



MAGAZINE

2022

MNPZ: HISTORY OF MODERNIZATION







Limited Edition

Dear customers and friends of the RTL team, welcome to the pages of our RTL corporate magazine!

It's gratifying to see the number of people we've been able to help and fulfill their orders grow every year. We have developed a large group of loyal customers who have believed in us and made sure they work with RTL, a team that is dedicated to their business.

In this difficult year for all of us, we are doing our best to maintain the high quality of our work, looking for new ways for our customers to fulfill their projects: sitting at the maps, calculating new routes, conducting long negotiations with contractors... In general, we do everything so that the result of our work was your gratitude and memory of RTL as a highly professional logistics company.

In recent years, as I'm sure you've noticed, logistics has become much more complicated — many new requirements and prohibitions have emerged in world practice. We try to take all this into account when implementing our projects, and I must say, without false modesty, that we have been sensitive to all these trends and have achieved good results. You can read about our latest achievements in our corporate magazine you are holding in your hands.

In this limited edition of our corporate magazine, we will tell you about the transportation of equipment for the Moscow Refinery. This project has already been included in the Russian Book of Records as the heaviest cargo ever transported by the Moscow River.

There are special people — RTL employees — behind every successful step we take. I see how they work, how they treat their fellow colleagues, how they relax and celebrate when the job is completed successfully!

That is the strength of our RTL team! Solidarity, mutual help and support are the key factors that lead us to success and make you satisfied with assignments performed by our company!

Wishing you all good health and success,
Mikhail Reshetkov
RTL LLC Director

A handwritten signature in blue ink, appearing to read 'Mikhail Reshetkov'.



MOSCOW

REFINERY

THE BACK STORY

Let's talk a little about the refinery's location and history. Since the late 1930s, the history of the Moscow Refinery has been inextricably linked with that of Kapotnya district. Even the district's coat of arms depicts an oil drop with a golden apple tree with seven apples on its branches. The plant was founded in 1938, when the first ton of gasoline was produced, but its history began several years earlier. In the 1930s, as the USSR became increasingly industrialised (and the number of cars began to grow), the country was in desperate need of refineries, but at the time they were all located in oil-producing areas. In order to supply fuel directly to the capital, it was decided to build a refinery near Moscow. The refinery was built on the site of today's Kapotnya, which was then part of the Moscow Region rather than Moscow itself. Construction began in February 1936.

On 1 April 1938, the refinery processed the first ton of oil into gasoline, and this date is considered the birthday of the Moscow Refinery. The estimated annual capacity of the refinery in the early years was 155,000 tons of gasoline, the main raw material being fuel oil from the Baku oilfields transported by barges up the Moscow River and unloaded near the Brateyevskaya floodplain. Later a system of pipelines was built.



The Kapotnya refinery has been one of the capital's most important strategic facilities since its inception. During the Great Patriotic War, it supplied fuel to the army and defence. Along with the Kremlin and the Mausoleum, it was one of the main targets of enemy bombing. To protect it, a fake factory was built three kilometres away from the real one: decorations made of plywood distracted the German planes.

After the war, the refinery became an innovative industrial centre: it is there that the first flameless combustion furnace was built, the country's first polypropylene was produced, and the first technologies for increasing the volume of oil refining were introduced. The refinery received many state awards.

In the early 1960s, the Moscow Refinery was extensively automated and 19 new facilities were commissioned. During the 1950s and 1960s, the Soviet Union's first electric desalting unit (ELOU) with ball electrodehydrators, an urea dewaxing unit for diesel fuel, a pilot unit for polypropylene production, a catalytic gasolinereforming unit and a flameless combustion furnace were put into operation. By the early 1970s, the Moscow Refinery had introduced 12 new technological processes, launched 32 new products and set up a special laboratory to analyse the levels of

hazardous substances in the air at industrial sites and in residential areas near the plant. At the same time, the first polypropylene processing workshop in the Soviet Union was commissioned.

In the first half of the 1970s, the refinery underwent extensive modernisation (in particular, its capacity was increased to 12 million tons of oil per year). In 1983, the refinery commissioned a catalytic cracking unit, the first domestic deep oil refining complex in the USSR.

MOSCOW REFINERY MODERNISATION STAGES

The last modernisation of the Moscow Refinery was completed back in 1975.

Therefore, since 2011, after the change of ownership, Gazprom Neft has been carrying out a new large-scale modernisation of the enterprise, aimed at achieving the highest technical and environmental performance.

By 2015, the Moscow Refinery was one of Russia's leading companies in terms of environmental performance. The first phase of modernisation in 2011-2015 has already enabled the Moscow Refinery to reduce atmospheric emissions by 36%, and its overall environmental impact has been reduced by 50%. The refinery is systematically dismantling obsolete equipment and introducing state-of-the-art industrial systems using advanced Russian designs.

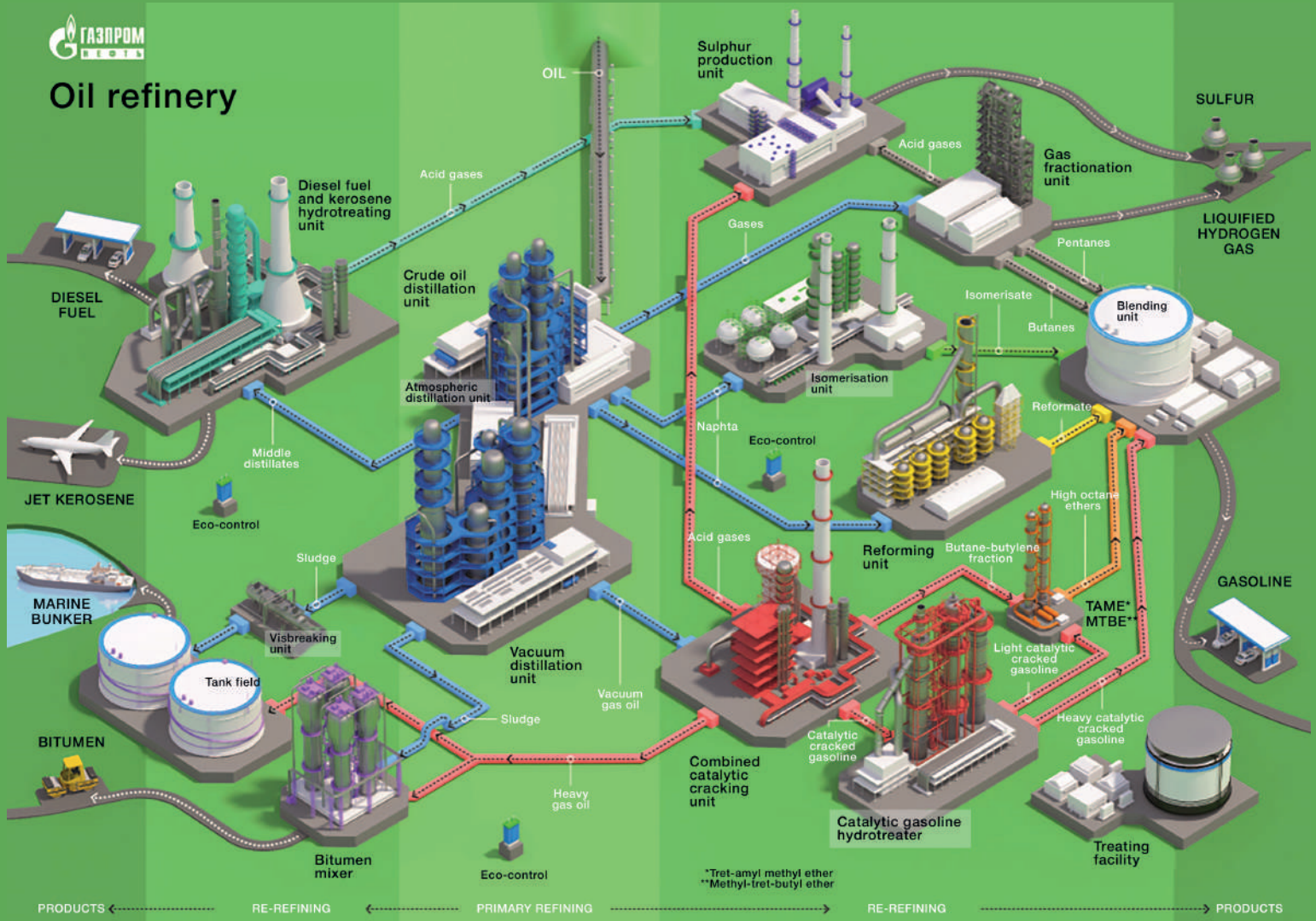
The main projects of the second phase (2016-2020) are the construction of the innovative «Biosphere» biological wastewater treatment plant and the state-of-the-art Euro+ combined refinery unit, which replaced five previous-generation units and further reduced environmental impact. Environmentalists say: Combined with «Biosphere», the results are stunning.

