checkpoint. At certain places, more buses were allocated to deliver workers. With these and similar methods, we avoided both an increase in cases and non-fulfillment of orders.

**USC:** Talks about arranging post-COVID rehabilitation are heard more and more often at the federal level. What efforts are made at the USC in this respect?

– I would talk not only about post-COVID rehabilitation, but also about rehabilitation after all illnesses in general, as well as about prevention. This system has existed for decades, these are health centers and resorts for the employees and their children. Last year, this system practically was put on hold due to epidemiological restrictions in the regions, and people did not go to those health centers. This year, the regions are open, all health centers work again, in accordance with the new rules, and we have resumed large-scale distribution of vouchers for the improvement of people's health, the way it was in 2018 and 2019. It is obvious that now demand has increased for those health centers where treatment and rehabilitation are offered for the organs that have been affected most of all during the epidemic – for example, the respiratory organs. People who were seriously ill have applied for vouchers to go to such health resorts, and we, of course, tried to cover rehabilitation costs from the budget for them.

**USC:** What methods does the corporation use to convince or encourage people to get vaccinated?

– That we need to acquire collective immunity is obvious. Without it, we will again experience tides and ebbs of infection, wave after wave. Vaccination is the best way to create collective immunity, and this has found proof time and again for centuries. We know perfectly well how the world was able to get rid of smallpox – only through vaccination. Many other diseases, such as measles, polio and others, have been overcome by vaccines given in childhood, with lifelong effects. Therefore, we need to discard all this chit-chat about whether we "should" or "should not" – obviously, we need to be vaccinated.

And, of course, in order to achieve that, people need to be motivated or encouraged to get vaccinated voluntarily. This is better than requiring or forbidding to go to work without a vaccination certificate; in fact, the labor code does not allow such restrictions to be put in place. The government did not introduce tough measures with respect to enterprises of the military-industrial complex, in contrast to the service sector, food industry and a number of others,

where they were imposed for obvious reasons.

In a number of factories, we decided to give a paid day-off for the workers who get vaccinated within a specific time frame. According to multiple observations, the day after vaccination a person may experience discomfort, weakness, or may run a temperature. At this moment, it is better, of course, not to go to work but to lie down and stay at home for a day.

In addition, we organized field vaccination through our medical and sanitary units (where they exist – for example, at Sevmash, Zvezdochka, Baltic plant) or through federal institutions that have such a possibility. For example, R&D workers could get vaccinated right in their offices, and it took just one day. This could not be done everywhere; for example, in Moscow there are no such mobile teams providing free services, but, on the whole, the city organized free vaccinations in numerous shopping malls, multifunctional public service centers and outpatient facilities, which is very convenient

for the public, so there is no particular need for such teams in the capital city. But in St. Petersburg, on the contrary, mobile teams going to enterprises and offices turned out to be the best method of organizing massive vaccination.


**USC:** Does the corporation have vaccination targets for enterprises?

– According to our recommendations, 60% of our workers should be vaccinated by September.

**USC:** When do you think it will be possible to talk about collective immunity and the post-pandemic world?

– In this case, I can only express my subjective opinion. I hear that around 800 vaccines have been developed in the world by now. If a year ago we were waiting for the first one, now in China alone there are about forty, there is also a vaccine in Cuba, and in Vietnam. Each month there will be more of them, more experience will be accumulated, companies and countries will share their practices, and vaccines will get better from one year to another. We do not know yet for how long this or that vaccine will effectively protect the body, but I think that pharmaceutical companies will still be seeking solutions that would work like vaccines against many horrible diseases: one shot in childhood – and protection for life. Perhaps science will not come to this stage quickly, but it will be developing in this direction.

**USC:** As the head of an anti-coronavirus task force, whose distinguished service would you like to commend during this year of work?

– First of all, I would like to mention my personnel management services. Over the past year, deputy directors for HR have borne the brunt of this problem at enterprises; they have been involved in making arrangements for all measures related to shift work, interaction with hospitals. I am grateful to those who took up this workload on a voluntary basis, without any instructions from us, in addition to their main functions, and got it going. I also would like to mention the divisions handling health and safety, they also had quite a burden to carry. And right now, I would like to thank those who are involved in organizing vaccination campaigns at enterprises. I think that at the end of the year we should somehow salute the enterprises where this process will be most successful. 

THE VERY FIRST MONTHS OF THE FIGHT AGAINST THE PANDEMIC WERE THE HARDEST



# NIZHNY NOVGOROD - 800!

The city has undergone many changes over the eight centuries of its existence, but its connection with the Volga navigation and shipbuilding has never been interrupted.

**Ekaterina STARTSEVA**  
*Krasnoye Sormovo*

«**N**ovograd» was founded at the confluence of the great Russian rivers

- the Volga and the Oka - by Prince Yuri (Georgy) Vsevolodovich in 1221 as a strong point of defense of the Russian borders from the Mordva, Cheremisses and Tatars. In the XVI-XVII centuries, thanks to a convenient geographical location in Nizhny Novgorod, the biggest



At Sormovo shipyard. 1915



in the country Makarievskaya fair began to operate. During this period, handicrafts got a new lease on life, and the city's economy began to flourish and it became the center of mass ship caravan formations.

In the middle of the XIX century in Nizhny Novgorod the largest industrial universal plant opened in

◀ The first Soviet tank Reno-Russian - «Fighter for Freedom Comrade Lenin», made at Krasnoye Sormovo Shipyard. 1918.

Sormovo, which produced steamships, cars, railway cars, locomotives, motor ships. During the years of the Great Patriotic War the plant built over 240 above-water vessels, not counting submarines, and repaired 300 of such vessels. It produced 600 diesel engines, over 1000 steam locomotives, over 80 thousand cars and other units of the rolling stock. In short time some of the shops were re-equipped for the production of the T-34 tanks, about 12 thousand of which were produced.

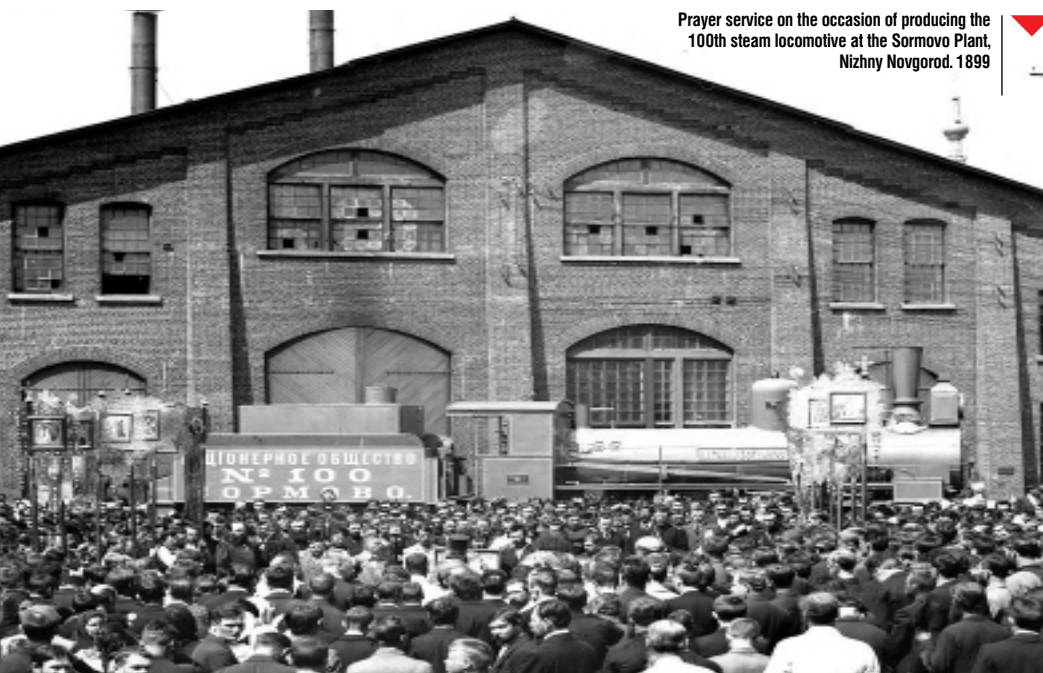




Ceremony of delivery of the cruise ship Mustay Karim to the customer



Prayer service on the occasion of producing the 100th steam locomotive at the Sormovo Plant, Nizhny Novgorod. 1899



Metallurgy was restructured, the production of artillery shells and bodies of reactive armament began. Through their labor, the workers of the plant made a significant contribution to the victory over the Nazis.

Many talented people passed through Krasnoye Sormovo. It's here where in the 50's the designers created fundamentally new types of river and sea vessels Raketa and Meteor under the leadership of Rostislav Alekseev.

In August 1957 the first passenger trip from Nizhny Novgorod to Kazan was carried out by the hydrofoil ship Rocket. The news spread all over the world, since the speed of the vessel surpassed the speed of all civilian ships of that time. Alekseyev personally tested his hydrofoils, which are still used in Russia today.

The plant is over 170 years old and in that time many projects and technologies have been developed and introduced by the plant for the first time:



Launching of the dry cargo ship of the RSD-59 project



## THE WAY OF MANY TALENTED PEOPLE WAS LAID THROUGH KRASNOYE SORMOVO

- the first Russian open-hearth furnace;
- the world's first diesel-electric ship;
- the first domestic tanks;
- the first continuous casting facility;
- the first hydrofoil ships;
- the first in Russia series of hi-tech dredging vessels of the TSHD 1000 project.

Many types of products manufactured here have no analogues in the country and are not inferior to the world samples. Thanks to Sormovo Shipbuilding Plant, Nizhny Novgorod has become one of the leading cities in the field of shipbuilding.

The present generation of specialists of Sormovo shipyard knows, remembers and honors the history of the enterprise and its contribution to domestic shipbuilding. This is evidenced by unique expositions in the museum of history of Krasnoye Sormovo Shipyard, which is currently being reconstructed. By the 800th anniversary of Nizhny Novgorod it will open in a new, expanded format, there will be new open-air exhibits. The exposition of the museum will become more informative.

This year, for the first time, the Krasnoye Sormovo Plant became one of the venues for a film screening as part of the Festival of New Russian Cinema Gorky Fest. Another leitmotif of this event was the anniversary of the city. The improvised movie theater was organized right in the workshop. [CCS](#)



Launching of the dry cargo vessel Alpha Atlant





## HISTORY

KRASNOYE SORMOVO

For the opening of the canal connecting the Moskva River and the Volga, four motor ships were built at «Krasnoye Sormovo»

# FROM «GOGOL» TO «MUSTAI KARIM»

The passenger ships built in Sormovo were often the best river vessels of their time. They carried millions of passengers and were loved by the people for their comfort, beauty and reliability

**Ekaterina Startseva**  
«Krasnoye Sormovo»

## STEAMSHIP-RECORD HOLDER

In 1911 two vessels of the same type were built at Sormovo shipyard by order of the Northern Shipping Company «Kotlas – Arkhangelsk – Murman» – «N.V. Gogol» and «General Kondratenko» (later renamed as «Alexander Zhelyabov»). The double-deck 380-horsepower vessels were equipped with the latest technology of the time.

Steamships were transferred to the place of service along Volga, Sheksna, Severno-Dvina system via Kubenskoe lake and along Sukhona. As the size of gateways on the Northern Dvina system were too small, the vessels had to be divided into three parts: fore, middle and aft. Steamships were reassembled in Mikhailovsky workshops of Northern Shipping Company in Velikiy Ustyug. During the tests carried out during the acceptance by the customers the steamboat with the cast-iron ballast had the speed of «up to 20 versts per hour on a calm water surface». Steamship could carry up to 700 passengers and consumed about 40 m3 of firewood per day.

Since 1911 the steamship operated on the Vologda - Arkhangelsk line. During the Civil War «Gogol» was used as a hospital vessel and military transport. In the autumn of 1919, it was disassembled



and transported by railroad to Petrograd for repairs, which lasted two years, after which it returned to the Arkhangelsk – Vologda line.

In 1994–1996 «Zvezdochka» Shipyard carried out the reconstruction of the steamship. The historical appearance of the vessel was preserved, and all the interior spaces were re-equipped according to the modern requirements.

In 1998, by resolution of the Arkhangelsk Region Administration, the steamship «N.V. Gogol» was declared a historical monument of regional significance. In 2014 the long-living vessel was awarded the memorial sign «Maritime Heritage of Russia» and it still sails every year.

## FLOATING PALACES

In the summer of 1914 cargo-passenger steamships «Grand Duchess Tatiana Nikolaevna» (after 1917 – «Spartak») and «Grand Duchess Olga Nikolaevna»

(«Volodarsky») made their first voyage from Nizhny Novgorod to Astrakhan.

For their luxurious interior decoration and comfortable conditions for the passengers the steamships, named after the daughters of Emperor Nicholas II, earned the title of floating palaces. At that time, they were the largest river steamships in the world.

Before the first navigation the steamship «Grand Duchess Olga Nikolayevna» hosted the famous Nizhny Novgorod photographer Maksim Dmitriev, who took pictures of the interiors of the saloons and cabins. «...The steamship represents the latest technology and the luxury that began to be introduced on motor ships to attract the upper-class public...

First class cabin – floor-to-ceiling windows, with columns made of natural polished Hungarian ash in between... all the finishing is in the style of Louis XVI...» – That's what they wrote in Nizhny Novgorod newspapers in 1914.

They served for more than 70 years. «Spartak» - one of the most famous Russian river vessels – for many years operated on the routes Astrakhan – Gorky and Moscow – Rostov-on-Don. Its engine has never been overhauled. The steamer was 69 years old when it suddenly became a movie star - «Swallow» in Eldar Ryazanov's film «Cruel Romance». «Volodarsky» also repeatedly starred in movies («The Road to Calvary» «The Enchanted Wanderer», «Vassa»). Due to length of service «Spartak» was decommissioned in 1991, «Volodarsky» was taken out of the fleet in 1989.

## GOVERNMENT MOTOR SHIP

In 1934 the unique government service motor ship «Maksim Gorky» was built at Sormovsky shipyard, which was way ahead of the time with its tactical and technical qualities and beautiful finishing. It was created under the project of the Military and Technical Department of the Peoples' Commissariat of Internal Affairs as a special purpose ship (personal motor





Steamship «Nikolay Gogol» is already 110 years old, but it is still in running operation



ship of Stalin). The length of the ship was 68,8 m, the project speed – 30 km/hour.

Power plant of the submarine «Decembrist» was used for the new motor ship. More than 17 kinds of wood, including mahogany, chinara, Karelian birch, were used in the decoration of the motor vessel. «Maksim Gorky» has set a speed record for a river vessel – 35 km/hour.

In 2002-2003 it was decided to restore the ship. During the modernization process the interiors of the ship were almost completely preserved and restored. Today the «Maksim Gorky» motor ship cruises down the Moskva River.

## MORE POWER

In 1937 the «Krasnoye Sormovo» shipyard built four first-class passenger ships for the Moscow-Volga canal: «Joseph Stalin», «Klim Voroshilov», «Mikhail Kalinin» and «Vyacheslav Molotov». Their design and construction are a major achievement of the Sormovo shipbuilders. It was the first experience in the country of building welded ships of large capacity.

The rooms were finished with precious wood veneer and the furniture was made of walnut wood. The ship had a communications center, bank, telephone line, musical salon, and a cinema setup. There were 205 passengers on board. These beautiful and unusual ships became one of the symbols of the Moscow Canal. The characters of the prewar film «Volga-Volga» (with Lyubov Orlova in the leading role) are sailing along the canal to Moscow on the motorboat «Joseph Stalin».

«Volodarsky» was a movie set for three films

## DIESEL-ELECTRIC VESSELS

The highest point of the passenger ship building at the yard were the diesel-electric vessels «Lenin» and «Soviet Union», developed by the design bureau of the yard and put into operation in 1958–1959. Sormovo Shipyard was the first in the country to master the construction of river three-deck vessels for the Volga. Designed for 440 passengers they combined the

newest achievements of the domestic shipbuilding with wide application of automatic equipment.

In terms of comfort for the passengers, «Lenin» was a real breakthrough. For several decades both diesel-electric ships were the flagships of the Volga

River Shipping Company. For the creation of the diesel-electric ship «Soviet Union» plant Krasnoye Sormovo was awarded a diploma of the World Salon in Brussels in 1958 (there the model of the ship was demonstrated).


## MODERN CRUISE SHIP

More than 60 years have passed since then. Only a few years ago «Krasnoye Sormov» was again entrusted to build a modern passenger cruise ship. The liner «Mustai Karim» of PV300 project was put into operation on August 3, 2020. Ships of this class have never been built – neither in Russia, nor at European shipyards (because of the peculiarities of European

## SORMOVO-BUILT SHIPS HAVE OFTEN APPEARED ON MOVIE SCREENS

«Lenin» was for many years a flagship of Volga River Shipping Company

rivers, where the bridges are quite low).

British Royal Institution of Naval Architects (RINA) has added the passenger ship of PV300 project «Mustai Karim» built at Krasnoye Sormovo to the list of Significant Ships of 2020. Passenger cabins are located on the three upper tiers of the superstructure - 169 double standard cabins and two double suites. The air conditioning system provides for automatic temperature and humidity control, as well as individual regulation of these parameters in each cabin. 

«Spartak» turned into «Swallow» in the movie «Cruel Romance»



### Viktor Olersky:

«A fresh steamship is always better than an old one»



Sergey MINAEV

#### USC: How did the pandemic affect river cruise shipping?

I think it will take some time to recover to the level of 2019 – perhaps two or three years. There are several reasons for the declining numbers. First, both last year and this year there were no foreigners coming, and there is no guarantee that they will come next year. There is a feeling that even then the «country» picture will not match the pre-summer situation. If we talk about the figures of «Vodohod» company, the ratio of Russian and foreign travelers was 65 to 35%. Can you imagine what happens if more than a third of the passengers didn't show up - and in terms of revenue it was about 50% – what kind of figures may the company have as a result?

**USC:** But because the borders were closed, the flow of Russian tourists was supposed to grow?

It's true, and this is the only good thing. But then, as you know, the results of any company depend on the balance of supply and demand. Demand, of course, has increased because of geographical limitations for travel of compatriots, there are more of our citizens on cruises, but at the same time the supply of the fleet has also increased. A number of companies such as «Mosturflot», «Doninturflot», which used to work mainly for foreign tourists, have entered the Russian market due to their absence.

As a result, even the increased demand from Russians did not cover all those offers of cruises which appeared as a result of foreigners absence. Out of 26 units of large passenger capacity fleet which «Vodohod» company has, only 17 are in operation and nine are at standstill in Nizhny Novgorod. This is a clear illustration of the lack of a full, balanced demand.



**USC:** This year is the first full year of operation of «Mustai Karim». How satisfied «Vodokhod» is with its performance?

