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Arctic projects of the Arkhangelsk Region

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Abstract. The article analyzes the implementation of the state order for military defense products and the potential of Severodvinsk shipyards and shipbuilding innovative cluster. The area has a number of successfully implemented projects in the region and development industry for diamond deposits. The project aimed at development of lead-zinc deposit "Pavlovsk" on the Novaya Zemlya is done. Arkhangelsk region becomes a leader in the development of bioenergy on the principles of "green economy", and it operates an innovative timber cluster "PomorInnovaLes". The real breakthrough is the establishment of the RAS Federal Research Center for the complex study of the Arctic in Arkhangelsk. In general, our region is not just the area occupied with generating new ideas and projects, but also preserving cultural and historical traditions.

Keywords: *Arkhangelsk region, projects, defense industry contracts, clusters, "Pavlovsk" deposit, bioenergy, Federal Research Center of the Arctic*

Arctic Zone of the Russian Federation (AZRF) undoubtably has geopolitical, mineral resource, defence, ecological and tourist potential for Russia. It is true that this potential has global significance especially geopolitical and mineral resource extraction ones. Today our country is returning back to the Arctic, restoring the Northern Sea Route, creating Natioal Arctic transport chain and infrastructure of a double used and is solving other relevant issues. But if we will take into account the present financial and economic crisis, sanctions against Russia, reduced world demand for oil and gas, devaluation of the ruble, complicated geopolitical situation and the war against ISIS (a terrorist organization restricted on the territory of the Russian Federation), making large scale state investments, especially on the regional level, seems to be problematic.

Extremely uncomfortable living and economic conditions, absence of the modern infrastructute make the Arctic and North development projects more complicated and expensive. Making a hard choice on the regional level, it seems to be better to speak about local projects that

have local resources, creation of transport-habs, development of the territorial, innovative clasters, including the ship-building and forest ones, as well as the priority development territories. It is clear that no one takes away the responsibility for decisiding the relevant social problems of the northern territotories. These issues are controlled by the Government of the Arkhangelsk Region all the time, daily or online, as we say, in real time regime.

Regional Arctic projects

Project management has become a relevant issue in the Arctic where everything is so unpredictable and mobile. The representative forums we've held in Arkhangelsk made us sure in that. In October 2015 Arkhangelsk hosted the 3rd international forum "Arctic projects — today and tomorrow". The forum had become the greatest platform for discussing the Arctic projects and searching for best ways of their logistics and implementation. The forum was organized by the Government of the Arkhangelsk Region, the Assosiation of oil industry suppliers "Sozvezdie" and NArFU named after M.V.Lomonosov. The forum was attended by more than 200 representatives of the leading oil, engeneering, constructing and transport suppliers, shipyards, and engereening companies from Russia and abroad; representatives of the federal and local governments, experts, economists and researchers. The participants of the forum discussed the development of the Artic and North areas of Russia, perspectives of the large projects — "Belkomur", "Severniy shirotniy hod", "Yamal SPG" and others. A special attention was paid to the establishment of the cargo base for the Northern Sea Route in Arkhangelsk.

The major result of the forums is *involvement of the regional companies in the project "Yamal SPG".* Such companies as "Spetsfundamentstroy", "Northern Shipping Company", MRTS and Arkhangelsk sea and river trade ports and the others (more than 50 companies in general) are involved in constructing ad implementation of this project. Greater participation of the competitive Russian suppliers in the Arctic resource extraction projects — a relevant question both for the regional Russian authorities and for the Government of the Rusisan Federation in times of sunctiona and replacement of import. Our regional Arctic projects contain real plans, mega-projects for the leading sectors of the Arkhangelsk regional economy. They are, first of all, military and defence projects.

Completing the state ***defence products order*** — the first and priority for the Severodvinsk shipyards. JS "PO Sevmash", "Centr sudoremonta "Zvezdochka", "SPO "Arktika" and "NIPTB "Onega" have facilities and well trained engineers and workers to implement *modern technological projects aimed at improving the defence capacity of the country*. Severodvinsk has a good geopolitical position: its shipyards are the only in Russia that have the access to the ocean. Now the nuclear submarines of

the 4th generation are constructed here. In 2012—2015 “Sevmash” company constructed or started to construct the NS-es type “Borey” and “Yasen”: “Uriy Dolgorukiy”, “Aleksandr Nevsky”, “Severodvinsk”, “Kyaz Oleg”, “Krasnoyarsk”, “Khabarovsk”, “Vladimir Monomah”, “Generalissimus Suvorov”, “Arkhangelsk”, “Kazan”, “Knyaz Vladimir” and “Novosibirsk”.