The third phase of modernisation (2021-2025) of the Moscow Refinery will see the construction of a deep oil refining facility and the creation of new jobs.





Oil refinery



TRANSPORTATION OF HYDROTREATERS

ST. PETERSBURG

MOSCOW

785 TN

total weight

The transportation of equipment from the Izhorskiye Zavody plant to the Moscow Refinery for the construction of the EURO+ unit involved four cargo packages totalling 785 tons. RTL specialists developed an optimal delivery route from the Izhorskiye Zavody plant in Kolpino, Leningrad Region, to the Moscow Refinery. From the Izhorskiye Zavody plant, the cargo was sent by special road transport to the berth built by RTL on the Neva River. The challenge was that the route passed through populated areas and two railway crossings, and each railway crossing required the disconnection of high-voltage power lines and the coordination of train-free windows. Reinforcement of the road surface ensured safe transportation of the cargo.

The next stage was to transport the cargo by cars with special platforms to a pre-built berth for loading onto a river barge; the transfer and securing of the cargo took two days. The barge travelled to Moscow via inland waterways – the Neva River, Lake Ladoga, the Volga-Baltic Canal, White Lake, the Sheksna River, the Rybinsk Reservoir, the Volga River and the Moscow Canal. The final stage of the project was the direct transportation of the equipment to the installation site at the Moscow Refinery.

The Moscow Refinery is currently undergoing extensive reconstruction and modernisation to improve its overall operational and environmental efficiency. The issues of environmental protection and environmental improvement, especially in large cities, require a sustained public effort. Meeting this requirement has become the focal point of RTL's work on the project.





Video about
the transportation process

TRANSPORTATION OF REFORMING UNIT MODULES

MOKPO

MOSCOW

234 TH

weight of 1 freight unit

As part of the second phase of refinery modernisation for the construction of the EURO+ unit in South Korea, four CCR units were manufactured and delivered to the port of St. Petersburg by two ocean-going vessels.

The modules (CCR units) were then loaded onto barges and transported to the Besedy settlement via the Neva River – Lake Ladoga – Lake Onega – Volga-Baltic Waterway – Volga – Nizhny Novgorod – Kolomna settlement (on the Oka River) – Besedy settlement (on the Moscow River).

At the Besedy settlement, the modules were unloaded and disassembled into two pieces to reduce the height of the load, resulting in eight oversized units for transportation; a gantry system was used to disassemble the modules.

Four trips were required to deliver the modules from the Besedy settlement to the Moscow Refinery site, one module dismantled into two pieces per transport convoy.

The modules were transported by road overnight due to the requirements for transporting heavy lift and oversized cargo. Total transport time from South Korea to unloading at the Moscow Refinery: end of July 2016 – beginning of December 2016.





Video about
the transportation process

TRANSPORTATION OF COLUMN EQUIPMENT

ORTONA

MOSCOW

TAMBOV

MOSCOW

6650 X 504 X 539

max. overall dimensions of 1 item, cm

From October to November 2017, RTL successfully delivered five large and heavy oil processing columns as part of the delivery of equipment for the Moscow Refinery (Gazprom Neft PJSC) via the Ortona, Marghera (Italy) – Moscow (Russia) and Tambov (Russia) routes.

In the first stage, three columns were delivered by motor vessel from Italian ports to the port of Rostov-on-Don. After customs clearance, direct transfer from the vessel to the barge was carried out by two railway cranes in the mode of paired operation. This stage was carried out in accordance with the work plan developed by RTL specialists and the stevedoring company. After the cargo was placed on the barge, each cargo package was secured in accordance with the developed cargo placement and securing project. From Rostov-on-Don the barge was towed to the Besedy berth (Moscow) based on the developed towing project. The route followed the Volga-Don system of channels, the Volga River, the Moscow Canal and the Moscow River. In parallel, two further columns were unloaded at Tambov and transported by road to the special berths at Volgodonsk, from where they were taken by barge to the port of Besedy. On arrival at the Besedy berth, the cargo was unfastened and unloaded using two mobile cranes of 400 and 500 tons capacity.

In the final stage, the cargo was delivered to the consignee's warehouse by special road transport: at night and with traffic management on some Moscow streets. Due to the length of one of the columns (66.5 metres), it was transported on modular platforms equipped with «turntables».





TRANSPORTATION OF CONVECTION MODULES

BUZAU

MOSCOW

557 TH

total weight

From August to September 2017, RTL successfully delivered a batch of convection modules as part of an equipment delivery to the Moscow Refinery (Gazprom Neft PJSC).

The shipment was transported by road from the manufacturing plant in Buzau, Romania, to the port of departure in Constanta, Romania. At the port, the cargo was transshipped using Liebherr cranes with the required lifting capacity, with two cranes used in the mode of paired operation for the heaviest cargo packages.

After the cargo was placed on the barge, the cargo packages were secured in accordance with the designed cargo placement and securing project. The barge was towed from the port of Constanta to the Besedy berth (Moscow) on the basis of the developed towing project.

The route passed through the Black Sea and the Azov Sea, the port of Rostov-on-Don (where customs clearance was carried out without unloading the cargo), the Volga-Don system of channels, the Volga River, the Moscow Canal and the Moscow River. On arrival at the Besedy berth, two «light» cargoes were loaded by crane. The remaining three «heavy» cargoes were unloaded from the barge by Ro-Ro method in strict accordance with the designed unloading project. Unloading was carried out without the barge resting on a sand bed, by means of complex ballasting.

In the final stage, the cargo was delivered to the consignee's warehouse by special road transport: at night and with traffic management on some Moscow streets.





Video about
the transportation process

HYDROCRACKING UNIT

**TRANSPORTATION
OF HIGH-PRESSURE SEPARATORS**

MARGHERA

MOSCOW

591 TH

1748 X 710 X 648

total weight

max. overall dimensions of 1 item, cm

The first large-capacity equipment delivered to the construction site – Gazpromneft-MNPZ hydrocracking unit – were two high-pressure separators manufactured by BELLI ENERGY CPE S.L.R. (Italy). RTL's freight department had arranged for a multi-purpose vessel with two cranes of 250 tons each to arrive at the Port of Marghera, Italy. A river barge with the cargo had already arrived at the port. Both separators were transhipped from the barge to the vessel using the vessel's cranes. The previously developed slinging scheme for the hot high-pressure separator called for it to be hoisted using a rather rare model of 500-ton rigging shackle, which we purchased and supplied from the Netherlands.

The crane vessel then set sail from the Northern Adriatic to deliver the cargo to the port of Bronka in the Gulf of Finland in twenty days. In the Russian port, a river barge awaited the heavy lift cargo, which, after being unloaded from the crane vessel, set sail via the Volga-Baltic Waterway, the Volga River and the Moscow Canal to the Moscow River transshipment cluster, specially built by our specialists for the third phase of the Moscow Refinery modernisation. Upon arrival of the barge at the discharge berth, the cargo was successfully unloaded from the barge using the tried and tested roll-on method and, in accordance with the installation schedule, transported by road from the storage area at the temporary berth to the consignee's construction site.