I guess I will put it this way: there is no limit to perfection. Passengers should be asked about their experience, as their opinion is what really matters. There will always be some people who will allow themselves a certain share of criticism, but in this case, fortunately, there are not many of them. Of course, the ship is new, and like any new passenger vessel, it has some weakness - both technical and aesthetic, which will be chosen at least until the end of this navigation. But the overall impression is, of course, positive, and to summarize - people who have been on «Mustai Karim» say that now they are unlikely to go to other steamships.

As for the disadvantages of «Mustai Karim», it is, of course, its price. Half of the cost of the voyage is the cost of leasing. And that's its difference from other vessels built exactly more than 30 years ago: their prices have no depreciation component or it is minimal.

And purely subjective, if you're asking my opinion and that of the management - yes, we like it, let's not lie. A fresh steamship is always better than an old one.

**USC:** How good are the chances that you will be adding this type of vessel to your fleet in the foreseeable future?

Since we are a major shipping company, it would be strange if we wouldn't have the goal of expanding the fleet. «Vympel» company is designing a new ship at the moment. There is a detailed technical specification, in which we tried to incorporate all the shortcomings found during construction and operation of «Mustai Karim». Perhaps the main difference (I'm not sure it can be called a defect; I would call it a marketing insight): we have reduced the passenger capacity of the vessel from 300 passengers to 180. So, the steamship is being designed, we are in a state of creative search, we are adding some improvements in order to eventually get a project of a real commercial serial steamship. It is clear that the series will reduce the cost, and we hope that the vessel will become cheaper for the customer.

But the implementation of our plans depends on whether our commercial model will match the price offered by the shipbuilders, in this case, of course, by OSK. I will be honest: so far we see no one but «Krasnoye Sormovo» as the executor of such an order. Our commercial model is based on purchasing power and if we talk about mass passengers today it should not be more than 8.5 thousand rubles per person per day. Based on this model we will look at the offer, which the shipyard will make to us.

**USC:** «Vodokhod» has an ambitious project - a trip along the Yenisei from Krasnoyarsk to the Putorana plateau. How do you evaluate its success at the moment?

## THE IMPLEMENTATION OF OUR PLANS DEPENDS ON WHETHER OUR COMMERCIAL MODEL CORRESPONDS TO THE PRICE OFFERED BY THE SHIPBUILDERS

This project complies with our strategy, which among other things is aimed at expanding the geography of our presence. I would not call it ambitious, although yes, we are going far. In this case, our desire coincided with the desire of the governor of the region, because in such regions remote from Moscow, the support of the region's leadership is important and effective. On the positive side, this was such a quick project (renovation of the ship took 7-8 months). We have invested considerable amount of money (about 600 million rubles), and now «Maksim Gorky» looks almost like a new ship to passengers. Some of the systems and interiors are completely reconstructed, it has a

very high level of service, rich excursion program – as a matter of fact, it is a river expedition. If we make an analogy with sea cruises, then this format of travel is the top, perhaps, the highest level in every sense - both in complexity of its performance and in price. Therefore, it is not a mass product and we did not have an expectation that there would be a queue of people lined up. Frankly speaking about the results, we are losing money on this project for the second year. The first year, of course, is not indicative, but we had high hopes for the second year. In general, the promotion of such a product always takes time, so we are optimistic.

On the plus side, I'd say the resonance of the project is high, mostly positive, and it complements the overall positive trend of traveling on Russian rivers. So, the negative financial indicators are in this case our marketing expenses. And not only on the Yenisei, but in general on the promotion of cruises on Russian rivers.

**USC:** What other regions, maybe specific points would you like to include in your coverage area?

Without a doubt, Baikal. This year we will put there a large comfortable (as compared to those vessels which are already

REVIEW

### Viktor Alexandrovich OLERSKY

is the Chairman of the Board of Directors of Vodokhod LLC. From 2009 to 2018 he served as Deputy Minister of Transport of the Russian Federation, and from 2016 to 2018 he also served as the head of Rosmorrechflot.



there) hovercraft with 37 seats in business class. And for the future there is a goal of building a medium-sized passenger vessel for multi-day cruises on the great lake. It will take time due to the problems on Baikal, and first of all its enclosed nature, inaccessibility by water from other basins. It is impossible to deliver a vessel made in another region, so you need to rely on the shipbuilding capabilities that are available there, and they leave much to be desired.

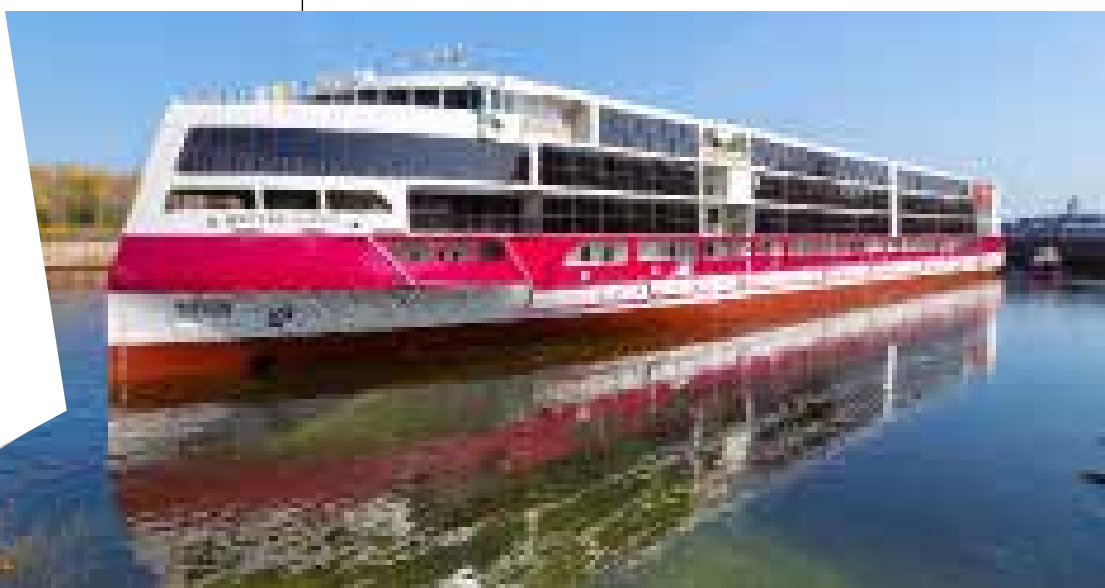
We are exploring the possibility of organizing cruises on the Ob River and have advanced significantly enough. If it were not for the pandemic, we would have been there for sure. But today, unfortunately, there are more urgent tasks – it is not about survival, of course, but about minimizing losses, I would say. Last year, despite some support from the government, it was a loss-making year. The plans for this year were originally more positive, but now

**USC:** What can the government do to help improve the situation in both your activity and in the Russian river passenger shipbuilding?

To answer your question correctly, we need to clarify the planning horizon. If we talk about strategic horizon, of course we need to talk about considerable fleet renewal, as a matter of fact – building of new river cruise fleet.

Here we can't do without governmental support. Why? I've already said that in our work we are guided by the financial model, which is based on purchasing power of travelers, first of all Russians. These two years have shown that no matter how much we want to see more foreigners here, history has its own way. So, when it comes to long-term planning first of all we should keep in mind the purchasing

IF WE TALK ABOUT THE STRATEGIC HORIZON, OF COURSE, WE NEED TO TALK ABOUT A SIGNIFICANT RENOVATION OF THE FLEET, IN FACT, THE CONSTRUCTION OF A NEW RIVER CRUISE FLEET.



we have to adjust them not for the better. So, we have to think more about optimization rather than new directions and new investments, unfortunately.

**USC:** How is the Russian river tourist changing? Is river traveling becoming popular among new groups of consumers?

Changing (decreasing) the age of an average cruise tourist is something we do every day. We see these changes, and especially if you assess the «age» trend on new steamboats or those that have undergone deep renovation, it turns out that many people had no idea what a modern river cruise ship was before. In the minds of the middle age and the older generation customers it's a sad vessel with small cabins, with no interesting program on board. It is necessary to change this perception, and that is what the management of the company is focused on, trying to achieve it in every possible way. Today we are focused on the improvement of both onboard and on-site programs, we are making thematic cruises and it allows us to increase the age bracket. I looked at the figures today: the average age of our tourists is now 54 years old, with a noticeable trend towards a younger age. About 25% – from 30 to 50 years old, and 50% – in the 50-70 age range. If you compare with the global trend – and all cruise companies have similar objectives – we look better and more interesting in terms of age trends.

power of Russians, but today it is not the highest, and river cruises are obviously not a priority. If everything will be fine in the country, if strong middle class will grow, they will definitely become our clients – new opportunities will open for us, shipowners and shipbuilders.

At the same time, we live in the climate zone where the navigation period is short: five to five and a half months, and for 10% of vessels it's six months. Besides we have rather rough navigation conditions similar to marine ones (I mean Ladoga, Onega, Volga reservoirs). All this affects construction and as a result, cost of these vessels construction, and this cost affects the financial model. Although there is never a «good price» for shipbuilders, and the customer will always accuse the shipbuilder of overpricing. If we want, we can mutually «dig» into each other's costs and if we disagree on price we need to discuss with the management of OSK the possibility of moving forward with the project in the open book mode: together we'll find out where we can cut costs, what we can give up. But, as I see it, we can't do without the support from the government. And I mean not only «Vodokhod» but any company which is going to order a cruise ship.

**USC:** And what concrete measures can be taken by the government?

One of the measures of state support, which works great, is the compensation of the interest rate. Or in «Mustai Karim» case: money



in the capital of the leasing company and the financing rate is equal to the commission rate of the leasing company. The measure is unprecedented, but by being so said, even that is not enough. So, the discussion of the situation with the Ministry of Industry and Trade, the Ministry of Transport, and Rosturism is on the agenda. Let's open our minds and think what we need to do to start serious cruise vessels building programme. We promise to uncover all the cards. Our calculated profitability is 5%, but in real life – it depends on how it is, it can be different, including substantial negative figures. We are one of the biggest companies, we know what we are doing and we are interested in a dialogue characterized by mutual trust.

The situation really isn't easy. Although, if you go back to history, I remember how many, many, many years ago we talked about the same things and discussed the same problems when we started

simply not be allowed in the city limits. In general, electric ships are no different from electric cars, although, of course, there are and will be some technical nuances, but they are definitely solvable in working order. And I am optimistic about the solution of this problem, though for now we are only talking about the inner-city fleet. We're also working on bigger ships, but it's still at the stage of financial and technical analysis, where the best option would be a hybrid scheme, simply because installation of charging stations on Russian rivers is unlikely to be fast and widespread. But at the next stage there will be that as well. I'm being optimistic about it.

**USC:** Do you expect that in the foreseeable future we will have mass production of passenger ships from composite materials?



AT THE SAME TIME, WE LIVE IN THE CLIMATE ZONE WHERE THE NAVIGATION PERIOD IS RATHER SHORT: FIVE TO FIVE AND A HALF MONTHS, FOR 10% OF SHIPS IT IS SIX MONTHS

building the cargo fleet. You see, today it turns out that nothing is impossible. So, we hope that together, if there is a good will and desire to build a new Russian cruise fleet, we will manage to do it.


**USC:** Moscow has announced the return of the river transport system - electric river trams, in September a tender for the purchase of the first twenty will be announced. What do you think about this project, isn't it too revolutionary for Russian cities?

I would not call it revolutionary. We, as a company, are already deeply immersed in the subject of electric tramways, and we will almost certainly take part in the tender announced by Moscow. We are getting ready for it.

The economic parameters speak in favor of converting intracity transport to electric power. Yes, if we compare it to high-speed ships, like 'Meteors', battery power does not provide such speeds yet. However, 20-21 knots are quite achievable, and it's already a competitive speed for such purposes. As for capital costs, they are three times lower, not to mention lower voyage costs. So the economics allow us not just to think about it, but to move towards electric transport. Of course, there is a long way to go, but this is no longer ground-breaking. Just look in the direction of European cities like Copenhagen and Amsterdam, where the main sightseeing routes run on electric power. As far as I know, in Amsterdam after 2025, non-electric vessels will

There is nothing astonishing in using composite materials nowadays as fleet is already being built from them, especially small ships. There is some positive trend in the cargo segment, mainly the application possibilities are limited to hatch covers and trunks but there are plans to expand the possibilities. The issue is more financial than technical. I always bring aviation as an example in this case, where composite wings are already being installed on the planes. The stresses on them are much higher than on water, so the technologies are already well tested. So yes, fully or partially composite ships have a chance.

**USC:** And finally, a personal question: where did you go on your first river voyage?

My first... on a cruise ship... You know, I've never had a good one, frankly speaking, it was always a combination of the pleasant with the useful, that is with work. So, I usually traveled no more than three days. But the first, most likely, was Valaam in the early 2000s - it was very short, two days only, or rather two nights and one day. At that time, it was the North-West Shipping Company, today it is «Vodokhod». But if we are talking about the longest one, it was just recently, I spent three and a half days on «Mustai Karim». I liked it, and it's not just advertising, I am telling you. 



◀ Boris Butoma has left behind a lasting and good memory

## Mikhail USTINOV

**O**n this day near the famous house on Povarskaya street the Navy marches thundered, the high-ranking representatives of the federal ministries and the heads of the Duma committees spoke from the stage, and the passers-by who stopped to have a look invariably asked: «And who is this Butoma?»

Boris Yevstafievich was not just another Soviet official whose former services have faded over the decades or fallen into oblivion with the collapse of the Soviet Union. The results of his work are evident to the whole world: the Russian tricolor is demonstrated in the World Ocean, and every year on the day of the Main Naval Parade a ceremonial formation passes through the Neva, as well as in Kronstadt, Severomorsk, Baltiysk, Sevastopol and Vladivostok. Boris Butoma can be called the father of today's Navy and the founder of modern Russian shipbuilding.

He can be compared with Fyodor Apraksin, one of Peter the Great's closest associates, Admiral and founder of the Navy, the 325th anniversary of which will be celebrated this year. Of course, there is a fair amount of slyness in making historical parallels of this kind. And it is not even the fact that Boris Butoma was not from a boyar family, that he chose an engineering career instead of military, or that he began his journey not from a position of a dignitary close to the governor, but a turner in the ship repair workshops of the port of Sevastopol. Nevertheless, the most important similarity is undeniable: Butoma, like Apraksin in his time, had to create a technically advanced fleet and advanced shipbuilding, which would provide our country with the status of a great maritime power.

After the end of World War II, the Soviet Union was considered a powerful, but exclusively continental empire. The bloody catastrophe caused monstrous damage to the economy and the entire industrial complex of the country, and the former allies in the anti-Hitler coalition, especially the United States, claiming absolute hegemony, made every effort to limit the USSR's maritime ambitions as much as possible, to lock its opponent within its borders and establish monopoly control over the world's oceans.

In these circumstances, Boris Butoma's successes seem all the more

# CREATOR OF TITANS

On June 29, 2021 – Shipbuilder's Day – in the center of Moscow they unveiled the memorial plaque to Boris Yevstafievich Butoma, Minister of Shipbuilding Industry of the USSR



▲ Boris Butoma's daughter Inga Borisovna speaks at the unveiling of a memorial plaque to her father



incredible. Having actually taken over the management of the industry in 1953 – with the appointment to the post of Head of the 4th Main Directorate of the Ministry of Transport and Heavy Engineering of the USSR, he managed to transform the shipbuilding complex of the country into a powerful industry in a little over two decades and with limited resources by the standards of the Western naval forces.

By the early 1970s, the Soviet Navy, according to Norman Polmar, a prominent American naval analyst, «was capable of posing a full-fledged challenge to the U.S. Navy both in numbers and efficiency.»

It is impossible to find a single explanation for how Boris Butoma managed to turn a huge industry into a single, smoothly working mechanism. But his main and indisputable trump card was an absolutely clear understanding of how the whole system works, at each stage, from worker to plant manager, from ordinary engineer to employee. After all, he did not get to his post from the ministerial corridors, but all the way through, having worked as a fitter, engineer and plant manager.

In 1942 in the height of the Great Patriotic War he was included in the expedition to the west - to Murmansk and the Baltic. And in 1943 he was appointed chief engineer of the Zelenodolsk plant. His notes were preserved: «The plant is big! The metallurgical base is huge... And not a crumb of coal at the plant. Everything is switched to firewood, which has to be transported by cars from the forest... Motor transport is in a deplorable condition. A maximum of 5 cars go to the line, when 8-10 cars are needed for firewood alone. It's 30 degrees below zero in the workshops... There is a shortage of machines, without which you can't work. Fitters and cabinet makers work only till four o'clock - there are no electric lamps and that is why people go home before dark. I started to work and I don't pat anybody on the head. I don't want to become Don Quixote of the twentieth century. I have enough work to do.»

He was never intimidated by difficulties. He took up the challenge and in a few years he transformed the plant, suffering from a chronic shortage of equipment and fuel, into an advanced enterprise, for which he was awarded the State Prize and received a new assignment – to Moscow, to the Ministry of Industry and Trade.

Boris Butoma belonged to that very rare type of people, who were

Leonid Brezhnev's  
visiting the navy

And these are just dry statistics. But the «Butoma Era» is first of all not an increase in quantity, but a breakthrough in qualitative characteristics of ships and vessels. That's when the domestic fleet became ocean-going, and unique, still unparalleled ships were born. And Boris Butoma was responsible for each project, which by its ambition and complexity

could well compete with the space program.

He was responsible for construction of the first domestic nuclear submarine K-3 «Leninsky Komsomol» and the first missile submarine of the project B611, was one of the initiators of creation of two domestic famous marine design bureaus: «Almaz» and «Korall». He managed to organize construction of second-generation submarines and then to carry out large-scale




### BORIS BUTOMA'S MAIN TRUMP CARD WAS AN ABSOLUTELY CLEAR UNDERSTANDING OF HOW THE WHOLE SYSTEM WORKED

not determined by the epoch, but created it themselves, as Sergey Korolev did in rocket engineering. In shipbuilding, the «Butoma Era» is almost an official term, a common name for a period of unprecedented development. Out of 220 shipbuilding plants, which existed in the USSR, the most part was created on his personal initiative and under his leadership. Only from 1956 to 1970, the USSR Navy received 290 submarines, 152 large surface ships, 819 small combat ships and boats, 370 sweepers and mine clearers, 247 landing and 18 reconnaissance ships, 185 rescue, 65 tankers and 67 transport vessels, 6 weapons carriers, 13 floating bases, 34 floating workshops and reloading bases, over a hundred hydrographic vessels and 15 icebreakers.

reconstruction of the shipbuilding enterprises, thereby preparing the industry for construction of the third generation of nuclear-powered submarines. Under his leadership a family of heavy nuclear-powered missile cruisers of project 1144 «Orlan» was laid, which still remain the largest and most heavily-armed surface non-aviation warships.

