



**KOLMAR**  
COAL MINING COMPANY

# **THE HISTORY OF SOUTH YAKUTIA EXPLORATION**

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«Resources both of the state and private business should go to the development and achievement of the strategic goals. Such goals as, for example, the rise of Siberia and the Far East. This is our national priority for the entire 21st century. The problems to be dealt with are unprecedented in scale, which means the steps we take should be creatively different».

V.V. Putin

## HISTORICAL PRESENCE OF SOUTH YAKUTIA

The Republic of Sakha (Yakutia) occupies the fifth part of the Russian territory and is a unique region in terms of the diversity, quantity and quality of subsoil resources.

The greater portion of the explored reserves is located in South Yakutia, which makes it – judging by the current mining volumes of mineral resources and their explored and predicted potential – one of the most important raw material regions, not only in the Republic, but of the Far Eastern Federal District as whole. Mineral raw resources mined in the region demonstrate great diversity. These are coking coals, noble, ferrous and non-ferrous metals, chemical, mining-engineering raw material, radioactive materials and many other things.

### Coal

There are over 25 officially registered deposits in South Yakutia. The most cost-effective and commercially important deposits are located in the Aldano-Chulman and Elgin industrial and mining cluster, with the balance sheet reserves amounting to ca. 7.4 Bln. tons of coking coals.



### Gold

The main gold reserves are concentrated in the Central Aldan, Upper Timpton, Upper Tokkin, Nuyamo-Algo-min industrial and mining clusters. Potential estimation of the gold reserves explored in the region is in excess of 304.1 billion rubles.

### Apatites

The largest Seligdar apatite deposit is located in the Seligdar industrial and mining cluster. The balance sheet reserves of this deposit amount to: apatite – 1.4 Bln. tons and fluorine – 1.2 Bln. tons. The deposit also contains rare earth metals.

### Iron ores

The main concentration place of iron ores is the Aldan iron ore province with a potential of 18.9 Bt. There are 14 deposits on the balance sheet. The most prospective deposits are Dyosovskoye and Tayozhnoye.

### Non-metallic minerals

Non-metallic minerals in Yakutia are represented by raw cement, gypsum, building stone, gemstones, zeolites, stone salt, apatites, graphite, and vermiculite.

### Fresh water

There are 29 officially registered fresh water aquifers in Yakutia. 14 aquifers are used for water supply purposes. The greater portion of the reserves is concentrated in South Yakutia.

### Mineral water

There are four registered aquifers of drinking mineral water and one aquifer of mineral water for external application in Yakutia. Two therapeutic mud deposits have been explored.

### Uranium

Uranium deposits are located in South Yakutia and are represented by the Elkon group of deposits, being the largest deposit in Russia in terms of reserves.

## 1915–1974: THE HISTORY OF SOUTH YAKUTIA EXPLORATION

Fur hunters who came here for valuable trophies caused the first interest in Yakutia. However, Moscow soon realized that the lands of Yakutia are much more valuable for the country. By order of Moscow, the quest for gold, silver, iron, mica, coal, base metals and precious stones started in these districts.

**1915–1918** The scouts of Oparin, the owner of Blagoveschensk gold mines, discovered gold placer on the Tommot river.

**1925** At the request of Yakutia's government, the Academy of Sciences of the USSR organized a special «Committee for the exploration of the Yakut ASSR.»

**1932** Outlets of the coal bed of Chulmanki field were found not far from the village of Chulman.

**1932** The brochure by A.B. Natolsky «Essays on the economy of Aldan» was published. He drew attention to the Chulmanki coalfield and wrote that «... since Timptonkiy coal belongs to the common bituminous coal and has coking capacity, it means that it could be used for metallurgical purposes and it would be nice to build small Metal Works much-needed on the territory of Aldan...»

**1936** The Trust «Ayamzolototrans» bored the first tunnel (Pioneer mine), and its coal was used for household needs and forgings in the village of Chulman.

**1940** Due to the emerging problem of coal allowance to the Amur railway, the first special works on coal were carried out.

**July 8, 1949** The Yakut Regional Committee of the All-Union Communist Party issued an internal memo to the CPSU Central Committee on the formulation of a long-term plan of development of the forces of production in the Yakut ASSR, where the idea of creating the Aldan coal-metal plant was first articulated.