Shipbuilding and shipreparing companies are occupied by the NS of the 4th generation projects. In future they will be involved in constructing the NS of the 5th generation. Nevertheless, in order not to lose the competence it is necessary to keep the civil production as well.

Besides the defence products order, “Sevmash” ad “Zvezdochka” are involved in hi-tech civil production for oil extraction in the Arctic. It is the first marine ice-class oil extraction platform “Prirazlomnaya” for the Pechora sea continental shelf (ordered by Ltd “Gazprom neft shelf”). Oil and gas extraction has been done from the fixed platform on the Arctic shelf since December 2013. During the first year of work “Prirazlomnaya” had 2,2 mln barrels of oil and by December 2015 the platform got 1 mln tonnes of oil. Norwegian company “Moss Maritime AS” got two half-submersible oil platforms “Moss CS-50” constructed at “Sevmash”.

The other example of technically complicated innovative projects is AO “TSS “Zvezdochka”, leading Russian ship repearing and ship modernization company with braches on the shores of five seas (DG — N.Ya. Kalistratov). The largesr civil project for “Zvezdochka” is constraction of the selflifting floating platform (SLFP) “Arkticheskaya” for PAO “Gasprom”. It is the first off-shore platform of such a class, constracted by the Russian shipbuilders and used since the spring 2015, that could drill 4 exploratory wells. “Zvezdochka” is among the first to constract selflifting floating drilling platforms of a heavy class for shelf oil deposits. For the 50 years of establishment “Zvezdochka” constracted more that 22,000 propellers made of bronze, titanium alloy and stainless steel for almost all the types of civil boats, military submarines and nuclear ice-breakers [1, p. 158]. New type of activity is the constraction of modern engeens for the ice-lass boats — rudder propeller, propulsion systems — controllable-pitch propellers, ring and water jets, shafting lines, hybrid installations

Large scale development of the shipbuilding in the area lead not only to the technical development of the big shipyards, but also to the implementation of the projects ***Shipbuilding innovative territorial cluster***. Today the Arkhangelsk area has more than 10 private shipyards and engeneering companies with the general volume of produced metal constructions close to 5,000 tonns per month and ability to construct the hulls of the support vessels, barges with the tonnage up to 2,000 tonnes that are extremely popular for use at the arctic deposits.

Some *common projects* are rather perspective withtin the Arkhangelsk cluster: development of the test stand and controllable-pitch propellers; constraction of the the test stend for the

rudder-propellers; constraction and development of the resource center for professional education of higly qualified specialists for engeneering; development of the project and constractio of the marine test complex in Arkhangelsk; project making and construction of the sicnetific vessel for Arctic research; development of technologies for constraction of bages and tugboats for liquefied natural gas for the Arctic environment. Companies of the shipbuilding cluster have required facilities for constractions of the nucleas ice-breakers of the new generation.

One of the most perspective civil projects, that requires a certain degree of promotion and had federal significance is establishment of the ***distributed shipyard in Arkhangelsk- Severodvinsk urbal agglomeration***. The project is aimed at development of cooperation and diversification of the production and at keeping the existing competences and technologies for the Arctic marine technics and vessles. This is extremely important for the import replacement policy [2]. There are a new perspective for high-tech production made by the Severodvinsk companies and some advantages for new compact assembly and installation platforms situated in the delta of the Northern Dvina, coasts of the White sea with a direct access to the arctic seas. The production of each shipyard is going to be focused on the high-tech projects, such as: fixed, semi submerget and selflifted platform, lagre equiped modules and other complicated objects (fixed and floating) situated along the Northern Sea route and various marine techniques (drilling, docking and crane ships; pipelayers and cablelayers).