Civilian shipbuilding also experienced an unprecedented rise: the unique and one-of-a-kind first nuclear icebreaker «Lenin» was built, and the second generation of Arktika-type nuclear icebreakers was created – achievements that no other country has been able to repeat. The tonnage of the transport fleet was growing by a million tons per year, the first domestic supertankers, modern dry-cargo ships and passenger ships were created.

It was a huge responsibility, but Boris Butoma could take risks, accept the consequences of his decisions and - the main thing - he was convinced: both people and enterprises should always be given a chance to prove themselves. «Yes, his work cost him many heart attacks,» his daughter, Inga Borisovna, recalled at the unveiling of the memorial plaque to Boris Butoma, «but he was devoted to his work and happy in his calling - building ships. He could have had no other life.» 

## ANNIVERSARY

BALTIC SHIPYARD

SINCE ITS FOUNDATION  
ON MAY 26, 1856, THE BALTIC SHIPYARD  
CONTINUES TO BE A PIONEER IN MANY AREAS  
OF SHIPBUILDING, IMPLEMENTING THE MOST  
AMBITIOUS ENGINEERING  
PROJECTS.

# 165 YEARS OF INNOVATIONS

VARVARA TCHAIKOVSKAYA

**T**he Baltic Shipyard is one of the largest shipbuilding enterprises in Russia. Over 165 years that have passed since its foundation in the heart of St. Petersburg, a private plant (Baltiysky Zavod) has turned into a high-tech industrial giant, whose team is mastering the technology of building ships and vessels to advanced projects, thus forming a new look of the industry and the entire domestic fleet. For 165 years, the plant has gone from manufacturing the first coal-fired steam-powered metal boats to building high-tech nuclear-powered ships and vessels. Here, the first Russian combat submarines got their "ticket to life," a series of battleships and torpedo boats were constructed, ironclad battleships and cruisers, passenger ships and transport ships were built.

### ALWAYS THE FIRST

Since its foundation, the plant has specialized in manufacturing metal ships for the Russian Navy, as well as steam engines and other marine machinery. In 1866, 30-40 years before the whole world mastered the submarine construction techniques and tactics, the shipyard built a submersible designed by Russian engineer Ivan Aleksandrovsky, which was fit for the purpose of the submarine in many respects. The ironclad gunboat Opyt, built in 1862, became the first Russian metal ship.

In the 1870s, the shipyard built the coastal defense ship Admiral Lazarev, which laid the foundation for armored shipbuilding in Russia. In 1877, the first Russian steam engine with a capacity of 5300 hp was built here. The Baltic Shipyard was the first to start series construction of surface combatants (Pobeda-class cruisers, ironclad battleships) and the Bars- and Morzh-type submarines, which were



Newly founded Baltic shipyard in 1857





◀ After the defeat in the Crimean War, the country needed a new steam fleet, and for that, a new shipyard was needed





on a par with the best foreign models. The submarine Minoga became the first Russian submarine fitted with a reversible diesel engine. The famous Rubin Central Design Bureau for Marine Engineering (1938) traces its roots to the Submersible Navigation Department established in 1900.

At the beginning of the 20th century, the Baltic Shipyard built the battleships Petropavlovsk (Marat) and Sevastopol (Paris Commune), the first Russian dreadnoughts featuring an improved armor system.

In the 1920s, the plant was one of the first in the Soviet Union to resume the construction of commercial ships (timber carriers, passenger and cargo vessels, diesel icebreakers), and then began to implement military projects. During the first decade of commercial shipbuilding, the yard built 32 vessels. In the 1930s, the Baltic Shipyard constructed the famous Dekabrist class Series I diesel-electric torpedo submarines.

During the Great Patriotic War, the Baltic Shipyard worked to meet the needs of the front. It mass-produced ammunition, repaired ships, built minesweepers, organized the production of barges and tenders for the Ladoga Road of Life. Half of its 15,000-strong personnel went to the front, only about 6,000 returned from the war.

After the end of the Great Patriotic War, the plant mastered the construction of cargo and cargo-passenger vessels for the civilian fleet:

tankers, refrigerators, dry cargo ships, chemical carriers, icebreakers for the Arctic, research vessels.

In the 1950s, 19 Project 613 submarines were built at the shipyard, which brought international success to Soviet shipbuilding.

In the second half of the twentieth century, the importance of the tasks assigned to the Baltic Shipyard grows. Orders are getting bigger and more sophisticated. Large research vessels and large-capacity tankers started to slide down the shipyard slipways.

At that time, ambitious and large-scale development projects were underway in the military sphere: all the shipyard's facilities were utilized for the construction of the Project 1144 Orlan class heavy nuclear-powered guided missile cruiser Kirov, which gave impetus to the unprecedented development of the enterprise. The four built nuclear-powered cruisers of the project were ahead of their time and became a formidable force of the Soviet, and then the Russian Navy. Four heavy cruisers slid down the shipyard's ways: Kirov (renamed Admiral Ushakov in 1992), Frunze (Admiral Lazarev since 1992), Kalinin (Admiral Nakhimov since 1992) and Pyotr Veliky.

## RUSSIAN NORTH

A series of Project 10520 and 10521 nuclear-powered icebreakers was a special order for the shipyard, which determined the vector of its development for years to come. The second decade of the 21st century has become a new chapter in its history. A strategic task was assigned to the shipyard's personnel: the Baltic Shipyard becomes the prime contractor for the renewal of the domestic nuclear icebreaker fleet. The company was commissioned to build the world's largest and most powerful icebreaker. Project 22220 is a modern vessel capable of performing a wide range of tasks, the main of which is to service the Northern Sea Route. Innovative domestic technologies and engineering solutions are implemented in the icebreakers. The lead universal nuclear icebreaker is named Arktika in honor of the legendary Project 10520 vessel of the same name, which had been the flagship of the Soviet nuclear icebreaker fleet for many years.

On October 3, the Arktika under the Baltic Shipyard's flag reached the North Pole of the Earth. Hoisting the flag and handover to Rosatomflot Federal State Unitary Enterprise took place on October 21,



 In the 1960s, Baltic Shipyard was famous for its tankers, today - for icebreakers

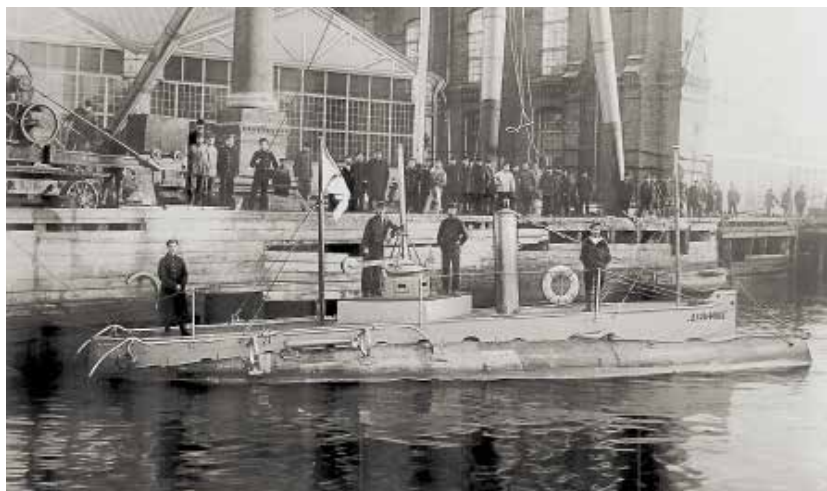


2020 with the participation of Russian Prime Minister Mikhail Mishustin.

Now the Baltic Shipyard is building follow-on Project 22220 ships, which are the general-purpose nuclear icebreakers Sibir, Ural, Yakutia and Chukotka. The first follow-on icebreaker Sibir is completing its mooring trials. Its delivery to the customer is scheduled for the end of the year. The Sibir lies alongside a quay next to the Ural, its younger sister. The Ural is expected to be commissioned late in 2022. The fourth and fifth vessels of Project 22220, icebreakers Yakutia and Chukotka, are on the shipyard's building ways. Their launching is scheduled for 2022 and 2024.

Along with renewing the country's nuclear icebreaker fleet, the company is engaged in the construction of diesel-powered icebreakers. The Project 22600 vessel Viktor Chernomyrdin has become the largest and most powerful non-nuclear icebreaker in the world. On December 30, 2016, the Baltic Shipyard launched the ship. Raising the flag and the handover of the icebreaker to Rosmorport for operation took place on November 3, 2020 with the participation of Russian President Vladimir Putin.

In addition to Viktor Chernomyrdin, the Baltic Shipyard built the Akademik Lomonosov floating nuclear power unit for the world's first floating nuclear power plant. This project, like most of the technically sophisticated orders built at the Baltic Shipyard, has no equal in the world. Today, Akademik Lomonosov has been commissioned as part of a floating nuclear thermal power plant in the town of Pevek, Chukotka Autonomous Okrug, and provides electricity to the Chukotener-



The submarine Delfin lying alongside the Baltic Shipyard's outfitting quay. 1903

go power grid and heat to the city's heating network.


### NEW HORIZONS

The Baltic Shipyard today is one of Russia's most advanced shipbuilding complexes with a high production, science and technology capacity. It produces a wide range of marine power and mechanical engineering equipment. Its marine engineering products include heat exchange equipment for nuclear power plants, boiler equipment,

propellers, shafts for ships and vessels of all classes, stern and steering gears, stocks. The shipyard is also equipped with full-fledged facilities for production of non-ferrous, steel and iron castings.

The enterprise implements the most sophisticated and knowledge-intensive projects. A colossal century and a half experience in building sophisticated ships and vessels, steady modernization of production facilities, ongoing work on personnel retraining and the use of the most advanced technologies rightfully make the Baltic Shipyard a flagship of the Russian shipbuilding industry.

Looking back in the history of the shipyard, it is clear that behind each unique vessel, behind each technical development, behind any innovation, there are designers, technologists, as well as the labor and professionalism of employees of all departments and divisions of the enterprise.

Over the years, valuable experience and exceptional competencies have been acquired, which, of course, will be in demand in the future when fulfilling forthcoming orders for the development of the Arctic regions and the Northern Sea Route. As a result, the shipyard will continue to evolve, will implement new interesting projects, and its employees can face the future with confidence. 

## BALTIC SHIPYARD IS ONE OF THE FLAGSHIPS OF RUSSIAN AND WORLD SHIPBUILDING





# WHAT CAN **M-88** BE REPLACED WITH?

Sergey MINAEV

Ninety years ago, important resolutions were adopted to improve internal waterways and to establish new generation of river transport. Nowadays, we are again on the verge of equally tremendous transformation on the rivers

**E**he summer of 1953 was the time of making large-scale plans for the future. The international situation was favorable for optimism: the economic crisis that started in the US in 1929 spread over the whole capitalist world. Any engineers and rank-and-file workers from Western countries started to arrive at communist construction sites. Moscow grew quickly: as compared with 1912, its population grew by one million two hundred thousand people. All of them had to eat and drink, to have accommodation, to be transported to and from work and, what was most important, to have jobs.

On 15 June 1931 a CPSU Central Committee Plenary Meeting adopted a resolution that stipulated construction of new residential areas, power and heating stations, metro, and

a water supply canal to connect the Moskva river with the upper reaches of the Volga river. Later on, the plan was adjusted: the canal was to be used not only for water supply, but also for carrying cargo and passengers with the help of wonderful vessels to be built specially for standardized dimensions of water locks and overall guaranteed dimensions of the navigable channel.

As long as the canal performed two functions simultaneously, the new vessels had to be what is now called 'ecologically clean': they were not pollute river water. Therefore, there became a need to arrange new shipbuilding capabilities in several cities of Russia, to introduce most up-to-date technologies – all that to be completed by 1937.

In addition to vessels for the canal, other civil vessels were required, for instance, tankers that would be bringing Baku crude oil to a huge refinery in Kapotnya (then called Cracking Plant No. 413). With this end, a shipbuilding and repairing yard was built and launched in Moscow, the existing shipbuilding plants in the Volga area were dramatically expanded and new ones were built.

During implementation of the first and the second five-year plans, from 1933 through 1941, Russian shipbuilding yards built 884 self-propelled river vessels and 440 towable vessels, around 70 industrial ships,

over one thousand motor boats. At the same time, large-scale river infrastructure was constructed, the flagship of which is the Northern River Boat Terminal in Moscow (1937).

Civil river fleet and infrastructure has made tremendous input into economic development and logistics during the World War II as well as into the post-war reconstruction. Later, when the United deep-water transportation system of the European part of Russia was being created, the river shipbuilding industry was being established alongside with it as part of the unified government program of the country development.

In this context one should not indulge in allusions that in severe 1930-s there were no such things as confrontation between departmental or regional interests. Technical discussions could easily turn into political ones, search for an optimal solution of a complex issue could turn into a search for a saboteur. Hence, high rates of growth had their high price.

It may seem that those events of the past have minimal relation to present-day life. However, it takes only to walk along the banks of the Moskva river to see that the past is still with us (and in some cases, again with us). The Northern River Boat Terminal was degrading for many years, but now it makes a brilliant display. Water level in the Moskva and embankments and jetties designed with the account of the water level result from solutions made in 1930's.

Many vessels that can be seen from the Kremlin towers are often real witnesses of bygone eras. M-88 is one of them. It is 69 years old; it was built at the Moscow shipbuilding and ship-repairing yard in 1952 pursuant to Project 554 ('Moskvitch', a.k.a. as 'M'). All in all, 283 such vessels were built at the Moscow shipyard, and a total of over 500 were built throughout the USSR. Now 25 ships of that type operate on the Moskva river, however they now bear more exotic

## IN THE SAME YEAR OF 1952, WHEN THE M-88 VESSEL WAS LAUNCHED:

- **THE STALIN HIGHRISE APARTMENT HOUSE** on Kotelnicheskaya Embankment was ready for occupation.
- The Gorky Automobile Plant had been producing **M-20 'POBEDA'** cars for already six years.
- One of the most ubiquitous passenger airplanes IL-14 is undergoing flight tests.
- The second section of the Moscow METRO circular line – from **KURSKAYA** to **BYELORUSSKAYA** was launched.
- **YURI GAGARIN** was a student at the Foundry Department of the Saratov Industrial Technical College.
- **THE 'SVERDLOV' CRUISER OF 68-BIS PROJECT WAS COMMISSIONED**; in 1953 the cruiser took part in Queen Elizabeth II Coronation Naval Parade.



names (from 'Alina Tango' to 'Yunga'). The M-88 has a long work history: first, it operated in Gorky, then in Syzran, and entered the Moscow water space only in 2020.

When the M-88 operates on its route, it makes a stop at the Zaryadye Park. At the same jetty the Moscow government installed a dummy of a future Moscow water bus. So far it is just a dummy on a pontoon: visitors can only see its interior design and believe bare word that it will operate on electric batteries. However, the Moscow Mayor has made a serious statement that tunes in to the spirit of the time: alongside with electric buses that have replaced trolleybuses in the Russian capital, with new models of trams and metro trains, Moscow plans to launch up-to-date river transport exactly in 2022, when the M-88 will celebrate its 70th birthday. It has been announced that, at first, 20 water buses will be cruising from Kiyevsky Railway Terminal to the district of Fili, and from the Avtozavodsky bridge to the district of Pechatniki (that, for the time being, will not compete with the M-88 that operates near the Kremlin). And who can tell what will happen next?


Personally, I like the exterior of the M-88 more than that of the incomprehensible dark object installed on the pontoon, likewise, many buildings of Stalin's Empire architectural style look more awesome than modern glass and concrete box-like buildings. Nevertheless, there is the other side of the coin: new vessels should comply with limitations imposed by life in a big city. The city should get cleaner – to provide fresh air for breathing, it should get quieter to provide tranquility, it should get safer and more comfortable so that its inhabitants do not intend to flee to other cities and countries. With regard to the

above three parameters, the M-88 will most likely concede to the future electric water bus and, after that, will remain just a monument, hopefully operational.

The initiative of the Moscow government is a vivid example of how current customers imagine up-to-date shipbuilding. Naturally, not every area has economic condi-

tions for establishing onshore infrastructure for such vessels, not every city and region can afford such vessels, not every region will have an effective demand for them. And more important, far from all regional governments have enough time to study the issue (even Moscow could address the issue only this year

– 15 years after shutting down the last municipal river transport route in the city). Of greater importance is that they have come to understand that the industry cannot be left unattended.

Like the suburban railway train makes no sense without rail tracks, like the bus is ineffective without adequate motor roads, the river transport is not viable without large-scale well-designed infrastructure, without well-developed shipbuilding and ship repairing industries and without proper maintenance of current hydrotechnical facilities and construction of new ones. The same is true about the marine fleet, but wit that regard the state policy is more prominent and bears fruit. The Northern Sea Route, is in fact operated by a single company that resolves large scale problems comprehensively and with vision for the future, and orders vessels and develops infrastructure pursuant to that vision. With regard to rivers, the situation is more difficult, and we much more often witness, and will keep on witnessing in the foreseeable future, splendid heritage of the bygone eras. One would prefer to more often see what our era will leave to future generations. 

«THE CAPITAL INTENDS TO PROVIDE ITSELF WITH UP-TO-DATE RIVER ELECTRIC TRANSPORT.»

ALEXEY RAKHMANOV

Alexey Rakhmanov

Speaking live on the OTR TV Channel on 29 June 2021 in the 'Reflection' program dedicated to the Shipbuilder's Day

**River navigation is the most ecologically clean and economically profitable type of transport.**

*Regretfully, for various reasons river port infrastructure has practically ceased to exist. In my favorite city of Nizhny Novgorod, an awesomely beautiful spit was built exactly where a river port used to be located. Probably, there is nothing wrong about it, however, river infrastructure requires construction, one way or another, since it makes no sense to overload motor roads and rail ways to transport, for instance, inert materials, timber or other products that can be more efficiently transported by rivers.*

**In shipbuilding we reason of decades, lifecycles of large vessels or generations of ships, therefore strategic planning for us should start from 30 years onwards.**

*If we can plan and strategically define all that, then we will get all grounds to assume that all the following generations will raise the flag of our shipbuilders and proudly bear it throughout the world.*

**No doubt, internal water ways for Russia are strategic advantage, therefore that cannot stay unused.**

*My colleagues who manage this direction within the Ministry of Transport are absolute professionals; we are on the same wavelength with them. The thing is that, just like us, sometimes have limited resources, and they have to decide what they can afford to spend today to get some profit tomorrow. Our fleet gets older, and the fact that we still see worn-out ships navigating along the Volga, nowadays is an environmental and transportation problem. On our part we are getting ready to satisfy, as quick as possible, the massive demand for renovation of the river fleet, because shipbuilding is not mass production, ships are not conveyor-manufactured but are build for months. To exactly match parameters of the demand, we are implementing our investment projects for improvement and renovation, that will allow us to build not one or two dry-cargo carriers or oil tankers per year, but 15 to 20, which can be observed at the Krasnoye Sormovo shipyard that has become a production system champion within the Corporation.*



*Quotation from the Resolution of 15 May 1931:*

“Despite the existing achievements in expanding water supply network, measures taken so far do not cardinally resolve the whole problem of supplying Moscow with water. Current condition of the Moskva river with its extremely limited water resources creates imminent threat both for Moscow water supply, and for river navigation in particular. Alongside with current activities providing for expansion of water supply within the next two years, the Central Committee believes it necessary to drastically resolve the issue of water supply for the Moskva river by way of connecting the river with the Volga upper reaches, and instructs Moscow organizations together with the State Planning Committee and the People's Commissariat of Water Transport to immediately commence to draw a design of that facility, so that in 1932 construction works to connect the Moskva river with the Volga can be commenced”.