**March 4, 1952** The Council of Ministers of the USSR adopted a detailed regulation «On the Preparation for the Industrial Development of the Aldan-Chulman Group of Iron and Coal Deposits in the Yakut ASSR.» The regulation obliged the USSR Ministry of Geology to dramatically enhance the exploration of coal and iron, increasing by 1955 the iron ore reserves of South Yakutia to 130 million tons and the capacity of minefields in Chulmanki district to 2.4 million tons per year.

**1973** The demand for coking and power-generating coal was defined in the «Guidelines for the Technical and Economic Development of the South Yakutia Coal Basin with the Emphasis on the Priority Construction of the Coal Enterprises.»

**December 1973** The State Reserves Committee of the Council of Ministers of the USSR approved of the reserves of Neryungri deposit in the amount of 469.5 millions tons of coal, which were available for open-pit mining. About 80 % was high-quality coking coal. The reserves of the entire South Yakutia coal basin were estimated at 40 billion tons. Nearby, in one hundred kilometers, there were deposits of iron ore of the South Aldan region, with estimated reserves of more than 20 billion tons with iron content of 45–52 %.

**July 3, 1974** the USSR and Japan signed a general agreement «On the South Yakutia Coal Supply from the USSR to Japan and the Supplies of Equipment, Machinery, and Materials from Japan to the USSR for the Development of South Yakutia Coal Basin.»







## 1974: THE HISTORICAL COOPERATION OF RUSSIA AND JAPAN

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The agreement provided for the construction of a coal complex on a reimbursable basis. Japan was investing a loan of 450 million dollars in the construction. The repayment of the loan was provided by coal supply from the Neryungri coalfield through the port of Vostochny to Japan.

The agreement was concluded for 20 years, and the first supplies of coal concentrate were to be delivered from 3.2 million tons since 1983 to 5.5 million tons since 1985.

The fundamental document aimed at the effective creation of the South Yakutia coal Complex was a joint Resolution of the CC CPSU and the Council of Ministers on April 29, 1975, named «On the Construction of South Yakutia Coal Complex». Its construction was declared by All-Union Shock Komsomol Construction. The construction of the sites of the Complex was entrusted to the Ministry of Coal Industry of the USSR, the Ministry of Transport Construction of the USSR, and the Power and Electrification Ministry of the USSR.

Shortly after the signing of the Agreement, the city of Neryungri was founded, which today is the coal-heart of South Yakutia.







## 2009: THE INVESTMENT PROJECT «COMPREHENSIVE DEVELOPMENT OF SOUTH YAKUTIA»

In accordance with the executive order of the Russian Government, dated March 10, 2009, signed by President of Russia V.V. Putin, the passport of a comprehensive investment project «Development of the Project Documentation to Implement the Investment Project «Comprehensive Development of South Yakutia», financed by the state budget allocations of the Russian Investment Fund, was approved.

The aim of the project is to create a public-private partnership of a new, large industrial area in the Far East of Russia on the basis of the region's hydroelectric and mineral resources: natural gas, apatite, coal, iron and uranium ores, and others.

The investment project «Comprehensive Development of South Yakutia» includes the design and construction of the following sites:

- Kankunskaya Hydro Power Plant (HPP);
- Elkonsky Mining Metallurgic Plant;
- South Yakutia Mining Metallurgy Union;
- Inaglinskiy Coal Complex;
- Yakut Center of Gas Production;
- Railroads [Tommot – Elkonskiy Mining Metallurgic Plant, Chulbass – Inaglinskiy Coal Complex, Ikabyekan – Tarynnakhskiy Mining-and-Processing Works, Kosarevskiy – Seligdarskiy Mining and Chemical Complex];
- Roadways [Tommot – Elkonskiy Mining Metallurgic Plant, Malyy Nimnyr – Kankunskaya HPP];
- Electrical grid [OHL «Kankunskaya HPP – Neryungri» and substation «Neryungri», OHL «Kankunskaya HPP – Aldan» and substation «Aldan», electric power supply of Elkonsky MMC, Tarynnakhsky and Tayozhniy Mining-and-Processing Integrated Works, Inaglinskiy Coal Complex, Seligdarsky Mining and Chemical Complex].



## 2016: MODERN NERYUNGRI – ECONOMIC AND CULTURAL CENTER OF SOUTH YAKUTIA

Neryungri is actively developing; culture, leisure, and sports facilities are under construction. Medical and educational centers are being opened.