Scherbakov
Dmitry

A critical element of our work is risk assessment. One of the most important value-added components for the customer is a route survey carried out by our experts before the start of the transportation.

TECHNICAL INFORMATION

An oil and gas separator is a device that separates oil from associated gas (or water from oil) by varying the density of the liquids.

The working principle of an oil separator:

- The process of separating oil from gas in a separator is called separation. Separation takes place in several stages, the number of which determines the amount of degassed oil recovered from the reservoir fluid.
- The separator principle is based on centrifugal force which separates the liquid into solid and liquid phases. The slurry enters the upper part of the drum through the main pipe, where it is cleaned of heavy elements, from there it is displaced into the plate holder channels and then into the separation chamber.

CARGO MASS/VOLUME DATA:

- Hot high-pressure separator — 1748 × 710 × 648 cm / 415,400 kg
- Cold high-pressure separator — 1630 × 425 × 525 cm / 176,000 kg

TRANSPORTATION OF COKE DRUMS

AVILES

MOSCOW

315 TH 3692 X 837 X 851

weight of 1 freight unit

max. dimensions of 1 item, cm

The day after the high-pressure separators arrived in Moscow, a barge docked on the Moscow River carrying two coke drums from the port of Bronka. One of the challenges of river transportation at the design stage of the towing project was the impossibility of using the Moscow River route that laid through the centre of Moscow, as the low bridges on the Kremlin embankment did not allow such a high load to be transported over the waterway. RTL's specialists decided to take the so-called «southern» route on the Oka River, via the cities of Nizhny Novgorod, Ryazan and Kolomna. The delivery route started from the Spanish port of Aviles, close to the INGENIERIA Y DISEÑO EUROPEO S.A. (IDESA) plant, where the coke drums were manufactured. A dry cargo vessel was brought into the port and once loaded, it took nine days to deliver the cargo to the port of Bronka. This is the last Russian-flagged vessel in our portfolio to be loaded at a European port due to sanctions that prevent Russian vessels from entering European ports.



Ivanov
Oleg

With projects like this, the RTL team considers all possible risks, as there is no margin for error.

TECHNICAL INFORMATION

The coke drum is a reaction apparatus that forms the basis of a delayed coking unit. In these units, the endothermic coking process of raw materials from oil products is carried out by means of the heat emitted by the tube furnace. The coke drum operates in a batch mode, with one cycle lasting 48 hours, during which all the coking, steaming and cooling stages are carried out sequentially, after which the coke is discharged. During coking, periodic temperature changes in the apparatus can reach 500°C. The filling of the coke drum is designed for a period of 24 hours. The coke is cooled to 150°C by steam and then by water after the raw material feed is completed. The steam is first blown through the column and then, within 3 hours, through the discharge tank and into the exhaust stack. The steam generated by cooling the coke with water is also vented to the atmosphere. There are 2-4 coke drums per unit, which are hollow cylinders arranged vertically. The sequence and periodicity of their operation allows the other coke drums to be brought in for cleaning while one of the coke drums is being filled with coke. This ensures continuous operation of the whole unit.

CARGO WEIGHT/SIZE DATA:

- Coke drum – 3692 × 837 × 851 cm / 315,266 kg / 2 pcs.
(dimensions and weights are indicated per one coke drum).

HYDROCRACKING UNIT

TRANSPORTATION OF MAIN NAPHTA SPLITTER AND AMINE ADSORBER

VOLGOGRAD

MOSCOW

444 TN

total weight

5815 X 726 X 743

max. overall dimensions of 1 item, cm

A special place in the equipment supply chain for the needs of the third phase of the refinery modernisation was occupied by cargoes from Russian oil and gas equipment manufacturers. In the context of import substitution, orders for a significant volume of high-tech equipment were placed with Russian factories. The main fractionation column and amine adsorber, manufactured at Volgogradneftemash JSC, were loaded onto a Project 16801 barge and towed to the unloading site in Moscow. The tug and tow travelled more than 2,500 km on the Volga River and the Moscow Canal in twenty days. On arrival at the berth, the cargo was unloaded using the roll-on method and then transported to the construction site of the hydrocracking unit. The «bottleneck» of the onshore route was the entrance gate of the Moscow Refinery, where the self-propelled transporter with a 58-metre column entered in a 90-degree turn, within centimetres of various obstacles.

TECHNICAL INFORMATION

A naphta splitter is an important element used in the distillation of liquid mixtures to separate a mixture into components or fractions based on differences in volatility. In refineries, crude oil is a complex, multi-component mixture that needs to be separated. Pure chemical yields are generally not expected, but yields of groups of compounds within a relatively small boiling point range, also known as fractions, are. This process is called fractional distillation or fractionation.

CARGO WEIGHT/SIZE DATA:

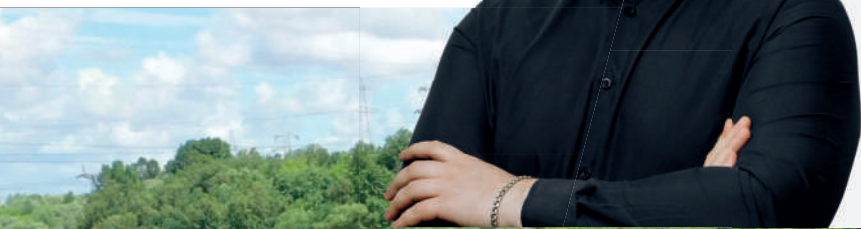
- Main naphta splitter – 5815 × 726 × 743 cm / 301,920 kg
- Amine adsorber – 1705 × 422 × 436 cm / 143,701 kg





**Telikhov
Alexander**

The extremely cramped traffic conditions and the need to preserve the existing infrastructure as much as possible on one of the Moscow region's main traffic arteries place very high demands on the preparation process. Our most important tool was the ability to accurately simulate the movement of trucks with loads using CAD, the automated design system.



HYDROCRACKING UNIT

TRANSPORTATION OF 1ST AND 2ND STAGE
HYDROCRACKING REACTORS

ST. PETERSBURG

MOSCOW

1 241 TN

weight of 1 freight unit

5200 X 740 X 630

max. overall dimensions of 1 item, cm

As part of the implementation of the third phase of the modernisation of the Moscow Refinery of Gazprom Neft PJSC in 2022, RTL carried out a project to supply three thousand truckloads of equipment from EU countries, the Asian region and Russian manufacturers.

The heart of the new hydrocracking unit will be two reactors manufactured by Izhorskiye Zavody PJSC. The first stage reactor is 52 metres long, 7.4 metres high, 6.3 metres wide and weighs over 1,200 tons.

Shipment of the equipment began in June 2022 from one of Izhorskiye Zavody PJSC's workshops in the Kolpinsky district of St. Petersburg. A self-propelled modular transporter was used to transport the equipment from the manufacturing plant to the berth where it was transferred to a river barge. The distance from the manufacturing plant to the transshipment berth is 13 kilometres, which was covered in two days.

The route of the transporter crossed the main line of the Oktyabrskaya Railway. A train-free window was organised for the passage across the railway tracks with the suspension of freight and passenger trains, including high-speed electric trains Sapsan.

On arrival at the berth, the reactor was transferred to a Project 16801 dry dock barge. The barge was loaded using the roll-on method, which is well established in project logistics, whereby the transporter is driven slowly down special ramps onto the deck of the barge, where the cargo is lowered onto the supporting bollards by means of a hydraulic suspension stroke.





Sarayev
Denis

The recipe for a successful project is that the right objective leads to the right execution.



To stabilise the barge, ballast water was alternately pumped in and out of the ballast tanks while the equipment was on board. The entire loading process took six hours, during which more than three million litres of water were pumped through the ballast tanks – the equivalent of two Olympic swimming pools.

The further route from St. Petersburg to Moscow went through Ladoga and Onega lakes, the Volga-Baltic system of channels, the Volga and Moscow rivers and the Moscow Canal.

«Remarkably, such heavy lift cargoes had never been transported on the Moscow River before, which led to the registration of a Russian record: the heaviest cargo transported by river transport on the Moscow River»

The length of the water route was 1,300 kilometres and the cargo was delivered in 14 days.