# WHITE DOLPHIN OF RUSSIAN RIVERS

2021 is the year of birth of one of the most interesting projects under development at USC. Work on it was not easy and took quite a long time, but this autumn the first Sotalia should slide down the slipway

**Svetlana ANTUSHEVA** (NIPTB Onega), **Natalia BULYUKINA**, **Ilya GARANKIN**

**T**he idea of developing the Sotalia originated in USC's Technical Development Department and was originally conceived by its director Sergey Lyashenko. The developers faced a big challenge of building a line of vessels capable of carrying out transportation on shallow rivers and disembarking and boarding passengers on an unequipped shore, with a modern design, Russian propulsion and at a fixed cost. There is a need to renew the shallow-draft passenger fleet in many regions of Russia, but they could not cope with this problem on their own.

NIPTB Onega became the developer of the engineering and detailed design. At the outset, it was agreed that the maximum number of professionals should be involved in the new project: designers, industrial designers, production men. A unique design of the exterior and interior of the vessel was developed by a group of domestic industrial designers led by Vladimir Pirozhkov at the Kinetika High-complexity Prototyping Center (Moscow). The synergy of efforts and knowledge has made it possible to develop an affordable domestic river vessel with a modern appearance, ready to operate in different regions of Russia, including on socially significant routes.

The USC-Interior, USC-Propulsion and USC-Electrics product specialization centers established at the USC Group were also involved in the construction of the Sotalia.

Using this project as an example, they practiced new organizational approaches to the implementation of work and technology solutions.

## NEW TYPE

The novelty of the Sotalia is that it's not the project of a separate vessel, but a universal platform on which USC intends to build vessels of various purposes and displacement. Project documentation on one passenger vessel is ready and has the potential for other modifications. The project is not tied to a specific shipyard or a specific customer and has been developed with a view to maximum scalability. Another new facet of the Sotalia was the transfer of technologies: solutions used in the construction of railway wagons, buses and airliners were borrowed for the passenger cabin.

An important feature of the project is its business concept

assuming specified production cost, production time and proper product quality. The cost of the vessel should not exceed the cost of its closest counterparts. This is a prerequisite for getting orders to build various vessel versions and steady demand, given a competitive assessment of the price/quality ratio – construction time.

In addition, the Sotalia was devised as a vessel that has no restrictions on assembly in remote areas. Its dimensions were chosen so that large assembly units could be delivered anywhere by road, water and rail. It can be launched and lifted to the shore using both slips and lifting equipment (port or mobile cranes).

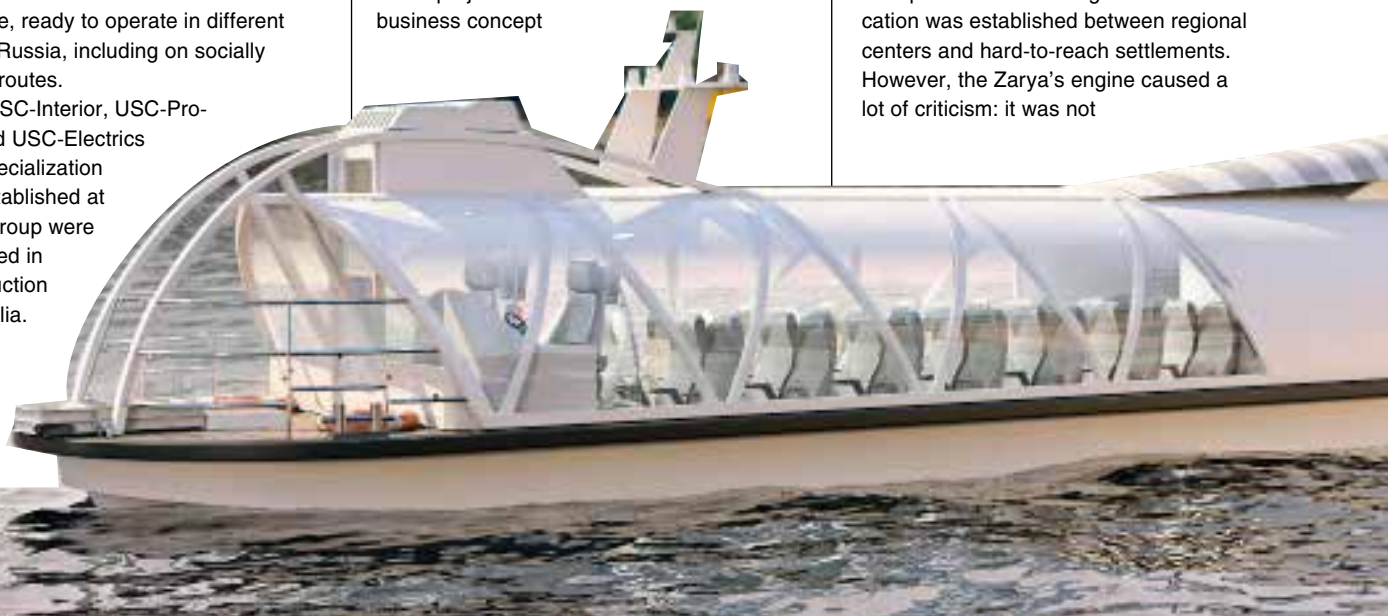
## PREDECESSOR

The Project 946 (later R83) motor ship Zarya might be called the predecessor of the Sotalia. The vessels of this project carried passengers on shallow rivers in almost all shipping companies of the Soviet Union. For its time (the project was developed and modified in the 1970s), the Zarya was, as we would

say now, an innovative vessel. Its design incorporated features that provided river «all-terrain capacity»: the wide use of fiberglass in the superstructure made the vessel light, and the combined hull lines and the bottom air lubrication system made it easier to pass shallow, rocky sections of rivers.

In addition, due to a shallow draft and a raised bottom in the bow, the vessel could go to a sloping shore with its bow end for boarding and disembarking passengers. The appearance of the Zarya on the rivers of the country produced a transport revolution – regular communication was established between regional centers and hard-to-reach settlements. However, the Zarya's engine caused a lot of criticism: it was not

THE IMAGE  
OF A DOLPHIN  
SILHOUETTE  
HAS BECOME  
AN ELEMENT OF  
THE PROJECT'S  
TRADEMARK





very reliable, uneconomical, and polluted the environment.

The Sotalia will be just as light and «all-terrain», but more comfortable for passengers and more environmentally friendly. It will replace passenger, cargo/ passenger, cargo and, possibly, medical river vessels with a displacement of up to 20 tons.

## STAGES

There are three stages in the work on the project: front end engineering design (FEED), the actual development of engineering and detailed design, and the approval of this project. But this division is very conditional – at any time the developer can return to the previous stage to adjust the decisions made. For example, you can change the make of equipment after evaluating the technological compatibility of equipment from different suppliers, or redesign some part of the project to meet the requirements of the classification society.

The FEED stage involves a large volume of procurement documentation. The amount of work related to forming a pool of suppliers for the Sotalia project can be fully appreciated only by someone who tried, in the current economic situation, to ensure the interaction of several dozen production facilities with a guaranteed outcome with regard to price and timing.

In order to preserve the vessel exterior and interior specified by industrial designers, solutions were implemented, which had not been used in shipbuilding before: retractable railway seats, railing made of polycarbonate, special configuration of structural elements inside the hull, etc. Of course, promoting these solutions required time, but the result – project development at a state-of-the-art industrial design level – was worth it.



**The motor ships Zarya of Project 946 (from 1965 to 1981) and R-83 (from 1971 to 1985)** were built at the Moscow Shipyard. In total, more than 400 vessels had been manufactured. Currently, no more than 20 vessels of these projects are in running condition.



**The white dolphin (*Sotalia fluviatilis*)** is found throughout the Amazon River, as well as in many of its tributaries in Brazil, Peru, Southeastern Colombia and in Eastern Ecuador. His image is placed on the coat of arms of the city of Rio de Janeiro.

Models of the passenger and cargo/ passenger Sotalia made debut at INNO-PROM-2019. USC CEO Alexey Rakhmanov told Deputy Prime Minister Yuri Borisov and Industry and Trade Minister Denis Manturov about the vessel's competitive advantages and wide opportunities for its use.

## DEMAND

At present, the regional authorities of the Pskov Region, Perm Territory and other regions are interested in its acquisition. In general, demand is widespread geographically. USC specialists studied a mechanism for selling the vessels throughout the Russian Federation to overcome the lack of modern vessels for carrying passengers on local lines. In addition, there is hope for interest from regional private manufacturers ready to build the vessel under a franchise. This option is already being considered in Samara. And the pilot vessel is already under construction in the Kaliningrad region at a shipyard, which won a tender.

## SUPPLIERS

The key elements of the project are domestically-made: an engine manufactured by the Yaroslavl Machine-Building Plant and a water-jet propulsor made by the Zvezdochka Shipbuilding Center's head branch NPO Vint. The engine has been modified to meet the Russian River Register requirements and certified as part of a propulsion system.


Interaction with manufacturers of products for railway transport made it possible to use seats with an ergonomic backrest offering comfortable seating for passengers with a small seat pitch.

Several solutions for the hull and superstructure were considered. An aluminum alloy was selected as the basic material due to the optimal ratio of the ship's manufacturability, weight characteristics and the scope of introduction of aluminum alloy technologies at small shipyards.

## FURTHER DEVELOPMENT

In the future, the Sotalia may be fitted with an electric propulsion system, which will make it more environmentally friendly and expand its application. The option of using liquefied natural gas as a fuel is also possible.

Initially, the project included models for 30, 42 and 54 passengers (designated as P-30, P-42 and P-54). It would be appropriate to use the P-30 model on low passenger-flow routes and the P-54s where the required passenger traffic is greater.

All the conceptual proposals were carefully analyzed and studied, and as a result the project now has a fairly balanced model lineup. Nine passenger and cargo models, as well as a version for medical needs were developed on the basis of one modular platform. In the future, the lineup will undoubtedly expand. 



## ТОЧКИ РОСТА

СНСЗ



Так будут выглядеть новые пассажирские суда на фоне Красноярска

# С НЕВЫ – НА ЕНИСЕЙ

На СНСЗ заложено второе пассажирское судно для Красноярского края

Сергей МИНАЕВ

**В** 40 минутах на электричке от Московского вокзала Санкт-Петербурга находится станция Понтонная. Ее открыли в 1911 году около поселка Понтоного, названного так в честь понтонной роты, размещенной в этом месте на берегу Невы еще Петром I. В 1912 году тут открылась верфь, где первое время строили миноносцы, а потом самые разные корабли и суда.

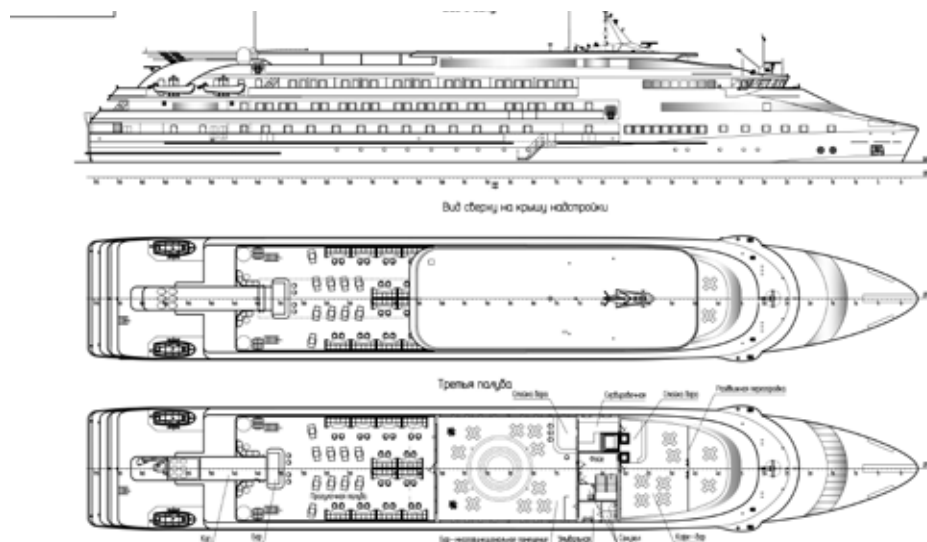
Обо всем этом можно узнать в небольшом замечательном музее Средне-Невского судостроительного завода, расположенном на территории крупного современного предприятия. Утром 30 июля в музей пришли рабочие и забрали оттуда модель проекта А45-90.2, потому как она потребовалась на церемонии закладки еще одного судна этого типа. Первое, заложенное год назад и названное в честь основателя Красноярска «Андрей Дубенский», уже заметно подросло на своем стапеле. А вот соседнее второе – «Виктор Астафьев» – только-только начато. В конце июля в присутствии представителей Санкт-Петербурга и Красноярского

края, общественности, церкви и работников завода оно было торжественно заложено. В 2023 и 2024 году пассажирские суда производства СНСЗ должны прибыть на Енисей.

Для Красноярского края судоходство по Енисею всегда имело принципиальное значение. Край исследовался и осваивался экспедициями, поднимавшимися вверх по реке. В 1607 году казаки пришли на место современного Туруханска, в 1916 году на место Енисейска и только в 1628-м – на место Красноярска. После строительства Транссиба Енисей не утратил своего значения – именно по нему юг края сообщался с севером, перевозились люди и грузы. Заменить его железнодорожным или автотранспортом не удалось по сей день, лишь с появлением регулярного авиационного сообщения у пассажирских (но не грузовых) судов появилась альтернатива. Но с закрытием в 90-е годы мелких нерентабельных аэродромов спрос на пассажирские перевозки по реке снова вырос, чего нельзя было сказать о предложении. Основу пассажирского флота на Енисее до сих пор составляют суда, поставленные в 50-е годы из ГДР.

Проблема обновления пассажирского флота для Красноярского края столь же важна и бородата, как и вопрос строительства метро для Красно-





области завод долгие годы считался скорее середнячком, хотя и со своими сильными сторонами (в основном в области инноваций — таких, как электросварка в 20-е годы, применение стеклопластика начиная с 70-х годов и композитных материалов в наши дни). Успешное выполнение крупного заказа по строительству крупных пассажирских судов, каких в России очень давно не строили, — это, безусловно, большой плюс к репутации предприятия

и хорошие шансы на появление новых гражданских заказчиков.

То, что завод взялся за большое и важное дело,

отлично понимает трудовой коллектив — неда-

ром на церемонию закладки пришли почти все, кто в этот момент был на предприятии. Сумма контракта на два судна, заключенного с ГТЛК с использованием мер господдержки, — 5 миллиардов рублей, и рабо-

чим не нужно объяснять, что из этих денег в ближайшие три года будут складываться их зарплаты. А в будущем, если обстоятельства окажутся благоприятными, возможно заключение контракта на строительство еще двух судов по тому же проекту, но с важной оговоркой: речь пойдет уже о туристических судах.

Эта оговорка действительно принципиальна. «Дубенский» и «Астафьев» — речной пассажирский транспорт, главная задача которого — доставить людей из пункта А в пункт Б и сделать это быстро и надежно. Вместимость у этих судов составит 250 человек, а большая часть кают рассчитана на четырех пассажиров (хотя есть и немного люксов). Цены на билеты будут определяться правительством края с учетом социального фактора. Третий и четвертый теплоход должны будут обладать меньшей вместимостью, большим комфортом и иными ценовыми параметрами. Но так как перед Красноярским краем стоит и задача раскрытия его туристического потенциала — на Енисее вообще есть на что посмотреть, — то новый заказ очень вероятен. **ССК**

Интерьеры будущего пассажирского судна

ярска. Его по-прежнему нет, но в годы СССР город очень стремился стать миллионником. Для этого в его план включили метро. С тех пор каждый губернатор Красноярска неизменно поднимал эту тему, чтобы привлечь внимание избирателей. Тема начала строительства новых пассажирских судов для края тоже политическая.

Не меньшее значение этот проект имеет и для Средне-Невского судостроительного завода. Среди развитой судостроительной промышленности Санкт-Петербурга и Ленинградской

## УСПЕШНОЕ ВЫПОЛНЕНИЕ КРУПНОГО ЗАКАЗА — БОЛЬШОЙ ПЛЮС К РЕПУТАЦИИ ПРЕДПРИЯТИЯ





# НА УРОВНЕ МИРОВЫХ СТАНДАРТОВ

В рамках контракта с Государственной транспортной лизинговой компанией АО «Средне-Невский судостроительный завод» ведет строительство двух пассажирских судов класса «река – море» проекта А45-90.2

**Кирилл ЧЕРТОК**

*Средне-Невский судостроительный завод*

**Н**азвания судов – «Андрей Дубенский» (основатель Красноярск) и «Виктор Астафьев» (советский и российский писатель) – были выбраны по результатам голосования жителей Красноярского края. Эти пассажирские теплоходы предназначены для рейсов по внутренним водным путям, в том числе бассейнам разряда «О», с выходом в район севернее широты 66°30' и могут эксплуатироваться в мелкобитом льду толщиной 20 см. Для обеспечения регулярных подходов к необорудованному берегу предусмотрено усиление носовой обшивки.

Архитектурно-конструктивный тип А45-90.2 – однокорпусное судно с тремя пассажирскими палубами, прогулочной палубой, рулевой рубкой, расположенной в носовой части судна на второй палубе, с кормовым расположением машинного отделения, трехвальной дизельной энергетической установкой. Особую роль в проекте играют безопасность, экономическая эффективность, уровень комфорта, отвечающий современным мировым стандартам, а также высокая экологичность.

Оно предназначено для перевозок 245 пассажиров в комфортабельных каютах на маршруте протяженностью до 5000 км.

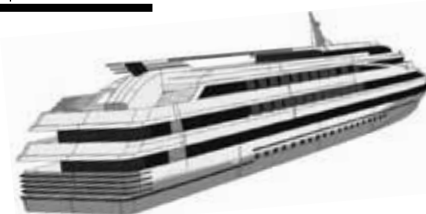
На борту судна размещены ресторан, бары, фитнес-комплекс с двумя саунами, деловой офис, медицинская каюта, камеры хранения, пассажирский лифт. Для размещения пассажиров на палубах судна предусмотрены 47 четырехместных кают, 16 трансформируемых двух-четырехместных кают, семь кают класса люкс, а также одна двухместная каюта для лиц с ограниченными возможностями.