There is the puppet and actor's theatre in Neryungri, which is the only theatre of its kind in the whole region of Siberia and the Far East. The Choir School «Solo-vushka» is the winner of international and regional competitions and festivals, and the ensemble «Severyanochka» is the multiple time winner of festivals in Greece, Brazil, Spain and Portugal.

The company Kolmar actively participates in the projects of construction and maintenance of the infrastructure of the city and region. The company builds roads, sports, and cultural sites and takes part in the construction of railways. In that way, within the framework of social interaction, the company Kolmar provides financial assistance for the implementation of the reconstruction of the Orthodox parish Church of the Kazan Icon in Neryungri. In December 2014, the construction of the chapel located at the mine Denisovskaya was completed. Financial support and assistance are given to construct the chapel in honor of Martyr St. George the Victorious in the city of Neryungri.



The city has one of the largest indoor stadiums in the Far East, «Gornyak», sports complexes «Shahter» and «Bogatyr», an indoor ice rink, and a ski resort. The climate and the snow in this city attract many athletes; in particular, the city held the training sessions for the men's national biathlon team. In the Neryungri district, there are 143 sports facilities: gyms and swimming pools, a ski resort and an indoor ice rink, a ski trail and tennis courts that allow for holding higher-level competitions in a variety of sports.







## KOLMAR: STRATEGIC COMPANY, THE CITY OF NERYUNGRI



Kolmar is the largest coal holding that unites industrial enterprises for the production and processing of coking coal located on the territory of the Nyringri district of the Sakha Republic (Yakutia). The balance reserves of the company Kolmar exceed one billion tons, most of which are scarce brands of premium quality coking coal that have a unique set of physical and chemical properties especially valuable to the metallurgical and coke by-product process.

The company Kolmar is currently implementing two major investment projects which are included in the List of Priorities in the Far East: «Denisovskiy» Coal Complex and «Inaglinskiy» Coal Complex.

In 2016, the opening of the coal preparation plant took place. Nowadays it is the most modern and technological plant on the territory of Russia. The capacity of the site is 2 million tons of coal per year, with the possibility of increasing.

The group Kolmar includes companies conducting underground and opencast coal mining, refining capacities, coal preparation plants, as well as distribution and logistics structures.

The company sells its products on the domestic market and exports its products to Japan, Korea, India, China, Vietnam, Taiwan, Indonesia, etc.



Kolmar is a strategic company in South Yakutia. The company implements large-scale projects of corporate social responsibility, builds infrastructure sites, and supports youth sports.





## NERYUNGRI: COAL CENTER OF SOUTH YAKUTIA

The city of Neryungri is a large administrative, industrial and cultural center: the second largest city in Yakutia. It was founded on November 6, 1975. The population of Neryungri is 57,000 people.

The history of the city is closely connected to the exploration of the resources of South Yakutia. The first information about this area was collected by the Russian explorers, Vasily Poyarkov [1643] and Yerofei Khabarov [1667]. They were coming from Yakutsk, located on the river Lena, along the South Yakutian rivers, to the Amur and the Far East.

The first coat of arms was approved in 1984: on the heraldic shield there was depicted the coal bed, the dump truck, and the larry, that immediately indicated the key specialization of the city – the coal industry.

Being located close to the Trans-Siberian railway and the ports of Okhotsk Sea, the Neryungri district occupies quite a favorable geographical position. The district has the federal highway «Lena», with a length of 1,232 km, and a railway Berkakit – Tommot – Yakutsk, which is currently under construction.



The Neryungri region is actively developing and, in the nearest future, may become the center of economic activity in the East Siberian region with a specialization in the field of coal mining and manufacturing industries.





## THE OPENING OF THE COAL PREPARATION PLANT

Inaglinskaya-1 coal preparation plant was commissioned in May 2016. The production capacity of the plant is 2 Mta of coal with extension potential. The company takes special pride in the technologically advanced equipment of the plant. Russian equipment accounts for 85% of the plant.