To ensure the tug and tow could safely pass under the low-lying bridges near the Kremlin embankment, the barge was specially lowered by 30 centimetres to avoid colliding with the bridge structures.

Engineering geological and hydrological surveys and the preparation of design documentation for the future loading and unloading cluster on the Moscow River began 18 months before the unloading of oversized and heavy lift equipment in the immediate vicinity of the Moscow Refinery construction site. The construction phase was carried out by RTL's construction department and lasted 10 months.

The heavy lift cargo was unloaded from the barge to the berth using a roll-out method. The entire unloading process took no more than five hours. For the «last mile», the reactor was transported from its berth on the Moscow River to the construction site of the Moscow Refinery's hydrocracking unit via the city's road network. To avoid damage to underground utilities, the load of the self-propelled conveyor was distributed evenly across the roadway by the 2,556 wheels of the self-propelled modules.

This completed the transport of the heaviest of the three thousand items. RTL has once again that the transportation of the latest oversized technological equipment for the upgrade of modern enterprises in Russia is a complex but feasible process.



Video about
the transportation process

TRANSPORTATION OF ADSORBERS

KREFELD

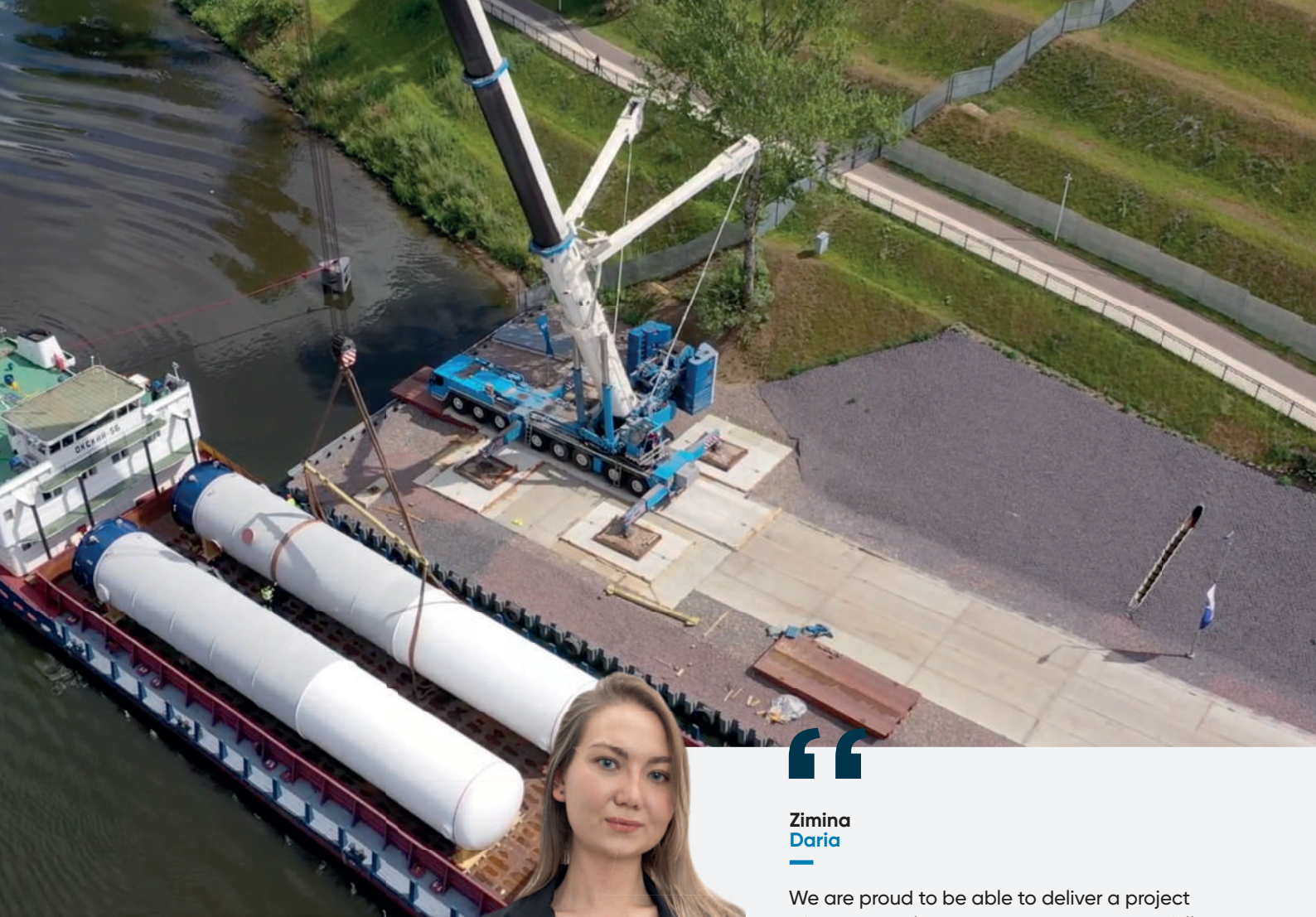
MOSCOW

949 TN

total weight

The pressure swing adsorption (PSA) unit underwent an arduous journey from the German manufacturing plant, changing four modes of transport. The first leg of the journey was by river barge from the consolidation warehouse in Krefeld, Germany to the seaport of Antwerp, Belgium. On arrival in Antwerp, the cargo was transferred from the barge to the dry cargo vessel using the port's onshore cranes. In seven days, the vessel delivered the cargo to the Bronka terminal in St. Petersburg, where it was reloaded onto two Project R-971 river vessels, which transported the cargo to the transshipment complex on the Moscow River at Kapotnya. However, the unloading berth, which was originally designed for roll-on loading and unloading, did not allow for crane handling of the vessels. This problem was solved by RTL's engineers, who immediately carried out the necessary calculations and within two days the berth was retrofitted with a 500 ton capacity truck crane. Crane handling of the two river vessels was completed within ten hours of their arrival at the berth. The final stage of the delivery from the berth to the Moscow Refinery was carried out by truck according to a strict schedule, as assembly of the equipment began immediately upon arrival. The clear organisation and control of the process by the RTL specialists made it possible to deliver the PSA unit on time and safely.





**Zimina
Daria**

We are proud to be able to deliver a project of such a scale. Every step has been carefully considered by our company's experts.

TECHNICAL INFORMATION

Pressure swing adsorption (PSA) technology uses the principle of physical binding of impurities contained in hydrogen-enriched gases by means of individually selected adsorbent materials. Since the binding forces for such impurities are pressure dependent, PSA operates in an alternating cycle of adsorption at high pressures and desorption at low pressures. To achieve a continuous flow of hydrogen product, at least one adsorber is in operation and the others are in various stages of regeneration. PSA technology has become very popular in the chemical and refining industries due to its versatility and ability to adapt to specific applications. For example, the PSA system can purify refinery off-gases, enabling refineries to extract pure hydrogen from streams containing light hydrocarbons.

CARGO WEIGHT/SIZE DATA:

- Waste gas capacity — 2805 × 475 × 440 cm / 55,500 kg / 2 units
- PSA adsorber — 935 × 405 × 410 cm / 42,000 kg / 10 units
- Valve skid — 1820 × 470 × 383 cm / 53,000 kg
- Valve skid — 1299 × 470 × 384 cm / 36,500 kg.