Проект отвечает современным мировым стандартам безопасности и обеспечивает высокий уровень комфорта всем пассажирам. Планировка элементов интерьера осуществляется с учетом расширения границ замкнутого пространства. Конструкторские решения сочетают функциональность и эстетику. Для предотвращения загрязнения водной среды на судне предусмотрены сборные цистерны, а также установка для очистки и обеззараживания.

Доставка пассажиров с борта теплохода на берег и обратно может быть осуществлена в условиях необорудованного берега. Для этого проект предусматривает размещение маломерного судна, которое также может использоваться в качестве развездного средства. **ОСК**

## ТТХ проекта А45-90.2

■ Длина габаритная, м	99,0
■ Экипаж, чел.	41
■ Длина наибольшая, м	98,2
■ Материал корпуса	сталь
■ Ширина габаритная, м	14,6
■ Материал надстройки	АМг
■ Высота борта, м	4,2
■ Главные двигатели, кВт	3 x 480
■ Осадка габаритная, м	ок. 2,0
■ Мореходность / Высота волны	до 3,0 м
■ Скорость макс., км/ч	ок. 25
■ Автономность, дней	15
■ Расход топлива на круговой рейс, т	40
■ Класс: М-ПР 3,0 (лед 20) А Река – море	
■ Надводный габарит с заваленной мачтой, м	не более 14,2







## Константин Димитров: Для нашего Енисея готового судна не было

Министр транспорта Красноярского края **Константин Димитров** отвечает на вопросы корреспондента ОСК о новых пассажирских судах в составе речного флота Красноярского края

### ОСК: Как Красноярск пришел к проекту А45-90.2?

— Мы более 10 лет активно обсуждали, «подходили к снаряду», но, когда начинали определяться с бюджетом, никто не мог принять решение. Я еще в 2011 году работал заместителем министра, уже тогда мы обсуждали эту тему. Затем я уходил из министерства, вернулся в 2017 году, когда губернатором стал Александр Викторович Усс. И как раз тогда на выездном совещании по поводу подготовки Енисейска к празднованию 400-летия губернатор услышал вопрос из зала: «А когда будут новые суда?». В ответ Александр Викторович сказал: «Действительно, а почему мы не можем решиться-то?» Было создано поручение, и работа закипела, благо со Средне-Невским заводом и с «Агат-бюро» мы работали давно и за десяток лет прорабатывалось более восьми концепций. Были мысли сделать новое судно похожим на «Мустая Карима» и классический вариант. В обсуждении принимали участие специалисты Пассажи́речтранса, которые сейчас эксплуатируют суда на Енисее, мы заслушали и инженеров, и капитанов. Долго обсуждали каждую деталь и в итоге остановились на варианте, в котором есть квинтэссенция технологий и отличные эксплуатационные характеристики.

### ПРОЕКТ 45-90.2 СМОЖЕТ РАБОТАТЬ НА ЕНИСЕЕ БЕЗ ОГРАНИЧЕНИЙ

**ОСК:** В чем уникальность этого проекта, почему потребовалось разрабатывать его с нуля?

— У нас ведь очень высокие требования. Специфика маршрута — более 2000 км в одну сторону. На определенных участках очень быстрое течение, есть участки с маленькой глубиной, есть пороги. Проект А45-90.2 сможет работать на Енисее без ограничений, и в этом его уникальность. Как нормальные люди, когда мы получили поручение, то сперва пошли смотреть на рынке, что есть. По факту для нашего Енисея готового продукта не было, вот так, чтобы просто купить за границей. Нет, не в этом случае.

**ОСК:** Вы заявляете «Дубенского» и «Астафьева» как речной транспорт от Красноярска до Дудинки. На Енисее работают и туристические компании, у которых достаточно высокий ценник на том же маршруте. Как красноярцы к ним относятся?

— Туристический маршрут по Енисею существует не первый год. До «Водохода» с «Максимом Горьким» тут работал «Чехов», но у него была большая осадка, и ему сложно было проходить Казачинский порог, поэтому он был переведен на Волгу. Мы ждали, когда вернется туристический корабль, и очень рады, что он сейчас есть. Да, на нем есть туры за миллион, но это максимальный пакет с вылетом на вертолетах на плато Путорана. Конечно, это не может быть дешево, тем более что корабль они действительно сделали на пять с плюсом. Есть у них и короткие рейсы, и они как раз красноярцев заинтересовали. Я тоже в конце прошлой навигации провел на нем три дня в туре, и по деньгам это было довольно носильно. Могу оценить их уровень сервиса: всем очень понравилось, и хочется поехать с ними и в этом году.

**ОСК:** Хватит ли «Дубенскому» и «Астафьеву» пассажиров?

— С вводом новых кораблей мы поставим наших «старичков» — «Матросова» и «Чкалова» 1953 года постройки — на заслуженный отдых. Вместимость новых судов мы рассчитывали, исходя из существующих на сегодняшний день пассажиропотоков. И сейчас на «Матросове» и «Чкалове» какая-то часть мест выкупается туристами. Конечно, это не «Максим Горький», но кому интересно просто посмотреть красоту Енисея, без пятизвездочного сервиса, это можно и сейчас и можно будет со вводом «Дубенского» и «Астафьева» по более доступным ценам.

**ОСК:** 1 мая 2024 года будет отмечаться столетие Виктора Астафьева. Ожидаете к этому сроку судно в Красноярск?

— Хотелось бы, но вряд ли. По условиям навигации на Севморпути мы сможем провести судно с Невы на Енисей только в августе или в начале сентября — ледовая обстановка к этому времени более-менее успокаивается. Так что, когда выбирали имя для судна, мы под дату не подгадывали.

Виктор Петрович Астафьев — это наш великий земляк, который воспевал Енисей, жил на Енисее. Его дом-музей в деревне Овсянка, прямо на берегу Енисея, километрах в 15 ниже по течению Красноярской ГЭС, — это одна из туристических остановок в речных путешествиях, так что судно «Виктор Астафьев» у нас ждут и ему будут рады всегда. **ОСК**

## Ответственная задача

На церемонии закладки судна к собравшимся обратился генеральный директор АО «СНСЗ» **Владимир Середохо**



**У**важаемые сотрудники Средне-Невского судостроительного завода, уважаемые гости! Мы присутствуем при значительном событии. Ровно год назад мы с вами начали строительство серии кораблей для Красноярска, проект А45-90.2. Сегодня мы закладываем второй корабль – «Виктор Астафьев». Уроженец Красноярского края, великий русский писатель, один из величайших писателей России. Мы горды тем, что такое имя дано второму кораблю.

Суда проекта А45-90.2 спроектированы и строятся для того, чтобы мы решили большую социальную задачу – обеспечили транспортную доступность для

жителей на берегах Енисея от Красноярска до Дудинки. Для нас это очень ответственная задача, и мы полны решимости выполнить ее с надлежащим качеством и в срок. Мы уверены, что в 2023 году пройдем по Енисею на «Андрее Дубенском», а в 2024 году – на «Викторе Астафьеве». Поздравляю вас с этим знаменательным днем и желаю всем удачи и успехов! **ССЗ**



## Таких судов еще не было

Старший строитель **Илья Поляк** поделился впечатлениями от работы на проекте А45-90.2



**ОСК:** Насколько интересен для вас этот проект?

– На все 100%. Это новое пассажирское судно, какие в России, да и в Советском Союзе практически не строились. Оно сможет плавать в арктической зоне и преодолевать битый лед толщиной до 20 см. Для этого оно должно иметь прочный корпус, мощную силовую установку и комфортные условия для команд и пассажиров.

**ОСК:** Есть ли на рынке подобные суда?

– Подобные суда, по-моему, даже в Европе не строились. Даже на судостроительных заводах бывших стран соцлагеря, которые выполняли заказы для СССР, такого не было. А дальше и подавно – у них нет такой региональной специфики, как у нас.

**ОСК:** Если сравнивать этот проект с 588-ми, которые пришли на Енисей из ГДР в 50-х годах прошлого века...

– ...И успешно там эксплуатируются до сих пор. Конечно, их трудно сравнивать, здесь будут применены новейшие технологии. Так на этом заказе, кроме системы вентиляции и кондиционирования воздуха, будет установлена система рекуперации уходящих газов от двигателя. Они несут тепло, а мы разместим устройства, которые это тепло заберут и направят на нужды пассажиров.

**ОСК:** Сколько людей будет работать над этим проектом?

– Для того чтобы мы уложились в срок, работая параллельно над двумя судами проекта, на каждом заказе должно одновременно работать не менее 50 производственных рабочих.

**ОСК:** Заложенный сегодня «Астафьев» и заложенный год назад «Дубенский» будут идентичны?

– Да, абсолютно. По крайней мере, так планируется сейчас. Конечно, срок строительства большой, и нельзя исключать того, что внесут какие-то изменения. Но если они и будут, то локального характера. **ССЗ**

## Как «В. Чкалов» и «А. Матросов» оказались на Енисее



**В** начале 50-х годов на верфи в городе Висмар (тогда ГДР) началось строительство грузопассажирских судов проекта 588 («Родина», автор проекта Лев Добин) и 646 («Байкал»). Однако к моменту завершения строительства первых двух судов Волго-Балтийский водный путь

еще не был готов к их проводке с Балтики на Волгу. Крупные гидроэнергетические стройки на Волге (Жигулевская и Волжская ГЭС) также еще не были завершены, и водохранилища начали заполняться только в 1955–1956 годах. Поэтому было принято решение перевести эти суда на Енисей по Севморпути.

Еще в 1950 году легендарный капитан Федор Наянов получил Сталинскую премию за метод проводки речных судов по арктическим водам, и именно ему было поручено провести караван из Ленинграда до Красноярска в навигацию 1954 года. В состав него вошли «В. Чкалов» и «А. Матросов». **ССЗ**





От Сенатской пристани до Петергофа «Грифон»  
доходил за 40 минут

## «ГРИФОН» НА НЕВЕ И НА ЧЕРНОМ МОРЕ

Первое в стране пассажирское судно из углепластика, гордость СНСЗ, катамаран проекта 23290, – яркий пример применения композитов

**Кирилл ЧЕРТОК**  
Средне-Невский судостроительный завод

**К**атамаран спроектирован на класс Российского морского регистра судоходства и соответствует международным и национальным требованиям безопасности. Длина судна – 25,7 м, ширина – 9,03 м, осадка – 1,5 м. Дальность плавания – 1000 км. Максимальная скорость – 29,5 узла. Катамаран

может эксплуатироваться при высоте волны 2 м (мореходность 4 балла).


Корпус судна изготовлен из композитных материалов с применением отечественных углеродных тканей. Их использование позволило увеличить прочность корпуса и снизить его вес почти на 40% по сравнению с металлическими судами, в результате

ОТ  
ГЕЛЕНДЖИКА  
ДО СОЧИ –  
ЗА ЧЕТЫРЕ  
ЧАСА

чего расход топлива и ГСМ значительно ниже. Композитный корпус не подвержен воздействию коррозии, обладает высокой ремонтопригодностью (без специального оборудования, методом ручного формования), не требует ежегодного докования судна. Подтвержденный срок службы такого корпуса составляет 40 лет, что значительно превышает период жизни судна с металлическим корпусом. Перечисленные факторы также существенно снижают затраты оператора на эксплуатацию и обслуживание катамарана.

«Грифон» способен работать на самых различных маршрутах. Маленькая осадка позволяет эксплуатировать катамаран в мелководных акваториях. Габариты позволяют ему свободно проходить под большинством мостов. Судно обладает хорошими маневровыми характеристиками: оно способно выполнить разворот вокруг своей оси практически на месте. «Грифон» не нуждается в специально оборудованных причалах и без проблем может быть ошвартован практически у любой пристани. Посадка и высадка пассажиров может производиться как с носа судна, так и с кормы.

Первыми оценить все достоинства катамарана смогли пассажиры одного из самых загруженных маршрутов Северной столицы Санкт-Петербург – Петергоф. Время перехода от Сенатской пристани до пункта назначения составило 40 минут.

В 2021 году «Грифон» вышел на регулярное обслуживание кругового маршрута компании «Водоходъ экспресс» Новороссийск – Геленджик – Сочи. Первые рейсы прошли в штатном режиме, судно вновь продемонстрировало свои высокие технические характеристики. Время в пути от Новороссийска до Геленджика составило один час, а путешествие из Геленджика до Сочи продлилось четыре часа, что примерно в два раза быстрее, чем поездка на автомобиле. Пассажиры отмечали удобство и комфорт, высокое качество салона, а также делились незабываемыми эмоциями от путешествия, когда «Грифон» на полном ходу практически парил по волнам Черного моря. 





# RESCUE FERRIES FOR SAKHALIN

Sakhalin is the largest island in Russia comparable in area to a small European country. It is home to about half a million people, whose well-being directly depends on regular communication with the mainland



**Irina GEORGIEVSKAYA**

*Nevskiy Shipyard, Shlisselburg*

**E**nsuring an uninterrupted crossing in this logistically difficult region has been a particularly pressing issue for the government of the Sakha-

lin Oblast for many years. It was required to significantly increase passenger traffic, but the single ferry Igor Farkhutdinov built in the 1990s, which had been operating on the line, clearly could not cope with this task. In 2018, under the Program for Social and Economic Development of the LKurul Islands for 2016–2025, Sakhalin

Leasing Flot JSC signed a contract with the Nevsky Shipyard for the construction of two cargo-passenger vessels for the Sakhalin-Kuril line. The lead ship Admiral Nevelskoy was laid down in March 2019 and the Pavel Leonov one month later. The shipyard workers paid special attention to the construction of ferries, as they understood that people were looking forward for their ships.

## IN STEP WITH THE TIMES

The new Project PV22 cargo-passenger ferries are ultra-modern vessels offering high maneuverability. They feature improved icebreaking capability, as they are based on the Project MPSV07 Arctic rescuer. The volume of the hold has increased to 895 cubic meters against 208-215 cubic meters on previous ships. Redundancy of propulsion is provided by a twin-shaft twin-engine powerplant. The vessel' speed is 14 knots.

The vessel has received improved maneuverability compared to existing vessels through the installation of a thruster and two propellers. The propellers are driven by two 1800 kW motors through reduction gears.

"The working design documentation for Project PV22 was fully prepared by our engineering bureau," comments Evgeny Kuznetsov, General Director of the Nevsky Shipyard. "The main dimensions of the ferries were designed taking into account the conditions of entry to ports of the Kuril Islands. The vessel will carry out both passenger and cargo transportation.



Project MPSV07 vessels:  
Rescuer Karev (St. Petersburg)  
Rescuer Kavdeykin (Murmansk)  
Rescuer Zaborshchikov (Vladivostok)  
Rescuer Demidov (Novorossiysk)



Cargo operations can be carried out even on an unequipped shore. In addition, the vessels can carry 24 containers at once, as well as eight refrigerated and six passenger cars on the deck.»

The vessel is 75 meter long and 16 meter wide and can carry up to 146 passengers. For them, 38 cabins are equipped on board, each of which is equipped with a bathroom with toilet and shower. Thirty standard cabins allow both two- and four-berth accommodation. There are also four-berth cabins, a single-berth luxury cabin, a mother-and-child cabin, and a cabin for people with disabilities. The vessel has a 74-seat restaurant, so meals are served in two shifts. On board the Pavel Leonov, passengers can use a gym, a sauna and a swimming pool. The Project PV22 vessel is provided with special equipment for embarkation/disembarkation and comfortable transportation of people with limited mobility.

The ferry is equipped with an electro-hydraulic crane with a lifting capacity

Nevsky Shipyard workers decided to celebrate the solemn moment of handing over the vessel to the customer with a group photo

of up to 35 tons with a telescopic boom outreach of 12 to 18 m (with the outreach of 18 m, the lifting capacity is 4 tons).

### PATH TO CUSTOMER

On April 26, 2021, the Project PV22 lead cargo-passenger vessel Admiral Nevelskoy (hull number 221) arrived at the Port of Korsakov after a two-month voyage from St. Petersburg. The ferry sailed more than 10,000 nautical miles, crossed six seas, the Indian Ocean and the La Perouse Strait in 59 days. "We

passed through a number of piracy-prone areas," recalls Vladimir Marchuk, captain of the Admiral Nevelskoy on the route to Sakhalin. "In terms of seaworthiness, the vessel may not

be excellent, but definitely

deserves B+. I have sailed


around the world many times, once or twice a year. This time the weather was very good during the passage – we got a little shake just a couple of times. I think the point is in the icon of Saint Nicholas, which is kept on our bridge. And since it all started like this, it means that the

## THE PROJECT PV22 CARGO-PASSENGER FERRIES ARE BASED ON THE PROJECT MPSV07 ARCTIC RESCUER

weather will continue to favor the vessel".

On June 2, 2021, the Admiral Nevelskoy started operating on the route and has already received high marks from passengers.

The second vessel, the Pavel Leonov, is to arrive at the site of operation along the Northern Sea Route. "The crew of 17 people is preparing for the passage: we are receiving supplies, preparing documentation. The passage along the Northern Sea Route will halve the transit time. Unlike the Admiral Nevelskoy, our ship will spend about 30 days on the way to Sakhalin," explains the Pavel Leonov's captain Roman Kovlyakov.

The entry of the Admiral Nevelskoy and Pavel Leonov to the Kuril transit service area will increase transport accessibility and create new opportunities for tourism industry development. According to the regional government, with the arrival of the two new vessels, passenger and cargo traffic will triple and, most importantly, will become much more reliable. After all, these ships are built to cope with any difficulties. 



**Pavel Leonov** - First Secretary of the Sakhalin Regional Committee of the CPSU from 1960 to 1978. During his time in office, the sea ferry crossing Vanino - Kholmsk was opened, the fishing and transport fleet was equipped with new vessels, the construction of housing, schools and hospitals was launched.



**Gennady Nevelskoy** - Russian admiral (1874), researcher of the Far East, founder of the city of Nikolaevsk-on-Amur. He proved that the mouth of the Amur is accessible for sea vessels and that Sakhalin is an island.





# YOUNG SHIPBUILDERS OF «SIRIUS»

This summer the United Shipbuilding Corporation (USC) team took part in the All-Russian contest of scientific and technological projects Major Challenges-2021, which was held in the Sirius Educational Center in Sochi

**Stepan MYASOEDOV**

Employees of the Corporation's enterprises in partnership with the Autonomous Non-Profit Organization National Center for Engineering Contests and Competitions, the Nizhny Novgorod Children's River Shipping Company, and the MARINET Industry Association arranged a project session called Exploring the Arctic and the World Ocean. For three weeks a team of teenagers (Victor Bender and Ekaterina Ionova - project leaders, Dmitry Petrov, Elizaveta Antropova, Andrey Belov, Sofia Ryabova, Rostislav Dzhuraev, Nikolay Shirokov), using their mentors' experience, developed a project Emergency rescue vessel on solar-hydrogen power system



Teams had to develop the vessel electric supply scheme

RE.mora, which got a diploma in the category Best technical solution. The participants created a prototype of catamaran with a complete control system and electrical circuit, tested it on the water, and created a website for the project <http://remora.tilda.ws/>. For each of the participants, this event became a starting point in applying their knowledge and skills, as well as a reference point in choosing a future profession. We heartily congratulate the whole USC team on this remarkable achievement! **Valeria Ditskovskaya (Baltiysky Zavod)**, the USC expert-mentor, informed us about details of the work on this project.