In perspective there is a possibility to provide such services as: “Service for marine equipment in the Arctic conditions and supplying the functioning of the Northern Sea Route”, “Development of underwater and under ice technologies”, and integrating services of the “Center of the Arctic marine technology”. A key “narrow space” that should be “widen” is the absence of a specialized assembly area where the final assembling could be done. Creation of such an area, equipped according to the modern standarts is the priority technical issues of the project. Passing throught such “narrow spaces”, reqires smart and creative desissions. Participants of the project are not able to provide all the nessecary investments. The problem could be solved by the means of the state support, co-financing at the federal level, private investments and other forms of cooperation.

The Government of the Arkhanelsk region should pay attention, as it has been done before, to such projects as ***”Belkomur” and deep water sea port in Arkhangelsk***. We clearly understand that “Belkomur” is not just an infrastructural project, but a complex program of development designed for the North-Western areas of Russia and is of interest for 4 subjects of the Russian Federation: Permsky Krai, Komi Republic, Arkhangelsk and Murmansk Regions. It is supposed to constract deficient objects and repair exsisting unfrustructure for railway connection Arkhangelsk — Syktyvkar — Perm (Solikamsk) with the length of 1,161 km. Construction of the “Belkomur” will open an ac-

cess to natural resources (wood, oil, coal, minerals, metal and non metal ore), will provide the northern extension for Transsiberian railway and will make the cargo delivery from the largest industrial hub Bereznikovsky-Solikamsky possible.

A special significance the "Belkomur" project gets in case of constraction of a deep water sea port in Arkhangelsk and establishment of a optimal transport and logistic scheme aimed at development of international transit from China to the EU and America. It is planed that the deep water port is going to be situated in the areas of 180 ha, 55 km North from Arkhangelsk, in the northeast part of the Sukhoe More Bay and on the western coast of the Mudug island. New port is going to be based on the 4 handling complexes: oil, universal, coal and container and it will provide services for multimodal traffic of coal, mineral fertilizers, wood and oil cargoes, general and container cargoes for import and export. Freight turnover of the new port could become 30 billion tonnes per year and the distance of delivery would reduce. The port would be able to have vessels with a deadweight of 75—100 thousand tonnes. But the "Belkomur" and "Arkhangelsk deep water sea port" still have the issues of financial support even when the negotiations with possible investors, including China, took place before and are still going on.

Sucsessful for the area are ***the projects aimed at developing dimond deposits.*** Natural resource protential of the Arctic areas of the Arkhangelsk region is equal to 20% of all Russia dimond deposits, lead and platinum deposits, bauxites, fish in coastal waters and millions of m^3 of wood Arkhangelsk region has *the only diamond deposit in Europe*.

The government of the region is paying much attention to the dimind extraction sector. The income from taxes is 4.5 times more (compare to the years 2014 and 2015) — and it is one of the most significant events for the social sphere of the region. The reach this goal became possible due to the work of a new mining and processing plant. One of the biggest diamond extraction plants in Russia — JSC "Severalmaz" had high ecomomic indexes. In 2014 the second module of the Lomonosov mining and processing plant was opened[1], it is supposed to process 3 mln tonnes of ore per year. If we will take into consideration new facilities of this plant, its total annual capacity could be 5 mln tonnes by the year 2021. Growth of dimond extraction by the same time could increase from 650 thousand carats to 4.3—5 mln carats.

One more important ivent is the constraction of the mining and processing plant by the JS "Arkhangelskgeoldobicha" NK "Lukoil" with a capacity of 4.5 mln tonnes of ore per year at the diamond deposit named after Vladimir Grib in the Mezen district of the Arkhangelsk region, 130 km north-east of Arkhangelsk. The deposit is the largest in Europe. Only proven ore reserves are 100 mln

[1] It is situated in the Arctic zone of the Russian Federation, in the Primorsky municipal district.

carats of the highest quality. Investments to the projects are around 1 billion dollars. The first million carats has been already eaxracted.

Development of the dimond deposits is of interest for the government of the Arkhangelsk Region because of their practical and social significance. New well paid jobs, additional income for the regional buget and strengthening of social and economic positions of the region. The suff of the dimind mining and processing plant is mostly from the Arkhangelsk area; these people got professional education or training; their amount together with the stuff of contractors is about 2 thousand people.