TRANSPORTATION OF COKE DRUMS

VOLGOGRAD

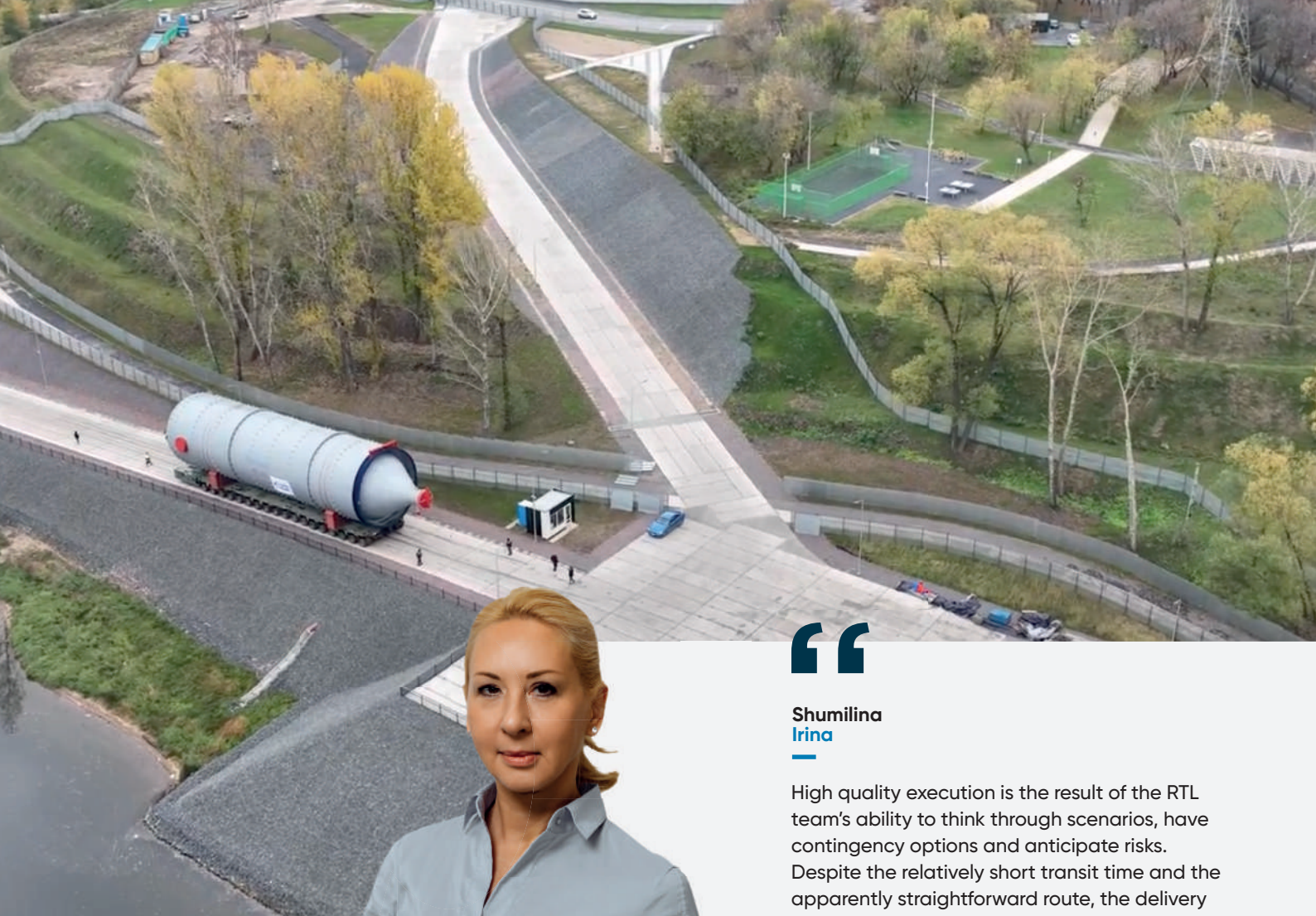
MOSCOW

332 TN 3711 X 840 X 847 CM

weight of 1 freight unit max. overall dimensions of 1 item, cm

Continuing the trend of import substitution and preference for domestic technology, two more chambers were made at Volgogradneftemash JSC's production facility in addition to two foreign coke oven chambers. As in the case of the foreign apparatuses, the dimensional characteristics of the cargo did not allow its delivery from Volgograd to Moscow via the Moscow Canal because of the short distance from the water's edge to the bottom of the bridges on the Kremlin embankment. However, despite the existing experience of transporting coke oven chambers via the «southern» route with an approach to Moscow via the Oka River, the schedule of cargo readiness for shipment in mid-autumn has significantly increased risks and raised questions about transportability due to shallow depths in some sections of the Oka due to its shallowing at this time of year. To accomplish this task, the RTL team completely drained the barge's ballast system, reducing its draft to 1.5 metres, provided for a change of tugs to shallow water tugs in Nizhny Novgorod, and monitored actual depths on a daily basis at all water gauge stations on the Oka River. As a result of coordinated and prompt work, the cargo was rushed to a berth in Moscow, where it was rolled out on a self-propelled modular transporter and alternately transported over two nights to the delayed coking unit accumulation yard.





Shumilina
Irina

High quality execution is the result of the RTL team's ability to think through scenarios, have contingency options and anticipate risks. Despite the relatively short transit time and the apparently straightforward route, the delivery of the coke drums is one of the most significant projects that RTL's staff and our partners carried out with finesse and professionalism.



HISTORY OF THE CONSTRUCTION OF A TRANSHIPMENT COMPLEX IN MOSCOW

29 000 M²

Construction area, m²

9 MONTHS

Construction period

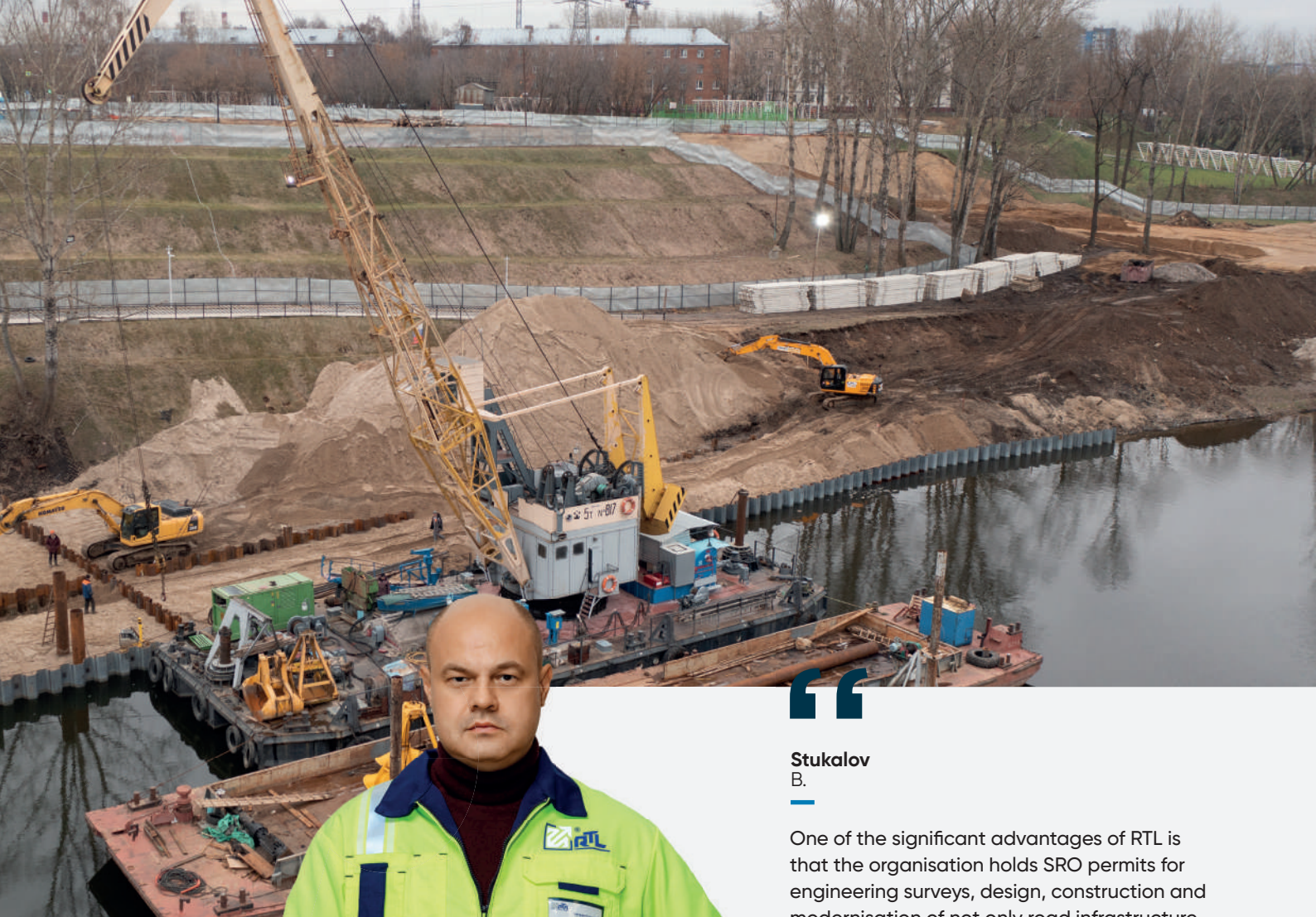
Projects for the construction of hydrocracking complexes, hydrogen production and others are being implemented at the plant in the Kapotnya district of Moscow as part of the third phase of modernisation of Gazpromneft-MNPZ JSC.