The team got the diploma Best technical solution

## EDUCATION

/ MAJOR CHALLENGES-2021



### WHY DOES THE SHIP SAIL?

At our Baltic Shipyard, we actively provide career guidance, including with children of school age. We hold excursions for pupils, telling about shipbuilding technology, and I developed a field lesson Why the ship sails? for younger schoolchildren and even preschoolers. In my school years, I chose between the profession of a teacher, which I liked very much, and the profession of a shipbuilder, following the example of my parents. Anyway, when I chose shipbuilding, I got a very interesting job; by participating in career guidance programs, I have realized my second wish now – to be a teacher.

### SIRIUS PROJECT

– Sirius was set up to identify talented kids in science and technology, as well as in sports and art and provide them with opportunities for development supervised by leading teachers, coaches and scientists. Sirius allows the United Shipbuilding Corporation to show such children the shipbuilding industry as one of the opportunities to realize their potential.

The children who completed projects in different areas and became finalists gathered at Sirius and teamed up to do collaborative work in three weeks according to the chosen direction of the competition. Each team makes its own project under the supervision of their tutor and counselor. In addition, all children attend general lectures, and they choose the lectures they want.

### USC TEAM

– In my lecture, I told the children about calculations to select the parameters of a future vessel. I told them about the circumstances of a number of sea accidents and showed photos of the most unusual ships. Responding to their questions, I also spoke about the ship construction methods. Children from various areas of research attended the lecture, i.e. Arctic and World Ocean Exploration, Modern Energy and even Space Technology. Then I went on working with a team of students from Arctic and World Ocean Exploration discipline, making a prototype of catamaran for rescue operations. Based on the knowledge they received during lectures, they developed




an idea of advantages and disadvantages of a multihull vessel. Through dialogue, they learned how to critically evaluate their decisions and choose the best option among them.

For the children at Sirius, everything was real, and they got a lot out of the three weeks. First, they interacted in teams with cool kids just like themselves. This is very important because at Sirius you can feel real support from each other and from tutors. Such lively kids rarely get real support at ordinary schools. Secondly, the schoolchildren attended lectures by specialists in various industries and science; now they can decide on the industry to work in the future. Thirdly, doing the project in a very short time, they gained experience in setting realistic goals and achieving them. Finally and most importantly: they have seen that adults are interested in them, that they are a value.

## NEW STARS

— Students asked if the USC held contests for children. I said yes. Moreover, the children and grandchildren of USC employees are the most active participants. I think it is time to start using contests similar to the 2019–2020 Ambassador Contest as a career guidance platform, but not limited to USC. Everyone should have an opportunity to take part in such contest, hold finals in one of the camps in Leningrad, Nizhny Novgorod and other regions, Primorsky Territory. Today, shipbuilding, as well as other industries, is experiencing a serious personnel shortage, and in this regard, it is necessary to pay attention to the possibility of working with children in the regions where USC Group companies are present.

Obviously, those «starlets» whom we will probably bring into shipbuilding with Sirius will be able to take an active part in research developments. These children can think, set goals and achieve them. No doubt, attracting such children to our R&D centers will make a qualitative difference in their work. These kids will not only be able to learn from their elders, but, having flexible young minds, they will also be able to come up with new ideas and put them into practice. «Sirius is looking for such particularly gifted children. However, shipbuilding is also painstaking work of a great number of workers, masters, engineers. Here we need to go the way of attracting more children, holding mass events. Now, many industries and educational institutions choose this way. 

# LEGACY OF GENERATIONS: «MAY WALTZ»

**Georgy Poltavchenko,** Chairman of JSC USC Board of Directors initiated and supported a creative contest for children and grandchildren of the employees held for the second year running timed to the Victory Day


**T**his year It has been held in two nominations: Video and Written work, and the song May Waltz by composer Igor Luchenok to lyrics by Mikhail Yasen was an inspiring motive for the participants.

The participants from 12 enterprises presented their art works. Most of all – eight works – came from the Arkhangelsk Region (JSC NIPTB Onega), and six works were from Khabarovsk. Also, the contest participants were JSC SPO Arktika, CB Vypel, PJSC Krasnoye Sormovo Plant, JSC SPMBM Malakhit, JSC PO Sevmash, JSC SKTBE, JSC SNSZ, JSC Rubin, JSC TSCB MT Rubin, and JSC PSZ Yantar.

Children demonstrated their creativity in a variety of genres: poems, songs,

essays, historical re-enactments, and dances. The dance groups danced in the May Victory Waltz. Many participants engaged their relatives and friends in creating videos and used family archives and memories of eyewitnesses to prepare their essays. Many good works, profound and original, were submitted for the contest. Denis Efremov (15 years old) became the winner in the nomination Written work, Nikita Gaidar (14 years old) won in the nomination Video. Their grandfathers Valery Alexandrovich Lobanov and Alexander Viktorovich Zadorov work at Khabarovsk shipyard. As an award, the winners will have an informative trip to the capital of the Russian fleet, St. Petersburg. Augustin Cisar, former Ambassador Extraordinary and Plenipotentiary of Slovakia in Russia, Consul General of the Slovak Republic in St. Petersburg is the sponsor of the trip.

Two more participants received ipads as a special prize from Georgy Poltavchenko: Polina Smolenskaya, 12 years old, who submitted a written work (her father is an employee of JSC PO Sevmash), and Sergey Kuzmin, 12 years old, who prepared a video clip in a military-historical re-enactment genre (his mother is an employee of JSC PSW Yantar).

According to Georgy Poltavchenko, he «was delighted to see the works of the contestants and noted a really high level. Pupils were able to get deep into the history of our country, its heroic past. Moreover, the most important thing is that each work is filled with patriotism, pride for their country, and love for their ancestors who defended the world from fascism». 



100-летие  
Победа в Великой Отечественной войне  
80-летие ВДВ (Парашютники)

Дню Великой Победы  
посвящается



«Народам Европы свободу принёс!»



# ON SOMOV BEYOND THE ARCTIC CIRCLE

A century ago, **Plavmornin, the Floating Marine Research Institute**, established by the Soviet authorities to explore the Arctic region, set out on its first expedition to the Arctic Ocean. The Arctic Floating University maintains this tradition today. **Anna Trofimova**, Deputy Head of the expedition for Research, tells about what they managed to learn during this year's voyage.

Photo by Anastasiya LOMAKINA



Anna Trofimova

**T**he thirteenth voyage of the Arctic Floating University-2021 lasted twenty-one days, during which time the scientific-research expedition vessel Mikhail Somov took the following route: Arkhangelsk – Malye Karmakuly –

Cape Zhelaniya - the Novaya Zemlya Archipelago – the oceanographic incision Cape Zhelaniya – the Salm Island – Franz Josef Land – Arkhangelsk. Some field studies were carried out on Islands Hooker, Heiss and Bell (Franz Josef Land, Russian Arctic National Park).

Northern (Arctic) Federal University (NArFU) together with Northern Department of Hydrometeorology and Environmental Monitoring with the RGS support have conducted a unique marine research and educational project onboard the research vessel at high latitudes since 2012. One of its goals is to obtain new knowledge about the condition and changes in the ecosystem of the Arctic archipelagos coastal territories.

## GARBAGE TELLS ABOUT THE CURRENTS

The members of expedition take educational courses and perform research

work in the waters of the Barents Sea, allowing them to gain knowledge of the Arctic region in expeditionary conditions of the high-latitude Arctic. The plastic waste pollution of the Barents Sea marine ecosystem (including Franz Josef Land Archipelago) and its impact on various ecosystem components (habitats – coasts, water area; biota – birds, hydrobionts) have been assessed this year. Two landfills on two sections of Zhelaniya Cape coastline (Novaya Zemlya archipelago) were surveyed: from the side of the Barents Sea and from the side of the Kara Sea. According to a special methodology, the search for wastes thrown out by the sea was carried out along the entire width from the water's edge to the snow line: from macro- to micro fractions, including metal, wood, glass. Six large bags of anthropogenic garbage were collected on the Barents coast. About ten times less they were found on the Kara coast. The composition of the garbage was very different: the Barents Sea garbage consisted of the remnants of fishing gear and bottles from various cosmetic products of European origin, plastic dishes, bottles, etc., while the Kara sea debris was mostly metal, left over from economic activities on Novaya Zemlya.





Helicopter pad of Mikhail Somov scientific expedition vessel. Expedition of the Arctic Floating University-2021

Meteorological data collection is an important part of researches



The research on Bell Island of Franz Josef Land was conducted for the first time. The inspection of the 100-meter landfill on the southern coastline discovered a large amount of plastic waste (two large bags). These were mostly remnants of fishing gear, fish boxes, and other waste from fishing boats; however, there was almost no domestic plastic waste. These differences suggest different sources of pollution and different pathways for its spread, depending on the currents. The description of the garbage collected will be according to the internationally accepted Marine Framework Directive classification and recommendations of the OSPAR Convention and the information may subsequently be added to the international database on marine debris in the North Atlantic region.

## HOW THE GULF STREAM IS DOING

The expedition also conducted oceanographic studies of the current hydrological conditions in the Barents Sea and inland waters of the Franz Josef Land archipelago. Their purpose was to understand the distribution of warm waters originating from the Atlantic Ocean, penetrating into the sea from the



Rocks of Novaya Zemlya are under study

west, north and northeast. The main task was to probe the water column and take samples from predetermined horizons in the oceanologic section from Cape Zhelaniya on Novaya Zemlya to Salm Island. Nineteen oceanographic stations were established: 16 on the main transect and three in the inland areas of FJL. Water samples for chlorophyll, bacterial composition, methane and other components were taken at 13 stations. The transect was completed in 41 hours, taking into account its length of about 370 km and average depth of about 250 m, this is quite a good result.

The initial data between the eighth and twelfth stations identified Atlantic waters belonging to the Barents Sea branch of AWM (Atlantic water mass). They are

characterized by a positive temperature and increased salinity (about 35%), and their upper boundary is at a depth of about 100 meters. In order to trace the water exchange, heat and salt transport of this water mass and to understand how the Atlantic affects this region, a further comparative analysis with the results of past years is required.

The Arctic Floating University expeditions regularly conduct oceanologic and meteorological studies of the current hydrological conditions of the Arctic seas, as well as studies of the processes of distribution and transformation of warm Atlantic waters in the Barents and Kara Seas. Over several years, together with the Arctic and

Arctic spaces from the board of Mikhail Somov scientific expedition vessel





The expedition flag shows the Professor Molchanov scientific research vessel, which has been replaced this year by the Mikhail Somov scientific expedition vessel

## NORTH POLE LSP WILL ALLOW A YEAR-ROUND RESEARCH

Construction and commissioning of the North Pole Ice-resistant self-propelled platform will enable year-round research in the central part of the Arctic Ocean and will help to increase knowledge about the Arctic significantly.



Expedition of PlavMornin, 1921.

Antarctic Research Institute, more than 750 oceanologic stations in the White, Barents, Greenland and Kara Seas have been processed and over more than 10,000 samples have been selected for hydrochemical research. They systematized and added to databases the data obtained during the voyages to complete the picture of long-term variability of the hydrological regime in the Arctic Ocean seas. Such data allows to study the regional climatic changes in progress, improve ice forecasts for the Arctic seas, and contribute to the assessment of marine bioresources.

### WHAT KIND OF RESEARCH VESSELS (R/V) DO SCIENTISTS NEED?


All previous Arctic Floating University expeditions were held on the research vessel Professor Molchanov, but this year and for the first time the legendary Mikhail Somov research expedition vessel (R/V) was used. It is mainly

intended for marine research and delivery of specialists and cargoes to hydro-meteorological stations located on the coast and islands of the Russian Arctic.

Research vessels have to meet specific requirements, which the customer defines. One of the indispensable requirements taken into account when choosing equipment and machinery is the suppression of different kinds of interferences (noise, vibration, etc.). The design of R/V focuses on providing functional interconnection of shipboard and laboratory equipment. The vessel should be equipped with special navigational equipment for precise positioning at sea, special hydroacoustic equipment, as well as more powerful means of radio communication and radio navigation than on other ships. Research vessels working in the Arctic zone should have high ice class, rooms to place the mobile laboratories quickly, as well as a helipad.

### LIVING TRADITIONS

The Arctic seas and archipelagos, like a century ago, are still in many ways a blank spot on the map of science. The Arctic Floating University continues the tradition of multidisciplinary marine expeditionary research of the Floating Marine Research Institute, and also refines and complements the data in oceanology, hydrometeorology, and biodiversity obtained in previous studies.

Floating universities are a special form of education, where students get practical skills, and at the same time are involved in all stages of the research process together with leading scientists and specialists - from problem formulation to publications preparation. In recent years, the Arctic Floating University has become a calling card of the Lomonosov NArFU and well known outside of Russia. The leading research and educational centers of our country as well as foreign universities and research institutes engaged in Arctic research show interest in participating in such complex expeditions. 







## DEVELOPED IN THE USC

ADMIRALTY SHIPYARDS

# WHAT IS NEW AT THE NORTH POLE?

The Admiralty Shipyards are building a unique research vessel – North Pole LSP, ice-resistant self-propelled platform. Here is how the works in progress and why it has no similar vessels.

Admiralty Shipyards PR Department

**T**he North Pole ice-resistant self-propelled platform is essentially an all-season research station with a scientific center function. It replaces the stations drifting on ice floes and has significant advantages over them, both in terms of safety and manageability. The platform will be able to accommodate additional scientific equipment, as well as provide

it with power supply and full-fledged operation.


A research expedition of 34 people will be able to accommodate comfortably onboard the ship. They will conduct standard meteorological, actinometric (at the meteorological sites on the ice) and aerological observations (onboard), studies of ice cover and its dynamics

THE STATION  
IS DESIGNED  
TO OPERATE AT  
TEMPERATURES  
UP TO -50°C

(at the ice fields), studies of ice loads, deformation mechanics and ice destruction when affecting the industrial facility in order to improve methods for calculation of local and global ice loads on ships and other engineering structures, and develop and test systems for monitoring ice loads on industrial facilities. In addition to the living and working spaces of the North Pole LSP, the ship will also have a sauna, gym and swimming pool. The design of the station supposes operation at the temperatures up to -50°C and humidity of 85%.

The Admiralty Shipyards completed docking work on the North Pole LSP ice-resistant self-propelled platform in summer 2021. The platform reached the stage of mooring tests. The overall technical readiness of the ship by the end of July was over 80%. On 28 July, the ship departed from Luga dock. In total, it took almost more than a month to dock the platform. During this time, the propeller-rudder complex was mounted, the paintwork of the underwater part of the outer skin was restored, the anchor-mooring winches were installed and wired, and the anchor chains were installed. After leaving the dock,

the ship will continue outfitting, installation, electrical work and its preparation for mooring trials. They are scheduled for September 2021.

The original construction deadline was pushed back to the end of 2022, as Roshydromet, the customer, adjusted its requirements for construction of the North Pole LSP. The Admiralty Shipyards are constantly working with the monitoring team of the Arctic and Antarctic Research Institute to improve the tracing of ship systems and equipment. 


## Conquerors of ice

JSC Admiralty Shipyards has extensive experience of building ice-class vessels

**I**n 1959, they built the world's first nuclear-powered icebreaker Lenin, and in 1979, they built the research vessel Otto Schmidt. Since the beginning of the 2000-s the

enterprise has launched a series of five ice-class tankers with 20,000 tons deadweight and the Arctic tankers Mikhail Ulyanov and Kirill Lavrov with 70,000 tons deadweight.

In 2012, the shipyard built a unique research vessel Akademik Treshnikov, intended to support operations of the Russian Antarctic expedition, i.e. delivery of cargoes and personnel rotation on Antarctic stations, research works and study of natural processes and phenomena in the ocean, removal of

waste and garbage from the Antarctic. Federal Service for Hydrometeorology and Environmental Monitoring (Rosgidromet) was also the customer. The ship has successfully proven herself to be one of the few in the world capable of performing such kind of works in the polar areas of the World Ocean. 

The icebreaker A. Mikoyan as an auxiliary cruiser, with fake cannons made of logs and sailcloth placed by the crew after leaving Aden

# SHIPBUILDERS' FIERY CIRCUMNAVIGATION

In 1941–1942, in the midst of the Great Patriotic War, the Soviet **icebreaker A. Mikoyan** made a forced circumnavigation of the globe. Today, we can restore this incredible story with the help of manuscripts, photos and documents given by the icebreaker's chief engineer Nikolai Ivanovich Kuzov to the Moscow Navy Museum



**Eugenia PETLINSKAYA**  
Chief curator of the Navy Museum

The design also uses photo materials from the site <http://icebreakermikoyan.com>

**T**he tradition of naval parades, like so much in the Russian Navy, goes back to Peter the Great. During the Great Embassy, he visited a review of British ships in Spithead, near Portsmouth, organized in his honor, and was very impressed by what

Seattle, the tent city where the crew lived during the decontamination of the ship. Photo from Gladush's archives

was going on. Back to Russia, the Russian tsar held a similar review of ships in summer of 1699 in Troitsk-on-Taganiy Rog (today's Taganrog), where the construction of the port and naval base had just begun.

## 1934 / Leningrad

Early in 1934, Sudoproekt started developing the project of a steam icebreaker for the Arctic region ordered by Glavsevmorput (Chief Administration of the Northern

Sea Route). They decided to build a series of four steam icebreakers: two at the Baltic Shipyard in Leningrad and two at the Black Sea in Nikolayev. The Sudoproekt team carried out design project (chief designer K.K. Bokhanevich) and the Baltic Shipyard Design Bureau developed the working drawings. The icebreaker «Krasin» was taken as a prototype for the new project. Working drawings of the 3,300-h.p. steam engines were purchased from Armstrong Company to speed up the construction. The stem angled at 25 degrees was made of two steel castings weighing 24 tones, the stern post weighing 34 tones. Hull plating thickness in the fore part was 32 mm, in the middle and aft parts - 35 mm. The frames were located 305 mm apart. The ice belt, 40 mm thick, started at 0.6 m above and reached 5.7 m below the waterline.

## November 1935 / Nikolayev

Ceremonial laying of O. Schmidt icebreaker, named after the scientist and polar explorer Otto Schmidt. However, during the navigation of 1937, all the icebreakers were trapped in ice, and one vessel perished. The polar leadership was repressed, many were arrested. Reports were made on Schmidt himself, and under pressure, he had to resign his post at the Chief Directorate of the Northern Sea Route.