Extraction sector of economy of the Arkhangelsk region got a new arctic project: ***"Development of the lead and zinc deposit "Pavlovskoe" on the Novaya Zemlya island".*** Constraction of a lead and zinc mining and processing plant opens serious perspectives for the development of the Arkhangelsk logistic and transport hub. Sepaking at the third international forum in Arkhangelsk (29—30 October 2015) A. Lukin, GD of the JS "Pervaya gorno-rudnaya kompaniya" — a part of the Uranus holding "Atomredmetzoloto", said that the project was unique for the Arkhangelsk region and for the Arctic zone of the Russian Federation; in general it is the only large scale project that is done in the region and is not related to the oil and gas extraction. Exploration at the "Pavlovskoe" deposit is completed and the results exceeed expectations. According to the exploration results lead and zinc reserves are about 46 mln tonnes wit ha metal content more than 3 mln. Proven earlier results — 37 mln tonnes with the metal content of 2.4 mln tonnes.

Direct deliveries of the zinc concentrate are planned for Russian proceeding plants and for the Swedish company Boliden, lead concentrate — for Russian, European and Chineese plants. In 2018 there is a plan to constract a mining and proceeding plant on the Novaya Zemlya island and in 2020 — to get commercial products. Planned capacity of the plant — 2.5 mln tonnes of ore per year [2].

Arkhangelsk region becomes a leader on the European North of Russia after ***projects aimed at development of the bioenergy on the principles of "green economy".*** Arkhangelsk region historically has good conditions to develop bioenergy: forests — 77.7%, general reserves of wood 2.6 billion m^3, annual allowable cut — 23.8 mln^3 (2015). Annual turnover of word is equal to 11—12 mln m^3, production leaves up to 2 mln m^3 of wooden waste (sawdust, bark).

[2] The First mining company presented the projects "Pavlovskoe"П at the third international forum "Arctic projects — today and tomorrow". 3 November 2015. URL: http://www.armz.ru/press/news/?id=818 (Accessed: 08 January 2016).

In november 2014 the Government of the Arkhangelsk region adopted the concept for the development of local heat supply up to 2030 that changes the fluel balance of the municipal energy system.

By the year 2030 the fuel balance of the region should look like: 54% — natural gas, 44% — biofluel (wooden wastes, splint, pellets), 2% — coal. Liquid fuel (fuel oil and diesel) should not be presented in the local energy system of the Arkhangelsk region by 2030 at all. Region authorities intend to establish biofluel market — sophisticated and efficient cutting, collecting and processing of the wooden wastes. Also theseshould be logistic chaines in order to deliver the processed wooden wastes to customers.

Bioenegry project contributes to some achievements: efficient use of forests; diversification of the wooden production; new jobs; increasing the energy efficience of the region; modernization of energy systems. Within the fluel replacement project, 45 boiler houses are using wooden fluel and 13 new built boilers use only biofluel.

By now the Arkhangelsk region is one of the largest Russian producer of pellets — granules made of wood wastes for bioenergy. They are produces by the CJS “Lesozavod № 25”. In october 2015 in Onega new factory stated to produce ecologically friendly fluel — black pellets made of hydrolysis lignin. It is the first innovative project of that kind in Russia. The company “Bionet” is the largest wood cut wasterecycling plant not only in Russia but also in Europe. One more investment project is designed to produce wooden granules Ltd “Ustyanskaya lesopererabativaushaya kompaniya” with the general capacity of 50 thousand tonnes.

It seems to be relevant to establish a biofluel market at municipalities with 700 smal wood cut companies. Usually these companies have low technological level and small volume of wood cut and that’s why they are a reason for huge volumes of wood cut waste. Legal volume is about 700 thousand of wood waste, but more than 1 mln m^3 of wood wastes is on the dump and therefore it will be burned. As I.A. Orlov mentioned, proceeding the wood cut wasteis still the weakest link. “We have opened a number of boiler houses that use the biofuel only, but still about 1,5 mln m^3 wood cut wastes are not in use for proceeding and recycling”[3].

A Successfully implemented project is a new form of the timber industry — ***innovative timber cluster “PomorInnovaLes”***, which includes 24 companies. The cluster united major business players, small and medium-sized businesses, suppliers of equipment, specialized production service and logistics service providers, research and educational organizations, related to territorial proximity and the functional dependence in production and the sale of goods and services in the forestry sector of the regional economy. Amount of annual tax payments for the main cluster companies: JSC “Arkhangelsk

PPM" PKP "Titan", CJSC "Leoszavod № 25" — is more than 2 billion rubles, a share in the regional logging is 15%, lumber production — more than 23% , pulp — over 40%, cardboard — 51%. Participants of the cluster are carrying out eght projects.