In order to implement the projects, a large number of pieces of industrial equipment, some of which are classified as heavy, bulky cargo, have been scheduled for delivery to the construction sites. This category of cargo requires special permits from departments of the Ministry of Transport of Russia, and in some cases, due to their size and dimensions, cargo cannot be transported for significant distances by public roads at all. Therefore, the only logistical solution was to deliver the bulk of the bulky cargo by the Moscow River with construction of a temporary berthing facility and further short-distance road delivery to the construction site.

On the initiative of the management of Gazprom Neft PJSC and Gazpromneft-MNPZ JSC, the Government of the City of Moscow allocated a land plot of about 29,000 sq. meters to accommodate a loading and unloading cluster on it, in fact, a temporary berthing facility on the banks of the Moscow River, to organize the shipment of goods by road.

Taking into account more than fifteen years of practical experience in organising the transport of bulky cargo, RTL LLC was fully involved in the implementation of this project. A certain competitive advantage of RTL LLC was the presence of civil engineers in the permanent staff, as well as SRO permits to perform survey, design and construction works.





Stukalov
B.

One of the significant advantages of RTL is that the organisation holds SRO permits for engineering surveys, design, construction and modernisation of not only road infrastructure facilities, but also waterfront hydraulic engineering structures.



The location of the berth and special technical conditions were agreed with the Administration of Inland Waterways, represented by the Federal State-Financed Institution «Moscow Canal». The project documentation prepared by Morrechtransproekt LLC with regard to the planned environmental measures received positive opinions from the Department of Nature Management and Environmental Protection of the City of Moscow and the Moscow-Oka Territorial Directorate of the Russian Federal Fisheries Agency. The stage of pre-project engineering and survey studies and agreements with interested organisations took about one and a half years.

As part of the project, the Association of Professional Hydraulic Engineers of Russia «Giprorechtrans» (Moscow) and Trans Engineering Company LLC (TsNIIMF JSC, St. Petersburg) were involved as expert organisations of RTL LLC, with which we are in constant cooperation.

As a result, construction of the facility will begin in September 2021 and will include the construction of a temporary berthing facility using Larssen sheet piles (total length of the sheet pile wall is approximately 130 metres), two access roads with a total length of approximately 230 metres and a turnaround area of 2,400 square metres for equipment collection and manoeuvring.

The performance of construction and installation works was associated with an unfavorable autumn-winter period. In addition, during construction, additional difficulties arose in the form of the discovery of a lens made of fluid-plastic clays in the soil massif of the coastal strip, which could adversely affect the reliability of the turntable design and the entire structure as a whole.

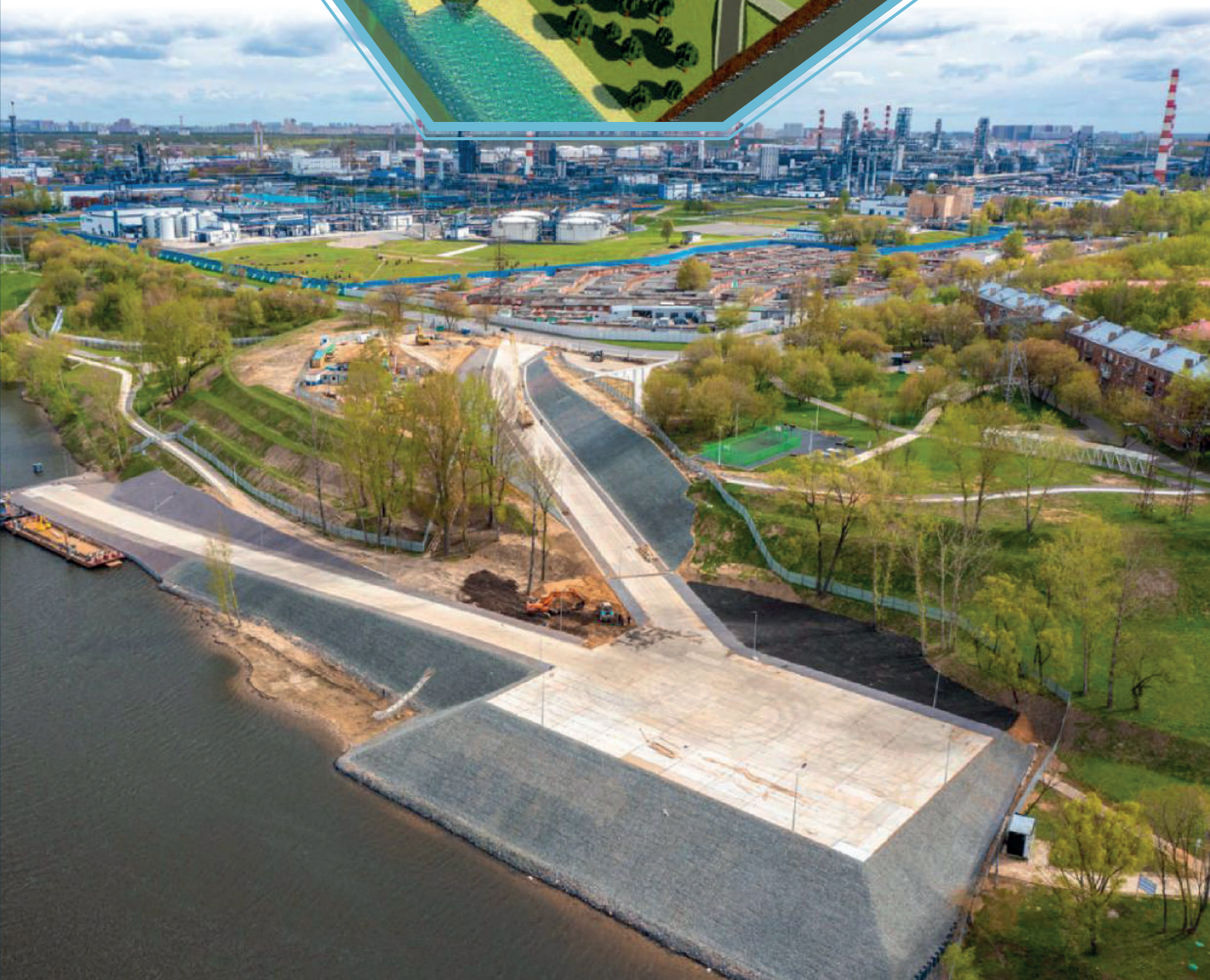
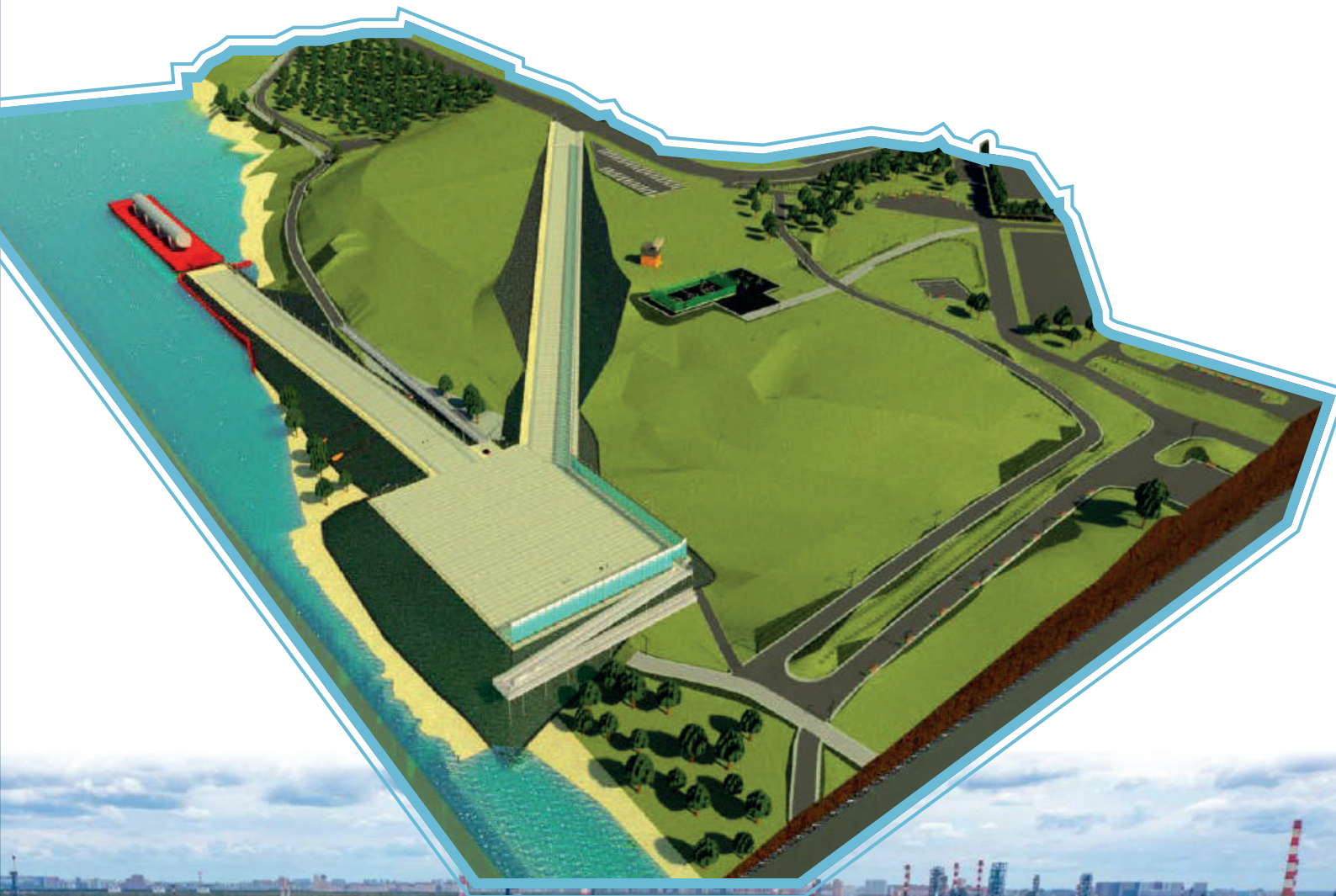
Despite the existing objective difficulties, thanks to the conscientious professional work of the involved construction organization GU Podvodrechstroy LLC, one of the oldest and most experienced hydraulic construction organizations in Russia, as well as the direct involvement of representatives of Gazpromneft-MNPZ JSC in all processes related to construction, the project for the construction of a loading and unloading cluster on the Moscow River in the Kapotnya District was completed by May 12, 2022, immediately before the start of the 2022 navigation season.