## April 1941 / Nikolayev

The icebreaker was renamed to A. Mikoyan.





◀ Captain Sergei Sergeyev (right) with Lieutenant Victor Kamaev. The Pacific Ocean, 1942.  
Photo from the Gladush's archiv

### 25 November 1941 / Batumi

At night on 25-26 November, the icebreaker and three more tankers under the protection of Tashkent leader and Capable and Soobrazitelny destroyers left in the direction of the Bosphorus. The directive from the Chief Naval Staff of the USSR, received by the captain in Istanbul, read as follows: «Break through the Aegean Sea passing enemy naval bases and reach the eastern allied ports on the Mediterranean Sea. Make the breakthrough secretly from the enemy. Do not surrender the ship to the enemy in any case, sink it by explosion, and do not surrender the crew».

### 30 November 1941 / Istanbul

The icebreaker left Istanbul for Cyprus. They crossed the Aegean Sea only at nights, during the day the icebreaker stayed in small bays and pressed against islands. Hiding from the Italians, who controlled the Dodecanese archipelago, the icebreaker reached the island of Rhodes, where the Italian Navy and Air Force base was located. However, they discovered the icebreaker. An approaching torpedo boat commanded the icebreaker to proceed to Rhodes. After the refusal, torpedoes attacked the icebreaker. Having evaded the torpedoes successfully, A. Mikoyan received more than 500 shots in the superstructures and chimneys from the enemy's automatic weapons, and two sailors were wounded. The Italians, however, were unable to capture or sink the ship, and using the thickening darkness, she escaped pursuit.

### 03 December 1941 / Famaguster

The icebreaker arrives at the British-controlled port of Famagusta. Cyprus is not safe, as it is in Italian airspace, and the icebreaker sails onward, toward Beirut and Haifa.

### 04 December 1941 / Haifa

The damaged icebreaker was under repair at a British military base. A disaster occurred in the port on December 20: the British tanker Phoenix, laden with oil, hit a mine. The oil quickly spread through the port waters and burned. The fire spread to Mikoyan with its three steam engines disassembled for repairs, and the working one being in «cold» condition. The crew of the icebreaker brought the vessel through the burning sea to safety. Mikoyan was

◀ The burnt hull of Mikoyan after the fire in Haifa.  
Photo from V. Donausov's archive.

Death of the British tanker «Phoenix» that hit a mine in the port of Haifa. Mikoyan is on the right. The explosion caused a terrible fire in port. Photo from the Gladush's archive. ▶

### 22 June 1941 / Nikolayev

By the beginning of the Great Patriotic War, the icebreaker had not yet been completed, but was at high level of readiness.

### August 1941 / Nikolayev

The enemy was approaching Nikolaev, and from early August the A. Marti Shipyard had been bombed. This caused Captain 2nd Rank Sergey Mikhailovich Sergeyev (who had been awarded two Orders of the Red Banner for his participation in military operations in Spain) to put A. Mikoyan into the sea without waiting for the acceptance tests. The crew (138 people) included workers and engineers from the plant's trial team, who had already completed the ship afloat. The icebreaker was converted into an auxiliary cruiser, equipped with three 130 mm guns of the main caliber and six 76 mm antiaircraft guns (they were able to shoot down some enemy planes). A. Mikoyan participated in defense of Odessa, then relocated to Sevastopol, and then to Batumi.

### 5 November 1941 / Batumi

The ship's command was ordered to remove all weapons and A. Mikoyan auxiliary cruiser again became a line icebreaker. The crew surrendered their machine guns, rifles and pistols, and everyone was issued civilian clothes and nautical books. The Navy flag was changed to the national flag. The country's leadership decided to relocate the icebreaker to the Far East.



THE ICEBREAKER  
WAS CONVERTED  
INTO AUXILIARY  
CRUISER, WITH  
THREE 130-MM  
GUNS AND SIX  
76-MM ANTI-  
AIRCRAFT GUNS  
MOUNTED  
ON HER



## MEMORY

1941–2021

the only one of all ships in the port to survive. Once the icebreaker was safe, the crew rushed to the rescue of distressed crews of two tankers and soldiers of British anti-aircraft battery. The British naval command expressed gratitude to the captain and personnel of A. Mikoyan for their courageous behavior. Once the repairs were completed, the icebreaker sailed toward the Suez Canal.

### 07 January 1942 / Port Said

They had to go through the Suez Canal only during a day, bypassing the sunken ships blown up on German mines. At nights the traffic stopped.

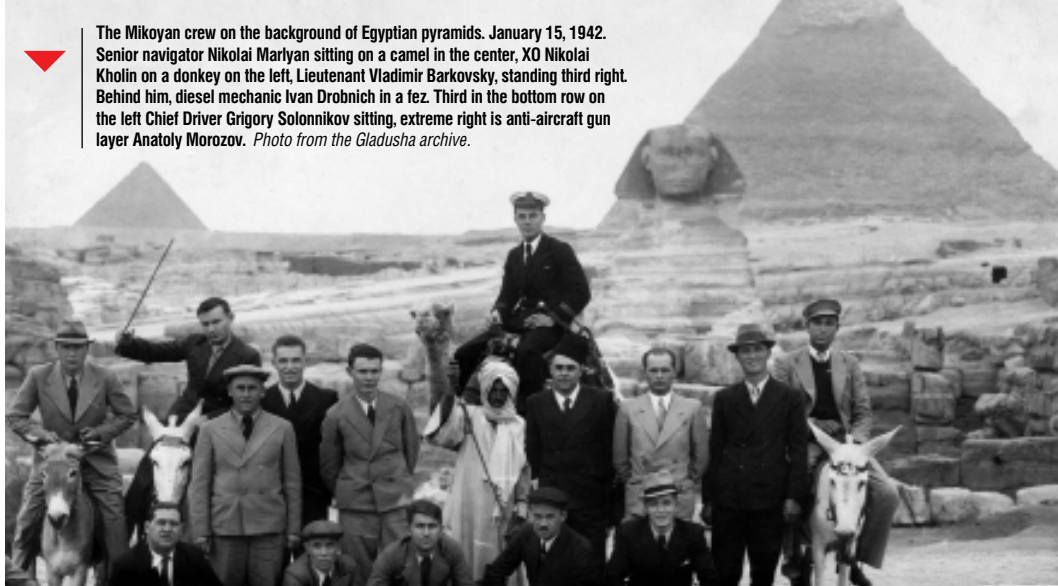
### 06 February 1942 / Aden

The icebreaker's original plan was to circle Eurasia, but given the Japanese attack on Pearl Harbor on December 7, 1941 and Britain's entry into the war with Japan, this route was closed. The icebreaker was ordered to sail around Africa. Presence of Japanese submarines in the Straits of Mozambique and German military bases allegedly located in Madagascar complicated this route. Having resupplied with provisions and fuel in Kenya's Mombasa, the icebreaker headed for Durban.



IN TOTAL, A. MIKOYAN HAS MADE 28,560 NAUTICAL MILES FROM NOVEMBER 1941 UNTIL DECEMBER 1942

The Mikoyan crew on the background of Egyptian pyramids. January 15, 1942. Senior navigator Nikolai Marlyan sitting on a camel in the center, XO Nikolai Kholin on a donkey on the left, Lieutenant Vladimir Barkovsky, standing third right. Behind him, diesel mechanic Ivan Drobich in a fez. Third in the bottom row on the left Chief Driver Grigory Solonnikov sitting, extreme right is anti-aircraft gun layer Anatoly Morozov. Photo from the Gladusha archive.



### 1942 / Durban

The dock lasted for three weeks to repair the boilers and steam engines, and to clean and paint the underwater part of the hull. In addition, it was decided to weld the wings on both sides 4-5 m below the waterline to reduce the roll during rough seas - the Atlantic crossing was ahead. Gladush, the radio squadron commander, recalls that on the Red Army Day the crew had a party. «The mechanics and electricians made a model of the globe with the flags of allies fighting fascism - the USSR, the USA and England. <...> The icebreaker was illuminated and colored with flags. The amateur art group was hard at work preparing for the performance during the celebration. Many people gathered on the pier, watching our party preparations. Port and city authorities came to the icebreaker, and after negotiations, the delegation was invited to the party and gratefully accepted the invitation. In the evening, tables were prepared on deck with refreshments for the crew and guests».

### 26 March 1942 / Cape Town

Having replenished supplies and loaded coal, Mikoyan was ready to proceed. They chose the further route taking into account that German submarines were operating on the Cape Town-New York line and that German raiders «Michel» and «Stier» were presumably in the South Atlantic. The route to the Panama Canal proved extremely dangerous. Mikoyan left Cape Town, taking a longer and heavier route: across the South Atlantic, around Cape Horn and further northward across the Pacific.

### 12 April 1942 / Montevideo

A. Mikoyan was the first Soviet ship to visit this port. While approaching to Montevideo the icebreaker requested permission to enter and unexpectedly was rejected: the authorities considered the ship to be heavily armed, and the warships were forbidden to enter. Fake cannons made of logs and sailcloth,

The crew on the high-mountain railroad in Peru. Photo from the archive of Captain S. Sergeyev.







The Magallanes Strait. The crew set off on a hunt. Captain Sergeyev with his rifle, saved when disarming the ship. Beside the captain is Ivan Drobnich. Photo from the archive of Captain S. Sergeyev

Montevideo, Uruguay, April 1942 the team of the ship lays wreaths at the foot of General Artigas statue. Photo from Gladusha's archives.



placed by the crew after leaving Aden, they mistook for powerful armament. When the misunderstanding was cleared up, the icebreaker was warmly welcomed in port. One of the city's delegations presented the crew with a 32-pound chocolate shell on which the Soviet, English, and American flags were embossed. The chocolate, chopped up with a fire axe (the knife would not take the chocolate mass), was divided among the crew.

After another repair and resupply, Mikoyan sailed south and rounded Cape Horn. The ship sailed along South America to American San Francisco and Seattle calling at the Chilean ports of Punta Arenas, Coronel, Lota, and Valparaiso.

#### 4 July 1942 / Seattle

A. Mikoyan stood up for repairs at the Seattle Shipyard. The icebreaker was fitted with an antimagnetic belt, the machines were rebuilt, and four 76.2-mm guns, ten 20-mm anti-aircraft guns, four 12.7-mm, and four 7.62-mm machine guns were installed.

#### 6 August 1942 / Dutch Harbor

Icebreaker guarded by two U.S. warships arrives at U.S. Naval base in Alaska.

#### 9 August 1942 / Anadyr

The icebreaker returns to home waters. The vessel arrived just in time to ensure the passage along the Northern Sea Route for 19 transports with cargoes and three Pacific warships (the leader Baku,




Senior boatswain Alexander Groisman (left), chief engineer Jozef Zlotnik (center) and presumably the chief of the ship's quartermaster service Georgy Karchenkov in their suits they received in Batumi during the ship disarming. Photo from the archive of Yu. Zlotnik

ships in September. Just at that time, the vessel was almost exactly on the 40th meridian, the meridian of Batumi.

In total, A. Mikoyan has covered 28,560 nautical miles from November 1941 to December 1942.

The mine-damaged icebreaker managed to reach Severodvinsk, where she was repaired. Next summer she again went to Seattle for a full repair, after which she escorted caravans of military cargoes along the Northern Sea Route up to the end of the war. For 20 years after the Great Patriotic War, A. Mikoyan navigated ships along the Northern Sea Route. Her circumnavigation was declassified only in 1957; all the participants received a badge «For the long voyage».

In 1968, the icebreaker was decommissioned and cut up for scrap. In June 2021, the bankrupt Black Sea Shipyard in Nikolayev (Ukraine) was liquidated.

**Anastas Mikoyan (from a speech at a meeting with the crew of the icebreaker A. Mikoyan in 1973):** "In the history of the Russian and Soviet merchant and military fleet, there is hardly a case like this". 

## THE CIRCUM-NAVIGATION WAS DECLASSIFIED ONLY IN 1957

the destroyers Razumny and Razryazhenny). Thus, the circumnavigation was completed and the icebreaker came to the front again.

#### 14 August 1942 / Anadyr

Icebreaker heads the caravan on the Northern Sea Route.

#### 21 December 1942 / Barents Sea

A. Mikoyan hit a mine laid by German



The icebreaker in the 60s.

# A SEA POWER IN AN OCEAN OF INFORMATION



*In the beginning of this year INA Russia Today, JSC USC and Russian Historical Society started the new Sea Power internet project. The big information series is timed to the 325th anniversary of the Russian Navy, which was launched on October 30, 1696, when the Boyar Duma, on Peter the Great's insistence, decreed: «There must be seagoing ships!» According to Alexey Rakhmanov, the head of the United Shipbuilding Corporation (USC), «since then the Navy has played a major role in the development of the Russian state. Its political and military conquests have made our country a great maritime state and one of the most powerful nations worldwide. It is symbolic that this year we also celebrate the 300th anniversary of the victory in the Great Northern War and the Nystadt Peace*

*Treaty, which established Russia as an empire». Since February, RIA Novosti and the USC website have been publishing historical materials and stories two to three times a week about the work of modern shipbuilding companies. The Presidential Library, the World Ocean Museum and a number of museums of the USC companies also participate in the project. Within half a year period of work a large collection of texts was gathered that allows to learn many new things, as well as to feel the logic of Russia's development as a sea power. How the project started and who is involved in its implementation, Maria FERSMAN, project manager at INA Russia Today, told the USC magazine in an interview.*

## PUBLIC INTEREST

**USC:** How did the Sea Power Project come about in the INA Russia Today?

— Our Directorate — the Directorate of Public Internet Projects — has always been concerned not only about topics relevant to the immediate national agenda, but also about historical plots that would be interesting to show from different angles. We most often perceived such stories as a kind of challenge — whether or not we could give a clear picture of the complex things. A previous project of this type was called Artifact of War and was dedicated to the collection of the Museum of Contemporary Russian History related to the Great Patriotic War. I told a lot about it, including on social networks, where Nikita Pichugin, Director of the USC's Department for Government Relations and Public Organizations, heard about the project. Moreover, when the USC came up with an idea to do something like that, Nikita asked me if it could be done at our site. We thought about it and decided it was possible. The Russian Historical Society, the guarantor of the historical accuracy of our project, joined in as well.

**USC:** There is a maxim: “He who owns the present owns the past, and he who owns the past owns the future”. Where is the state's interest in such projects?

— I cannot speak for the state as a whole. We understand that such projects have several tasks, and first and foremost is to popularize a historically accurate point of view. On the other hand, to tell the story of Russia's achievements both in the past, present and potential future is one of the key tasks of our agency

**USC:** Did you study the projects of other agencies, countries when preparing your project?

— We studied the experience of our colleagues who made historical projects, but we didn't find any historical and nautical ones at the same time. Not all of this experience was applicable to us, because many historical projects, interested in the attention of a large audience, apply multimedia formats even where it is not very necessary or appropriate. However, unfortunately, it is easier to surprise with a lie than to interest with the truth. Our task is to make bright and interesting content, built not just on «wow-effect», but also on serious scientific research. I have not seen similar information projects, fulfilling the task by such methods. I do not think there are any.

## TRANSLATORS OVER THE ABYSS

**USC:** There is a rather large gap, on average, between historians and consumers of historical information. What skills should the people who fill this gap have?

— The skills of a professional translator. It is translation from the language of experts to the language of the public. Our task is to ensure that the text, which only professionals can understand, is accessible to the wide range of people. If we talk about the back-





ground of the people involved in the project, we have a very diverse editorial team: there are historians, political scientists, and philologists. In this case, what matters is not the specialty acquired by the person, but his/her experience, sensitivity, and in some cases self-confidence (which is required when you have to begin working on an unfamiliar material) and courage (it is necessary to tell the expert, «I do not understand what you just said, let's get this over because if I do not understand, there is no guarantee that the general audience will»). One of the problems we face is that not all experts think journalists are even capable of getting their words across to a general audience without distorting them. We are certainly not professionals in what the experts do, but we are professional translators, so we are always ready to ask, to interrogate, and to reach a consensus, meaning a text that is professionally correct, understandable, and interesting to a broad audience.

**USC:** Practically every professional environment has squabbles, and historians are no exception. There are people with different points of view who are at odds with each other. Do you have to choose your sources and how do you do it?

– A third component of our Project is the Russian Historical Society, which supplies us with professional authors and experts. RHS guides us in our choice of sources. On the other hand, professionalism of a journalist is also about honestly presenting people with different points of view expressed by different experts. In this sense, it is great to be a news journalist, an information journalist, and our project, let me remind you, is based on expert points of view, we do not express our personal ideas in texts.

**USC:** There is a theory that modern society is made up of non-intersecting information bubbles, that we are in a digital Middle Ages, where some people don't hear and don't want to hear others. Do you feel this in your work?

– It is my personal opinion: yes, we are close to it. Our task as professional journalists is not to intersect the non-intersecting, but to find approaches to closed information communities and somehow disclose them to the public. For example, submariners is a special world with its own rules and traditions. We have opened it a little bit to a wide audience in the context of Sea Power, and the materials we obtained have come a long way from scientific, complicated and incomprehensible to the content we would like to share.

## THE RISKS AND JOYS

**USC:** Did you manage to discover anything for yourself during the project? Any facts that would make you want to slap your forehead and say, “So that's how it really was?”

– No doubt about it. This is what makes project activities, which our directorate and my department in particular do, so great: we always learn something new for ourselves. For example, while processing the material for the 85th Anniversary of Amur Shipyard we had to find out the difference between boathouse types and why this particular boathouse was built. New for us on the his-

## OUR TASK IS TO FIND APPROACHES TO CLOSED INFORMATION COMMUNITIES

torical level was to systematize the knowledge we had learned from school and university on maritime subjects. So now, the editors, who are deeply involved in this project, have a more systematic understanding of what is behind. In general, every text is a discovery, a step into the unknown. For me personally, the story about Titanic and participation of specialists from the Baltic Shipyard Yantar in shooting of this film was a revelation to me. It seems like many people know about it, but I was one who did not. Now I know.

**USC:** Was your personal history somehow associated with the Navy, shipbuilding?

– No. The only thing that connects me to ships is that I grew up on the Volga, and the windows of my house overlooked a beautiful Volga landscape. That makes this job even more interesting now – I am constantly learning something new for me personally.


**USC:** Not long ago, INA Russia Today celebrated a jubilee - it traces its history back to the Sovinformbureau, established in the first days after the outbreak of the Great Patriotic War. How did you celebrate this anniversary?

– Sorry to say, there were no big celebrations for an obvious reason – restrictions on mass events. But we were very happy about the kind words that came our way.

**USC:** Do you have any feeling that you are now the successors of a cause that began 80 years ago, when bullets were whistling over people's heads and Sovinformbureau employees were fighters on the information front?