Large-scale modernization of the regional timber industry soon will enable a qualitative change in the structure of commodity output, providing high value-added production; also it will lead to a better use of forest resources. There are some reasons to believe that the forest resources could form new energy and environmental policies based on the principles of "green economy".

Fishing industry in the region is aimed at solving a whole range of tasks, such as the preservation of the diversity of living aquatic resources, the development of fishing technologies, deliver of fish to the port of Arkhangelsk and the creation of social comfort in our cities and villages. Arkhangelsk Oblast is one of the first places in the country for the consumption to per capita – 35 kilograms per person per year.

The oldest and the largest fishing enterprises in the region is JSC "Arkhangelsk Trawl Fleet" (ATF). At the end of 2013, the the company was sold to Ltd "Virma" – a part of the Northwest fishing consortium. The Government of the Arkhangelsk region and the investing company have an agreement, which includes a package of social obligations, including those relating to port infrastructure development projects and revival of Maimaksanskiy cargo port area. In addition, it was possible to reach agreement and not to get additional fishing quota. The company has fulfilled all these commitments and in 2014 for the first time for many years, "ATF" got a profit. The volume of marine bioresource delivery to the Arkhangelsk Sea Commercial Port has inceased.

Increasing marine and rail freight traffic could make the Maimaksa cargo port a major transportation and logistics hub for the transhipment of fish and other types of cargoes as well. Existing port infrastructure allows receiving up to 80 thousand tons of fish annually. In the case of a successful negotiations with the Far East Fish Company, "Arkhangelsk Trawl Fleet" is ready to increase the handling capacity of up to 100-150 thousand tons per year.

Arkhangelsk region has all the necessary resources and potential to become one of the leaders in the ***development of tourism in the Arctic and in the North of Russia***. The presence of the National Park "Russian Arctic", unique monuments and sites of natural and cultural heritage, as well as transport accessibility create prerequisites for the development of the region as a center of Arctic network of protected areas; as a platform for the development of new models of biodiversity conservation; as center for the development of environmental, ethnographic tourism in the western Arctic and European Russia. The development of tourism is an important and perspective sector of the regional economy. According to Arkhangelskstat, in 2014 102 companies and 43 hotel-type or-

ganizations, including 7 sanatoriums and 39 tourist centers, operated on the territory of Arkhangelsk region. The volume of accommodation services in the region increased from 1.7 billion in 2012 to 2,2 billion rubles in 2014. Amount of taxes and fees paid by the companies to the budget of the Arkhangelsk region are increasing significantly.

On the territory of the Arkhangelsk region there 22 tour operators sell more than 150 tour packages, vouchers for excursions, interactive and educational tour programs. “Seven Wonders” of the Arkhangelsk region include: Arkhangelsk, Solovetsky archipelago (included in the list of UNESCO), White Sea, “Malye Kareli”, Pinega caves, a town musum in Kargopol, the village Lomonosovo. In order to facilitate the registration of foreign vessels and foreign tourists on board, who come to visit the state natural reserve of federal importance “Franz Josef Land”, some changes to the boundaries of the Arkhangelsk sea port have been made and the water area of the Arkhangelsk sea port includes the Bay Severnaya, Bay Dezhneva, Island of Aleksandra and Franz Josef Land archipelago. Some other measures are taken to attract tourists who visit the National park “Russian Arctic”.

A real scientific breakthrough in development of the Arctic is a federal project of Arkhangelsk ***RAS Federal Research Center for the Complex Study of the Arctic.*** November 24, 2014: Arkhangelsk hosted a meeting of discussion club “The Arctic as an element of socio-economic and innovative development of Russia”. It was attended by the GPs, managers and employees of institutes and centersof the RAS from the Far East and North-West Russia, research organizations undet the FASO Russia, the Northern (Arctic) Federal University, as well as representatives of the Government of the Arkhangelsk region and business (“Gazprom”, “Rosneft” and others). The result of the discussion was an offer to establish the Federal Center for Complex Research in the Arctic. Governor of the Arkhangelsk region I.A. Orlov spoke about the establishment of such a center in Arkhangelsk and his proposal was supported.