Despite the temporary nature of the facility, RTL LLC, in cooperation with the Federal State-Financed Institution «Moscow Canal» and the Federal State-Financed Institution «Morspazluzhba», carried out all legally stipulated measures to ensure safe navigation in the area where the berth is located and the trouble-free performance of mooring and loading and unloading operations.

The opening of the loading and unloading complex took place in June 2022 and was covered not only on the information websites of the organisations involved, but also on central and Moscow TV channels. The opening was attended by A. Dyukov, Head of Gazprom Neft PJSC, S. Sobyenin, Mayor of Moscow, and V. Zuber, General Director of Gazpromneft-MNPZ JSC.

The road transportation component of the delivery of industrial equipment from the loading and unloading cluster on the Moscow River directly to the territory of Gazpromneft-MNPZ JSC was only about 400 metres, but even this insignificant section of the transport was associated with a number of certain difficulties, the presence of thirteen overground and underground engineering lines, of which the most problematic were the 220 kV high-voltage overhead lines of Rosseti Moscow Region PJSC, in the safety zone of which the route of cargo transportation was directly located (some of them reached a height of about 9.3 metres), as well as the presence of an underground collector of the heating network of power grid company MOEK PJSC with two pipes with a diameter of 1400 mm, located directly under the road along which the transport route ran. At the same time, the mass of the largest cargo in combination with the mass of the modular conveyor was about 1,500 tons, which required calculations for the absence of a negative impact on the specified communication line.

The approval of the shipment required the development of a special project, which included inspections of the pavement and structural elements of the underground channel of the main pipeline, as well as computer modelling of the shipment and reliability calculations using specialised computer programs. In this task, RTL worked directly with the Moscow Automobile and Road Construction State Technical University (MADI), the Project Approval Office and MOEK PJSC Branch No. 5.



The problem of transporting equipment in relation to the availability of high-voltage lines could only be solved by temporarily disconnecting these lines and supplying the area with power via back-up lines.

It is worth mentioning the assistance in the timely transport of goods provided by the balance holder of the road of the State-Financed Institution «Motor Roads of the South-Eastern Administrative District», the Prefecture of the South-Eastern Administrative District and the Administration of the Kapotnya District, as well as the State-Financed Institution «Gormost», which is responsible for issuing special permits for the movement of large heavy vehicles.

Thus, within a period of 9 months, from September 2021 to November 2022, in conditions associated with a significant number of objective and subjective difficulties, RTL LLC, on behalf of Gazpromneft-MNPZ JSC, carried out the construction of a large river berth on the territory of Moscow, which made it possible to implement a project for the modernisation of one of the largest Russian enterprises, which is of great importance for the industrial potential of our country.

A total of 14 vessels and towed barge trains were received at the loading and unloading cluster by RTL LLC during the 2022 navigation period, and approximately 63 large and heavy cargoes with a total weight of 5,578 tons were transferred from water to road.