– If we talk about the agency as a whole, yes, there is such a feeling, but if we talk about our subdivision, we are more of an information rear. Operational work is still not for us, we are busy with long-term projects, trends, and processes at the federal level. However, we know these fighters; we see them every day. They do their job well, as they have done at all times. They would probably be just extremes under other circumstances, but this way they've become extremes in journalism.

**USC:** If you were Peter the Great and someone said to you, “What do we need it for, this sea?” What would you say?

– Oh... In a heat wave like today, my answer would be something like this, “We have so little of it!” Actually, in today's world no one would dare to go from St. Petersburg to New York by steamboat. However, if we were to send a large cargo along this route, we would still use modern ships that would deliver that cargo. As we are busy living our everyday lives, we still do not fully realize that we have not really gotten away from the Age of Discovery and all that sailing. Shipping is still one of the most important and essential elements of the world trade, and the spring story with the Suez Canal, which was blocked by a stranded container ship, showed that perfectly well. That is why I would say to us, our country, in the role of Peter, «It is impossible without the sea..» 



Interview by Sergey MINAEV

Nicholas II reviews  
the battleships of  
the Black Sea Fleet  
from the bridge of  
the Emperor's yacht  
Shtandart,  
June 2, 1914



# NAVAL PARADES FROM PETER THE GREAT UP TO NOW

The Main Naval Parade is one of the most important summer events in St. Petersburg and Kronstadt. The parade formation of the Baltic and Neva warships always arouse a great interest. The tradition of naval parades goes back centuries and came to us from abroad



I.K. Alivazovsky «Parade of the Black Sea Fleet in 1849». (First comes the Russian flagship «12 Apostles»)

Sergey MINAEV

**T**he tradition of naval parades, like so much in the Russian Navy, goes back to Peter the Great. During the Great Embassy, he visited a review of British ships in Spithead, near Portsmouth, organized in his honor, and

was very impressed by what was going on. Back to Russia, the Russian tsar held a similar review of ships in summer of 1699 in Troitsk-on-Taganiy Rog (today's Taganrog), where the construction of the port and naval base had just begun.

The fleet had already proved its worth at Azov, though the decision to create it had been made only three years

prior to this review. In addition, Peter intended to impress the Turks at Kerch, so he was preparing the fleet for this task holding exercises (the so called "poteshnaya battaliya" (mock battle)). The result of those maneuvers and the subsequent demonstration of strength was a successful mission of Yemelyan Ukraintsev to Istanbul on the ship Fortress, which achieved a favorable Constantinople peace in 1700.

It was the Baltic where Peter I held his next naval parade - after the victory over the Swedes at Gangut in 1714. The Tsar brought captured enemy ships to St. Petersburg, where he placed them on the Neva roadstead. It was the first great celebration for the city, and the Tsar made it look like an ancient Roman triumph. After the victory at Grengam in 1720 and the conclusion of the Peace of Nystadt in 1722, there were some more extensive naval parades held in St. Petersburg.

However, Peter held his first sea review, which we can rightfully call a naval parade, in Kronstadt in August 1723, where almost all ships of the Baltic Fleet lined up at the roadstead. The Emperor himself welcomed their crews from the boat of his childhood days, delivered to the new capital from Moscow. The rowers on the boat were the admirals of Peter the Great's fleet.



### TSAR'S AMUSEMENTS

After Peter the Great died, the tradition of naval parades was forgotten in Russia until the time of Catherine the Great, who arranged a large-scale inspection of the ships before sending the flotilla led by Admiral Grigory Spiridov to the Mediterranean Sea in 1769.

Alexander I supported her initiative and celebrated the centennial of St. Petersburg's founding with a naval parade in 1803.

Two monarchs - British Queen Victoria and Russian Emperor Nicholas I - added to the tradition of naval parades in the mid-19th century. The former held 17 naval parades during her long reign and even arranged her favorite residence on the Isle of Wight close to their venue.

Nicholas I held reviews and parades of both the Baltic and the Black Sea Fleets. Ivan Aivazovsky depicted one of such events in his famous painting "Parade of the Black Sea Fleet in 1849". However, the artist created his masterpiece in 1886, to honor the fleet, which perished during the Crimean War, as well as its leaders and the Emperor himself, who did not survive in 1855.

Lev Tolstoy witnessed the parade and described it as follows: "The Tsar, members of the royal family, and the fleets commanders and squadrons attended the parade of warships. The parade takers bypassed all the ships one by one on boats, first on rowing boats, then on steam or motor boats. Trumpeters played «Pipe the side» and orchestras played the Admiral's marches. The ships' crews responded with «Hurrah!» to congratulations. When the parade takers got on board the flagship, the anthem was played and a festive artillery salute was performed. These smoke of shots and, strange to say, their sounds produced the main beauty of the spectacle. «

Saint Petersburg's bicentennial was celebrated in 1903 with a large and colorful naval parade. It was held in May, and instead of Peter's boat, a rowing boat stored in the Emperor's cabin participated in it. The cruiser Aurora, built at

the New Admiralty shipyard, could have taken part in that parade. However, in the fall of 1902, it had not yet fulfilled the sea trials program, postponed until the spring. Thus, the Navy adopted the cruiser only in June 1903.

On the photo: Brigade of battleships and cruisers.



### THIS YEAR THE MAIN NAVAL PARADE WAS HELD FOR THE FIFTH TIME

In 1911, the cruiser Russia, built by the Baltic Shipyard, came to Spithead raid for coronation parade from St. Petersburg. A heroic ship had previously stood the test of the Russian-Japanese War. In 1904, she was the flagship of the Vladivostok cruiser detachment. The writer, Valentin Pikul, built his novel The Cruisers upon her story.

### THE OLD WAYS ARE THE BEST WAYS

After the revolution, Leningrad often hosted ship reviews. However, they were local, and the fleet was in far from the parade condition in the post-revolutionary years.

In 1937, the battleship Marat, built at the Baltic Shipyard on the eve of World War I, visited the Spithead harbor for another coronation. The Soviet Union leadership may have been inspired by that visit to return to the tradition of holding naval parades, which took place in the four fleets in 1939. In June of that year the Council of People's Commissars of the USSR and the Central Committee of the All-Union Communist Party

established a new holiday - the Day of the USSR Navy «...in order to motivate the broad masses of working people for building the Navy and to meet challenges it faces».

In 1953, another coronation parade (by Elizabeth II) was to be held - and the time came for the newest Soviet cruiser Sverdlov, built by the same Baltic Shipyard, and her Captain Olimp Rudakov.


A large-scale naval parade was held in the USSR in Leningrad in 1957, where not only the Baltic Fleet, but also the Black and Northern Fleets took part. Naval aviation participated in this parade for the first time, and G.K. Zhukov, the Soviet Defense Minister; Marshal of the Soviet Union took the parade.

### RESTORED TRADITION

The new big naval parades have been held in the post-Soviet period: In 1992, (in honor of the St. Andrew's flag re-adoption), in 1995, (in honor of the 50th anniversary of victory in the Great Patriotic War) and in 1996, (in honor of the 300th anniversary of the Navy). In addition to domestic ships, numerous representatives of foreign navies, including eight NATO countries, attended them, hard to imagine before.

In 2017, the Presidential decree raised the rank of the St. Petersburg Naval Parade. It is the country's Main Naval Parade now, which is held annually.

The 2017 parade was really impressive - more than 40 ships and submarines participated there, and many of them were on display for the first time.

This is the fifth Main Naval Parade in Kronshtadt and St. Petersburg held, with 54 ships participating, including frigates from India, Pakistan and Iran fleets, as well as 48 aircrafts and helicopters. A special feature of Russian parades, as compared with foreign ones, is that ours consist of three parts: static - the passage of the parade host along the line of ships, dynamic - the passage of the parade formation along the bleachers, and aerial. This makes the parade spectacular and big event. 



SPO Arktika includes the industry's largest mechanized manufacturing and warehousing facility

# ELECTRICAL INSTALLATION WORKS UNDER THE SAME CONTROL

The United Shipbuilding Corporation brings shipboard electric installation works in Russia to new quality stage by supporting the idea of creating the USC-EMR production specialization center

**Anna SOLOVYEVA**

Correspondent for the Energy of the Arctic corporate magazine

Today, the shipbuilding tends to the growth of ships' power supply and the increasing share of electrical installation works in the course of their construction. «The Sixth Headquarters of the USSR Ministry of Shipping united all ERA electrical installation enterprises that worked in the same area. Today, there are attempts to revive this practice in order to consolidate the existing professional and production forces in the industry,» explains Oleg Loginov, General Director of JSC SPO Arktika, who suggests making USC-Electromontazhnye Raboty facility (USC-EMR) a specialized technical industry center. The ambitions of the Severodvinsk enterprise are clear. The objective advantages of SPO Arktika in electrical installation works include more than 70 years of experience, the authority among customers and colleagues, and its own

base for qualified personnel training. Such facility is able to create a network of compact and efficient branches in USC scheme, concentrating the resources required to perform electrical installation works.

The industrial specialization center supposes to work throughout Russia. SPO Arktika tends to move in this direction: three branches, a representative office, and an engineering center operate in five cities. At the same time,

the portfolio of civilian orders is also growing.

SPO Arktika's engineers and electrical fitters are planning to take part in the construction of the Viktor Gavrilov freezer-fishing trawler in Kaliningrad; it is the biggest one that has ever been built in Russia. In St. Petersburg, specialists of the engineering center are going to start elaboration of working design documentation for the A45-90.2 project passenger vessel.

Oleg Loginov emphasizes, «The Company has switched to the project, planning and production management method of work. New organizational structure has been created and incorporated for this purpose. The young enthusiastic individuals appeared on the «captain's bridge».

## EXCHANGE OF EXPERIENCE

While implementing the concept of specialization center, the company enters into a dialogue with allied suppliers. For example, in 2020, «Ship Electrical Installation», the

first scientific and technical conference in the history of modern national shipbuilding, was held. Its attendants discussed problems and achievements in production organization and digitalization, innovative solutions in technology and work standardization, diversification issues and many problems in electrical installation, which had been piling up for years.

The second conference will take place in November 2021 and SPO Arktika is actively accepting applications from those who would like to make a presentation and take part in the general discussion. Close cooperation between the Company and leading design bureaus, shipyards, cable developers and manufacturers will strengthen business ties between USC enterprises.

## DIGITAL PLATFORM

SPO Arktika is creating its digital platform, i.e. a unified automated management system. Artificial intelligence and big data processing are used for shipbuilding planning. Team leaders and workers are provided with mobile pads for quick access to electronic archive and three-dimensional model of the order. Digitalization doesn't just affect internal processes: the work with designers is transformed due to conversion to a data-centric model of information interaction.

Therefore, although the idea of creating a production specialization center came from the Soviet practice, SPO Arktika is implementing it according to all modern standards. The company is actively responding to the new conditions in the national shipbuilding industry and meeting any current challenges.

## SPO ARKTIKA IN NUMBERS



**140 000 m<sup>2</sup>**  
area of the facility



**6 000 units**  
of electrical equipment is produced by the company



**3 000 km**  
maximum total length of cable installed by SPO Arktika per year



**More than 4500 employees**  
Work at the SPO Arktika all over Russia





▲ A vessel to carry liquefied natural gas *газоза*



▼ Cruise ship project

## OUTLINE OF THE FUTURE FLEET

The USC contest in design and artistic aesthetics of ships and vessels is of great importance for the USC future. The Company management discussed and evaluated contestants' works, and **Alexey Rakhmanov**, USC Head, showed the best of them to Russian President **Vladimir Putin** at a personal meeting. The Corporation is interested in new ideas and especially in young and talented people

**T**he goal of the open creative contest was developing competencies in industrial design to ensure the competitiveness of the Corporation's ships and vessel designs. The Technical Development Department and the Personnel Management Department of United Shipbuilding Corporation were entrusted with arranging the contest.

The contest committee evaluated the works according to the following criteria:

- "innovation of the idea" (the project embodies existing achievements, but is ahead of its time),
- "originality of artistic idea and its implementation" (has no analogues among the existing projects in the USC Group, the work expresses a non-standard vision of the object),
- "a harmonious combination of form and content, the right choice of materials" (observed proportions, interior and exterior correspond to the purpose of the object).

Significant cash prizes were awarded for winning the contest, as well as the opportunity to be



▲ The Salacia environmental modular ocean platform

trained under the "USC Leaders of Change" industrial design development program developed by the USC Corporate University together with the National Center of Industrial Design and Innovation 2050.LAB.

There were about 50 applications in the categories "industrial design of warships", "industrial design of civil vessels and marine equipment" and "interior design". The most active contestants were employees of the Almaz Central Maritime Design Bureau, the Zvezdochka Shipyard, Onega NIPTB, Nevsky Design Bureau

and students of the St. Petersburg State Academy of Arts and Industry named after A. L. Stieglitz.

The winners were announced in early 2021:

### Nomination "Industrial design of warships".

**I place** – "Multipurpose underwater surface ship of high autonomy" project (Dmitry Shishkin, chief designer of SPMBM Malakhit)

**III place** – "Design of patrol transport ship" project (Dmitry Damansky, master's student of Shipbuilding, Ocean Engineering and Systems Engineering of Marine Infrastructure at Komskomsk-on-Amur State University)

### Nomination "Industrial Design of Civil Vessels and Marine Equipment"

**I place** – "Draft design of cruise ship" (Stepan Nesmiyan, Category 3 Design Engineer, Nevsky Design Bureau) and "Model Range of Underwater Tugboats" (Pavel Zobov, Design Engineer, Sevmash, and Alexander Spiridonov, Head of Department, Sevmash).

**II place** – "Concept of high-speed passenger catamaran on hydrofoils "Sea Cat" project (Kut'yev Evgeny, designer of Almaz Central Maritime Design Bureau) and "Concept of cruise icebreaker "Kunashir" project (Potseluev Dmitry, designer of Almaz Central Maritime Design Bureau).

**III place** – "Interior and exterior of a 14-meter catamaran" project (Vadim Makeev, 3rd year student of the Department of Design majored in Vehicle Design of the Moscow State Art and Industry Academy named after S.G. Stroganov) and "Salatsia" Ecological modular oceanic platform project (Vladislav Artyugin, engineer for control, analysis and economy of fuel and energy resources of the Department of the Chief Power Engineer of Zvezdochka Central Station).

### Nomination "Interior design".

**I place** – "Unified wheel-house" project (Yulia Yakovleva, Category 3 Design Engineer, Nevsky Design Bureau)

**II place** – Design of warship interior (Artem Murashov, design technician, CKB MT Rubin)

**III place** – "Design of bridge with integrated bridge control system" project (Anton Lopatin, artist-constructor of Almaz Central Design Bureau). 





Anna Kondratyeva, a Hermitage veterinarian, with a Hermitage cat in the cat-cafe The Republic of Cats, where monthly charity events "All Shades of Cat" are held to give away cats not only from the Hermitage but also from city shelters into good hands

# "ON THE DESIGNATION OF A PERSON TO CATS"

The Day of the Hermitage Cat is celebrated on an increasingly wider scale every year in St. Petersburg. The festive day is based on a legend that the first cat was brought to the city by Peter the Great. Later, in 1745, his daughter Empress Elisabeth issued a decree ordering cats from Kazan to be brought to the capital city in order to rid the Winter Palace of mice and rats.

## But was it really so?

Cats have always featured prominently in various legends, but, fortunately, there is documentary evidence saying when and how Peter the Great "registered" these pets in St. Petersburg. It can be found in the Complete Code of Laws of the Russian Empire, published in 1830. As he was busy improving office management in the Admiralty (in Peter's times, this word did not mean the building where admirals were sitting, but the shipyard and auxiliary premises), the emperor ordered that a special person should serve in the warehouses and keep cats, and that pop holes should be made in the doors of the warehouses so that cats would be able to move freely around the grounds and destroy rodents wherever those could be found (Admiralty Regulations. April 5, 1722. Chapter 14, "On the Position of an Officer in Charge of the Warehouse," Paragraph 15, "On the Designation of a Person to Cats in the Warehouse"). The Admiralty occupied a larger terri-

tory than it does now: It stretched from the Neva River approximately to St. Isaac's Cathedral, with the Admiralty Church standing on its present site. Cats were entrusted with the protection of this territory from rodents.

Possibly, the inclusion of a regular position of a "person to cats" in the list of laws of the empire is not an example of effective management, but this was the characteristic style of Peter the Great, as issues related to the management of the Admiralty were very dear to his heart.

It is not so important where exactly Peter the Great borrowed the idea of keeping cats in shipyards — in Holland, England or Venice. The idea worked to perfection everywhere, at least until the time when ships and buildings were no longer made from wood, and other means of protection against rodents were invented. But one million cats in St. Petersburg today, 99% of which do not catch mice, are the successors of those very first Admiralty cats.

## NEW CELEBRITIES

Cats are quite common at shipbuilding enterprises even nowadays, although it is not everywhere that they hold an official status. The most famous shipbuilding cat of Russia lives at the Northern Shipyard. He is quite often interviewed by the media, since he now "works" as a curator of the shipyard's museum, and, at the same time, as a rodent fighter.

The cat's first name was Kuzma, which quickly changed to Vasily Kuzmich. At first, he lived at the checkpoint of the enterprise and was so loved by the workers that they made a special booth for him where he could take a rest from intense service. The workers gave him a last name, Steregushchy (literally: Guardian), in honor of the corvette of the Baltic Fleet, built at the Northern Shipyard between 2001 and 2008 (this was the fifth ship of the Russian Navy with that name). On March 30, 2019, Vasily Kuzmich Steregushchy suddenly disappeared. He went missing for a year and a half, and all that time the search for him continued.

The return of the animal to his native harbor occurred quite unexpectedly. In December 2020, a "new" cat appeared, and was nicknamed Sailor. But then it turned out that he was Steregushchy in person, as he was identified from existing photographs. Various guesses were made as to what could have happened to him, from the return of a "copycat" to a hypothesis that Vasily Kuzmich could have made a voyage around the world. The search, wanderings and the miraculous return made him a celebrity known all over the city.

At the competition "Cat-Cultural Capital 2021", he was acclaimed as the best service cat in St. Petersburg. By the way, Vasily Kuzmich Sailor Steregushchy also became the absolute leader of the competition according to the results of an online poll. The winner received a diploma from the organizers, a few varieties of cat food, and a special cat bed with a striped mattress.



Peter the Great was surrounded by cats from his childhood — all thanks to his father. Tsar Alexis honored and favored cats. In 1663 (nine years before Peter's birth), the first Russian-made art image of this domestic animal appeared on the engraving "The Genuine Portrait of the Cat of the Grand Duke of Muscovy", attributed to Wenceslaus Hollar. This engraving is believed to be actually a caricature of the tsar himself, because people often acquire some features of similarity with their favorite animals. Don't you agree?



Cat Sailor on his prize bed received for winning an online voting. Photo courtesy of the press service of the Northern Shipyard.



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