By the end of September 2015 the preparatory phase of the integration project was completed. The Order of the Federal Agency of Scientific Organizations (FASO Russia) № 494 issue on the 30th of September 2015 confirmed the reorganization of the Arkhangelsk Scientific Center of UB RAS in RAS Federal Research Centre for a Complex Study of the Arctic (FRCCSA) and its reunion with a number of scientific organizations of the Arkhangelsk Region and the Nenets Autonomous District. All the property inventory procedures and reorganization itself is controlled by a newly established Committee for reorganization.

There are also reports that the Kola Scientific Center RAS will become the Arctic Research Center[3]. The problem is seen in the fact that the two centers of the RAS in Arkhangelsk and Murmansk should become partners. After all, the main purpose of the project FRCCSA RAS is concentration of intellectual resources and research tools for the large-scale integrated solutions to ensure the public interest in Arctic, balanced social and economic development and improvement of the quality of life of the Arctic population in Russia [4].

Besides organizing FRCCSA RAS, Arkhangelsk authorities propose to establish ***Research Center for Complex Medical Research in the Arctic*** under the Northern State Medical University, wich is going to be responsible for the assessment of health risks for indogenous people, explorers, soldiers, shift workers in the Arctic. NSMU is the only specialized medical institution in the Russian Arctic with an extensive clinical database and ongoing research in the field of polar medicine and health of indigenous population of the northern territories.

National and even international got the project “Arctic Floating University”. In 2012—2015 a network cooperation between NArFU, Moscow State University, St. Petersburg State University, Severnoe UGMS, AARI, Institute of Ecological Problems of the North UB RAS, the National Institute of Oceanology named after N.N. Zubov, Russian State Hydrometeorological University and All-Russian Scientific Research Institute of Fisheries and Oceanography organized seven expeditions of the Arctic Floating University. The expeditions were focused on the research on hydrological, meteorological, hydrochemical and bioresource issue of the White, Barents, Greenland and Kara Seas as well as glaciological and seismological research done on the Svalbard archipelago, Franz Josef Land and Novaya Zemlya and research on climate change. This is how the teachers, researchers, students, undergraduates and postgraduates from NArFU get research skills in the Arctic conditions.

NArFU students get internship at enterprises in Severodvinsk, oil and gas corporations, transport companies and emergency response service in the Arctic. The Center for Collective Use of Scientific Equipment “Arctic” has unique analytical and research equipment that is associated with the Russian network of federal universities. The Center carried out a series of research projects in the interest of scientific organizations and institutions related to the study of the western part of the Russian Arctic.

Industrial and resource potential of the region

The Arctic projects clearly meets all the available industrial resource potential of the Arkhangelsk region: port system, polar aviation, hydrographic base, a tank farm, oil terminal, north-

[3] Kolskiy nauchniy centr sdelaut Arkticheskim. 17.11.2015. URL: http://www.ras.ru/digest/ showdnews.aspx?_ language=ru&id=cc7d61c6-3bac-485a-954c-a441506ef34d (Accessed: 08 January 2016).

ern hydrometeorological service, Arctic Directorate Maintenance Control at the sea, a branch of the GosMorspassluzhba, ice-class vessels, shallow-draft icebreakers, technical fleet and research vessels. An important advantage of Arkhangelsk is the availability of the Arctic Rescue Center EMERCOM of Russia. In Arkhangelsk we have the Polar Department of Hydrometeorology and Environmental Monitoring, responsible for Arkhangelsk and a part of the Murmansk region, the Komi Republic, Nenets and Yamalo-Nenets Autonomous District, Dixon, Khatanga, White Sea, Kara Sea, south-east Barents Sea, west of Laptev Sea, some areas of Ob River, Taz Bay and Yenisei Gulf. The Department provides hydrometeorological and logical support of various activities, transportation and life of the population [5, p.19]. Arkhangelsk hydrographic base — a branch of Hydrographical company of the Russian Ministry of Transport carries out hydrographic and topographic work to ensure the safety of navigation, provides marine research expeditions in the Arctic with the vessels. Shipping companies of the area transport cargoes with the use of vessels with a draft of 2,4 meters in the Barents, Pechora and Kara seas, and deliver cargoes to the shores without piers and to the ice covered areas.