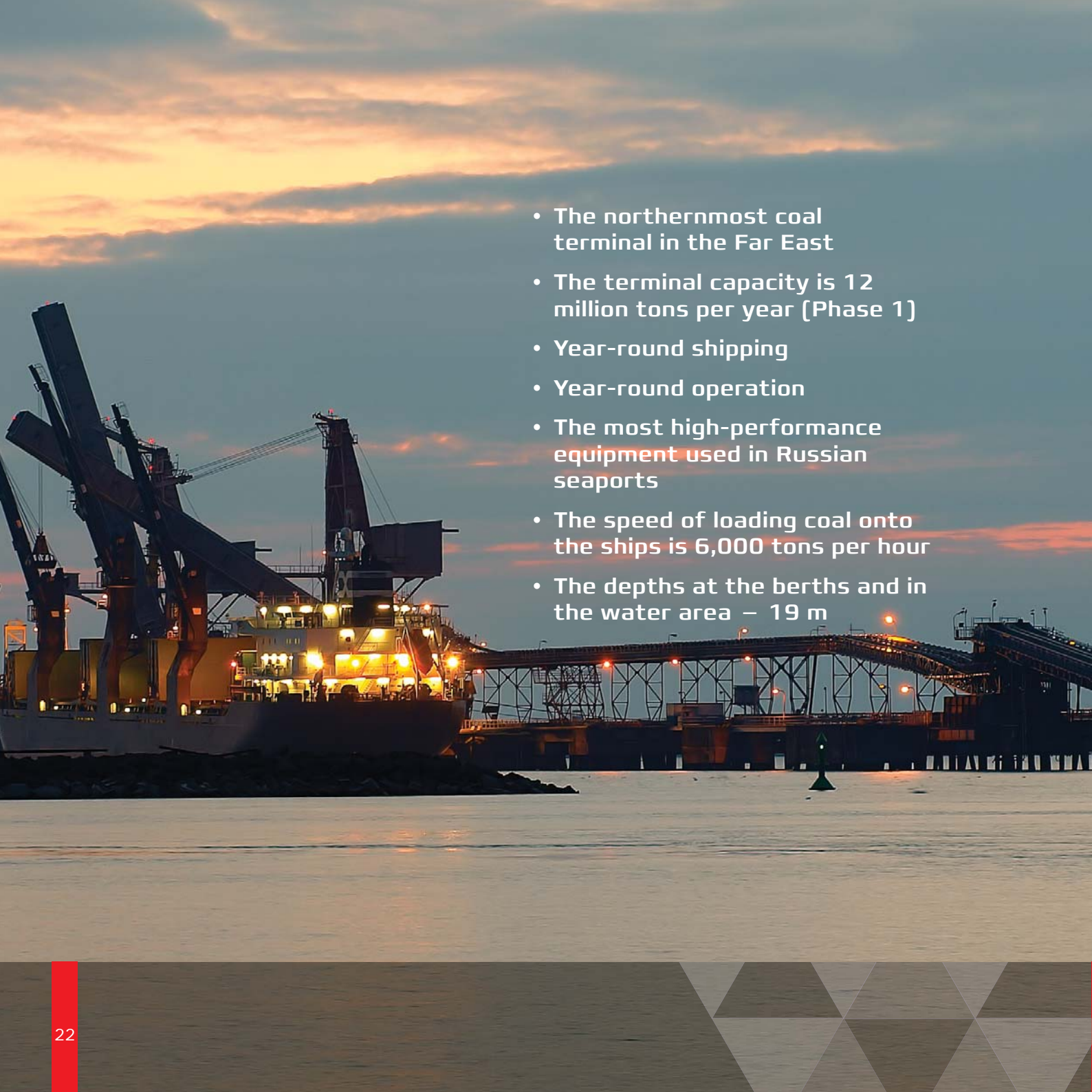
The design solutions of the plant are developed so that the plant can be upgraded as new standards and technologies emerge. Even today, designers and civil engineers have solutions to increase the capacity of the new plant, which will be retooled to operate in fully closed cycle conditions.

The staff numbers 120 people. Our personnel have undergone special training to work at the plant. Practical training has been provided for key personnel at the best world plants.

Kolmar started construction of Inaglinskaya-2 coal preparation plant and designed Inaglinskaya-3 coal preparation plant. The design capacity of each of the plants is equal to 6 Mta of coal. Commissioning is scheduled for 3Q 2017. Once additional capacities have been launched, the company will be able to transition to producing and selling coking coals in the form of concentrate.