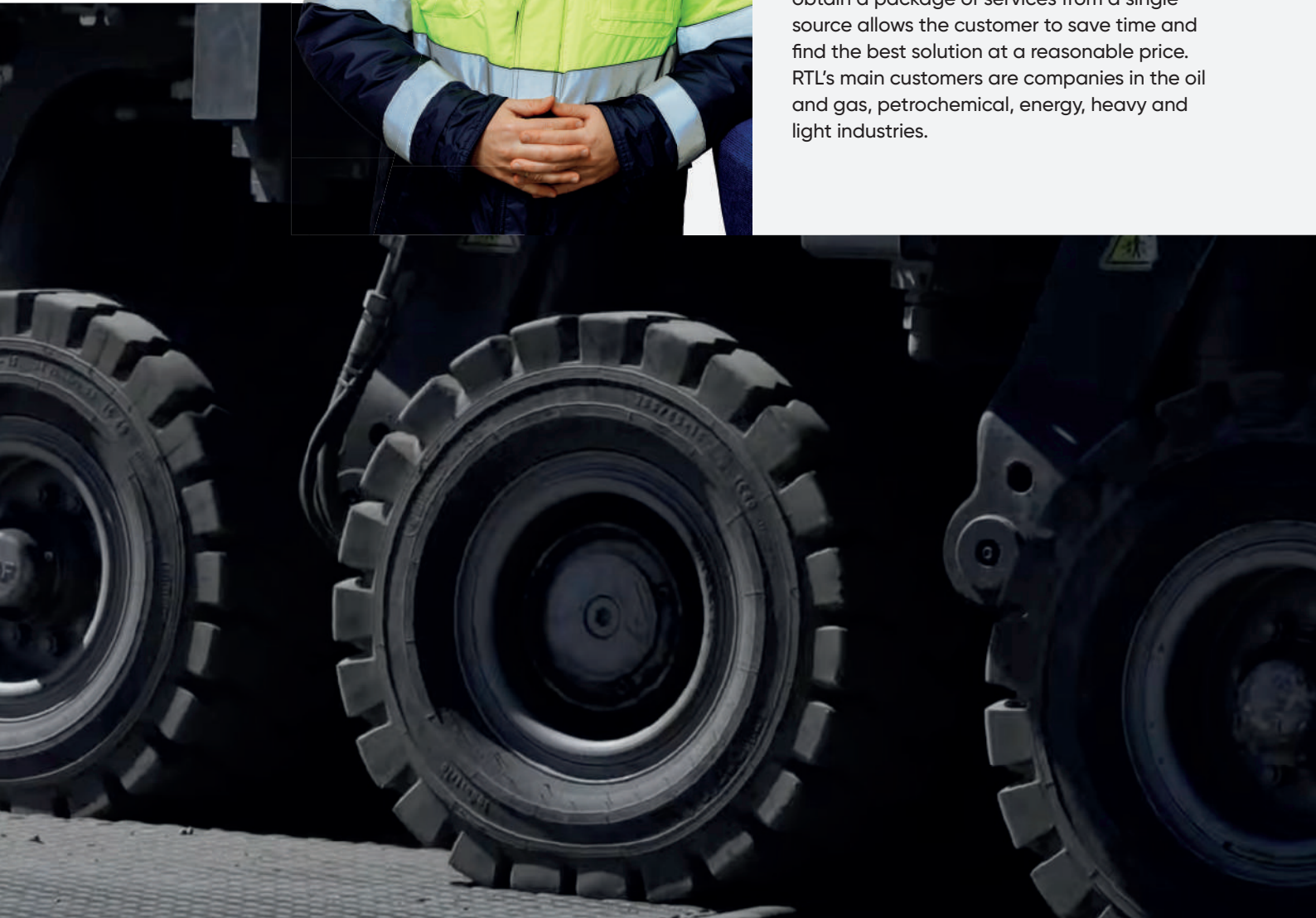
It should be noted that despite the fact that the berth did not initially belong to the category of fundamental structures and was to be dismantled at the end of the project, the construction and design solutions applied, the strength and durability of the structural elements allow it to be used for industrial cargo handling for a long time. If necessary, the berth can also be easily integrated into the capital's parking infrastructure and used as one of the stops for public and private water transport in Moscow.





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What we find important is that the ability to obtain a package of services from a single source allows the customer to save time and find the best solution at a reasonable price. RTL's main customers are companies in the oil and gas, petrochemical, energy, heavy and light industries.



RECORD OF RUSSIA





22 June is a date everyone in Moscow will remember. The city greeted the morning of that day with a roar of... applause! After all, we are talking about 22 June 2022, the day of the registration of the Russian record «Transportation of the heaviest object by means of river transport on the Moscow River» when a hydrocracking reactor weighing 1,241.8 tons was transported by inland waterways from St. Petersburg to Moscow. The transporter (not Jason Statham, but RTL LLC) masterfully conquered the capital's river with the help of colleagues from Gazpromneft-MNPZ JSC. Considering that the metal monolithic «cigar» weighs more than a fueled space rocket on the launch pad, this delivery can rightly be called unique. To roll such a «toy» requires transporters far cooler and more skilled than Statham.

Only 100 years ago, the Moscow River was so shallow that you could cross it from bank to bank on logs. The city of three million people was critically short of water. The idea to divert water from the full-flowing Volga River was first discussed as early as in 1877, and the first floodgate was constructed, but it was not enough. At the beginning of the twentieth century, a Muscovite would receive only 80 litres of water a day, whereas, for example, a Londoner would receive as much as 450 litres!

It is ironic, but Moscow was then being watered... by Rublyovka (that was the name given to the hydrosystem in the village of the same name, now famous for its luxurious mansions). However, there was still a critical shortage of water. Incidentally, the shallowness of the Moscow River is also confirmed by footage from the film «Faithful Friends», in which broad hints of the problem were dropped. The whole system of floodgates, opened by 1937 and known as the Moscow Canal, solved the problem. This significantly changed the situation and made the river relatively full and protected from the surprises of floods. Nevertheless, the Moscow River has always been quite «dry» (if we may say so) compared to the Volga and other mighty waterways of Russia. This added to the difficulties in RTL's plan to transport by water an object weighing more than a thousand tons.

The design of the whole operation and its implementation took a total of almost five years – from the first idea to the first glass of champagne to celebrate the success of the event. To unload the facility on the banks of the Moscow River in the Kapotnya district, a special modern berth was built, from which a concrete road was paved – all this was part of the terms of the contract. As well as.... releasing sterlet into the Moscow River!

It should be noted that the hydrocracking reactor that RTL shipped by water is destined for the Moscow Refinery at Kapotnya. Yes, Moscow both produces and refines oil, in case you didn't know.

The new Russian record was accepted on the spot by Alexey Svistunov, Editor-in-Chief of the Russian Book of Records, who had previously attended various events in Achinsk, Komsomolsk-on-Amur, Nizhnekamsk and other places – all of which had their own record «zest». This time the reason for the surprise and amazement was the geographical and hydrological aspect.



ENVIRONMENTAL ACTION FOR THE RELEASE OF STERLET FRY INTO THE WILD

RTL always pays special attention to the environment when implementing logistics projects, so together with Gazpromneft-MNPZ JSC, the Russian Federal Research Institute of Fisheries and Oceanography and the Moscow-Oka Territorial Directorate of the Russian Federal Fisheries Agency, we held an environmental action to release sterlet fry into the wild. The aim of the environmental action is to preserve biodiversity by releasing sterlet fry into water bodies.

The sterlet is a fish of the sturgeon family found in the large rivers of Russia. Sterlet populations that migrated between fresh and salt water have been completely wiped out. The sterlet is listed as an endangered species in the Red Book of the International Union for Conservation of Nature and in the Red Book of Russia. Sterlet fishing, both recreational and commercial, is prohibited in Russia throughout the Volga-Caspian and Azov-Black Sea fishing basins. Licensed fishing is allowed only in some rivers of Western Siberia and in the rivers of the Northern Fishery Basin.

The Russian Federal Research Institute of Fisheries and Oceanography bred three and a half thousand sterlet fry specifically for our environmental action, and the Moscow-Oka Territorial Directorate of the Russian Federal Fisheries Agency issued a permit and coordinated the place where the fry were released into the Oka River in the Tula Region.

We invited children of our employees to take part in the environmental action in order to demonstrate by example the necessity of careful handling of natural resources and wealth of our Motherland.

The main specialization of RTL is the logistics of high-tech equipment for oil and gas companies, so the students of the Gubkin Russian State University of Oil and Gas also took part in the environmental action.

Specialists gave a fascinating talk about fish, the conditions under which they are kept and their habitat. The event was interesting and informative not only for children but also for adults.

The RTL company is not stopping there and is also implementing a tree planting project as one of its environmental initiatives.



The environmental action once again confirms our slogan: Improving logistics, improving the world!

CUSTOMS STRATEGY

The right customs strategy for the Moscow Refinery modernisation project enabled us to successfully implement the just-in-time delivery of all equipment.

The project resulted in 9 classification decisions, 15 preliminary classification decisions and over 4,000,000 declarations.

The project required the creation of temporary customs control zones for transshipment of transit cargo at the project berth, with subsequent consolidation of equipment prior to customs clearance.

The company gained tremendous experience and knowledge that we will be able to apply to future activities.





**Knigin
Roman**

The main value we try to create for our customers is the implementation of effective transportation solutions combined with the coordination of project teams involved in the delivery of equipment, taking into account the requirements of Russian customs.







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