«We are convinced that despite all economic challenges and crises, there always exist points of growth. We not only want to develop our enterprise, but set an example for everyone that they can and must grow, The more points of growth exist, the faster our economy will recover from the crisis».

S.E. Tsivilev



- The northernmost coal terminal in the Far East
- The terminal capacity is 12 million tons per year (Phase 1)
- Year-round shipping
- Year-round operation
- The most high-performance equipment used in Russian seaports
- The speed of loading coal onto the ships is 6,000 tons per hour
- The depths at the berths and in the water area – 19 m

THE BUILDING OF THE TERMINAL  
FOR COAL TRANSSHIPMENT AT THE  
SEAPORT VANINO IN MUCHKE BAY

Project review

Indicators	Unit	Phase 1	Phase 2
Commitment period		2017–2019	Since 2020
Volumes of coal transshipment	Millions of tons/ year	12	24
Number of berths for receiving vessels	Quantity/ LM	1/350	2/650
Maximum loading capacity of the vessel	Thousands of tons	40-115	40-168
Coal warehouse	Millions of tons/ ha	1/18	2/35
Stacker reclaimer B000 tons/h	Quantity	2	4
Wagon dumper	Quantity	2	2
Shiploader 6000 tons/h	Quantity	1	2
Defroster for 18 cars	Quantity	2	2

Financial and operational performance of the coal terminal		Phase 1
Loading capacity of the terminal		12 million tons/year
Capital expenditures [including VAT]		26, 515 million rubles
Present value of the project [W'V]		\$190 million
Internal rate of return of the project [Project IRR]		17.2%
Internal rate of return of the capital [Equity IRR]		22.5%
Payback period		9.25 years



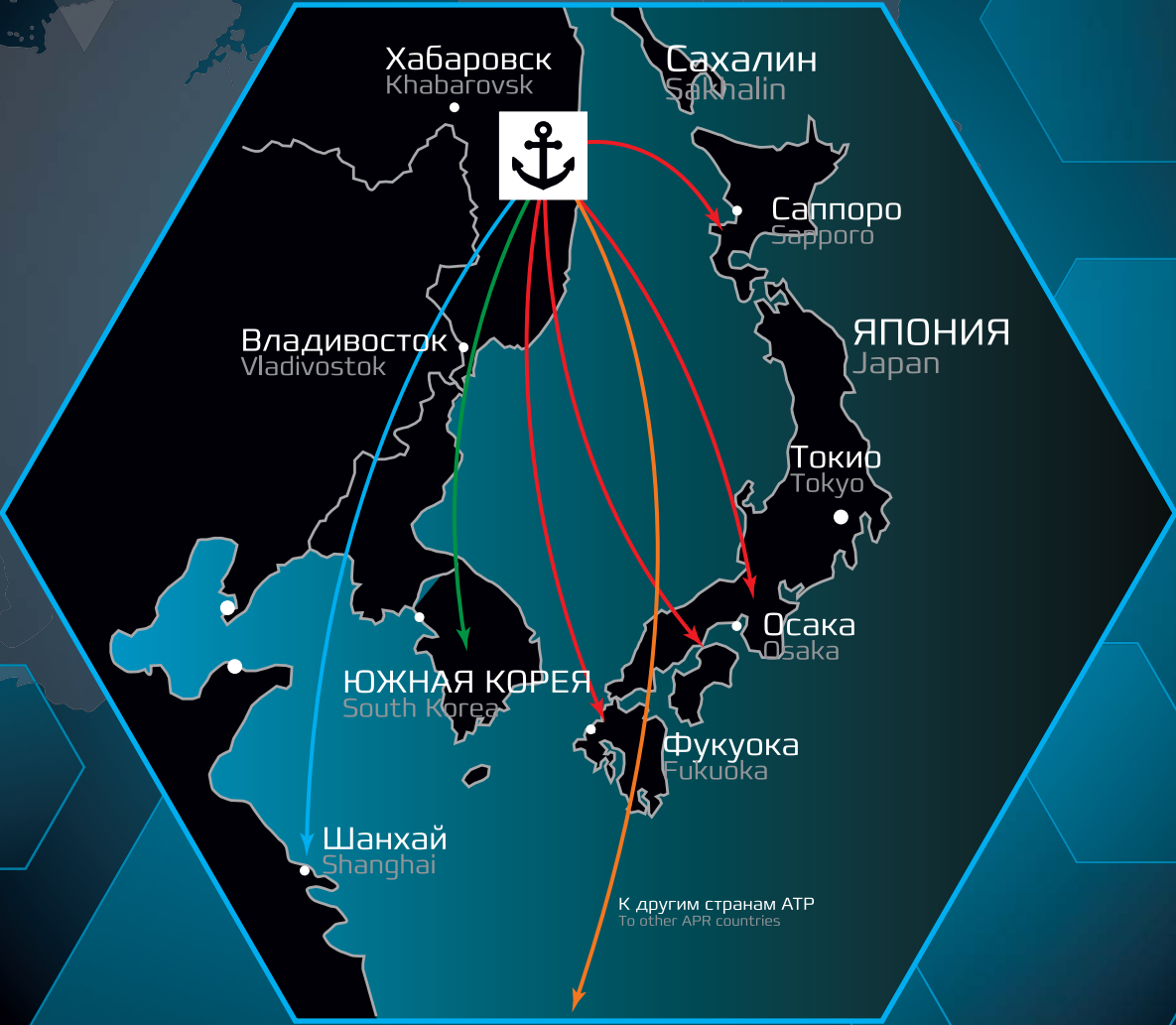
# COOPERATION WITH ASIA-PACIFIC REGION

The priority markets for Kolmar are the countries of the Asia-Pacific region. In first place are Japan and Korea. Exports consist of medium volatile coking coal of Zh rank in Russian classification.

In May 2016, the Kolmar company entered the international market of coking coal concentrate of high-volatile coking coal of Zh rank with a high-level of vitrinite. The designed capacity of the enrichment plant Inaglinskaya-1 is 2 million tons per year, with the possibility of increasing the processing up to 2.5 million tons per year.

The Kolmar company has a coal terminal in the new port in the Bay of Muchke in the Vanino District, which allows for making optimal logistics routes to Asia-Pacific countries.

Port	Distance	Delivery period
Sakata, Japan	610 miles	in 1.5 days
Niigata, Japan	670 miles	in 1.5 days
Shanghai, China	1,440 miles	in 3 days
Dalian, China	1,166 miles	in 2.5 days
Pusan, South Korea	994 miles	in 2.3 days



## NERYUNGRI: SPORTS ACHIEVEMENTS

Kolmar is actively promoting sports and sports achievements. The company provided financing for the reconstruction of the ice arena in Neryungri with a new artificial ice coating. The amount of financing exceeded 60 mln rubles.

Vladimir Mikhailov, who works as an operator of the boiler equipment at an enterprise of Kolmar Group, could take part in Russia's Kettlebell Lifting Tournament with financial support from the company. The management of the company supports the athlete, which successfully defends the honor not only of the company, but Yakutia as a whole.

The ice hockey team of LLC Managing Company Kolmar won the Neryungri Open Championship among the enterprises of the district in 2014.

As part of the social partnership between LLC Managing Company Kolmar and MOU Gimnasium №1, in association with the Ministry of Professional Education, a sports ground with artificial coating was built for the pupils of the gymnasium. Material assistance to the gymnasium exceeded 1 mln rubles.



Shortly before the All-Russian Final Competition Golden Puck among athletes born in 2003 and 2004, the company provided financial aid to the Energy Olympic Reserve School [Yakutia]. Sports equipment was purchased and travel expenses of young athletes were covered.





## THE ANTHEM OF THE NERYUNGRINSKY DISTRICT

Sakha's land is so beautiful, rich and immense,  
At Neryungri all roads come together.  
Silver, diamonds, hard coal, and golden sands:  
Mother Nature has no lack of treasures.  
At the foot of the Stanovoy branch lies our town  
Chulman river descends from the ranges  
Sakha proudly wears its golden crown  
And preserves all its riches for ages

Припев:  
May our city be rising and shining,  
People's friendship as strong as a diamond.  
Neryungri is the heart of our region!  
To this town, we will pledge our allegiance!  
We will build new palaces, stadiums, and schools

Following in the steps of our fathers!  
The dreams of the young about to come true,  
Our region they love like no other!  
Oh, my region, we'll always be proud of thee  
You're our destiny, promise, and joyance!  
Our homeland, our city is called Neryungri  
And all Russians are proud of this province!

Words and music by Eugene Kryukov