Several regional oil and gas engineering and power construction companies are operating throughout the territory of Russia. *Regional company "Energoservis"* carries out the full range of activities associated with the compressor units — design, supply, installation of booster compressor stations, service, etc. *The company "Arkhangelskiy trest ingenernih stroitelnih isiskaniy"* pro-leads hydrographic work offshore and has already completed a number of activities for "Gazprom" on the Yamal Peninsula during the construction of the underwater gas pipeline under Baidaratskaya Bay, as well as during the installation of the offshore ice-resistant fixed platform "Prirazlomnaya". *The company "Optimist"* has entered the market with an offshore manufacturing specialized containers and sludge container for using on the shelf. The company together with the transport company "Belfraht" removes the cuttings from the "Prirazlomnaja". Containers have an international DNV standard certified for cargo delivery in the marine environment at a temperature below -40° C.

The company "Mezhregiontruboprovodstroy" (MRTS) has many years of experience in the constructing pipelines and underwater engineering works in the Far North areas; it is one of the largest contractors of the fuel and energy complex. JSC "MRTS" takes part in almost all the large scale projects aimed at developing deposits in the Far East and in the Arctic. For the past 15 years the total length of constructed underwater pipelines amounted to more than 1,000 kilometers. Among the customers of the "MRTS" are: "Gazprom", "Transneft", "Lukoil", "ExxonNeftegas Ltd", "Rosneft", "Norilsk Nickel", "NOVATEK" and many others. Almost all of the "MRTS" projects are done in the Arctic areas with extremely severe climatic conditions. The "MRTS" is the major sup-

plier and constractor of berths for “Yamal LNG” project. Company works on the Arkhangelsk production and logistics base for a half a million tons of general cargoes annually, as well as for manufacture and shipment of large modules.

Construction companies of the Arkhangelsk Region JSC “Spetsfundamentstroy”, JSC “GT North”, using the services of a dozen local subcontractors, constructed facilities in the village of Sabetta in Yamal-Nenets Autonomous District. Staff is deliver by aircraft and helicopters of Arkhangelsk aviation enterprises JSC “Nordavia — regional airlines” and JSC “2-oy Arkhangelskyi obedinenniy aviaotryad”.

Establishement of clusters, territories with special regime of economic activity, the National Arctic transport lines and the Arkhangelsk port hub will contribute to the development of the Northern Sea Route, greater engagement of available resources in the economy and social development of the northern territories. Of course, we understand that there should operate a *complex social infrastructure*, that creats the conditions for people in the northern regions of Russia, including our Arkhangelsk region. In order to make people stay in north, there is a need in serious motivating factors associated with the level of wages, housing, increased size of the mothers’ capital, greater leisure activities and etc. The solution of social problems and accumulation of human capital is in the focus of Arkhangelsk Regional Government, but, unfortunately, not everything depends on us, especially in the context of the ongoing crisis and the devaluation of ruble.

Modernization of the Arctic management

The region has successfully implemented project of *modernization of the Arctic management*. Thus, an important project to improve governance is innovations in the management of a such well-known Arctic territory as the Solovetsky Islands. The Solovetsky archipelago Project Management Department of the Arkhangelsk regional administration developed a special control mechanism called *“Five Keys”*, in order to provide harmonic co-existence and development of the three main subjects of management: the Solovetsky Monastery, a federal museum and municipal administration. Patriarch of Moscow and All Russia Kirill, the head of the Presidential Administration of the Russian Federation Sergey Ivanov and Governor of Arkhangelsk Region Igor Orlov decided to establish a mechanism of *“five keys of Solovki”*. An agreement was reached between the Solovetsky men’s monastery, Solovetskiy state museum, the Government of the Arkhangelsk region, Primorsky municipal area and rural settlement “Solovki” on general principles of life and management of the island.

In the area we observe the implementationof the *“Solovki development starategy”*, adopted in 2013 and amended in July 2015. The government of the region is to develop a *project man-*

agement program, which is planned to be used for the control over the restoration on the Solovki islands. This unique experience of interaction between church and secular authorities in the development of Arctic area was even approved by UNESCO.

Today there is one more ongoing interregional cooperation project means the establishement of the association of interregional urban districts and municipal areas of the Russian Arctic — "Arctic municipalities". The initiative of the Government of the Arkhangelsk Region was supported by the Security Council of the Russian Federation. The Memorandum of Association was signed in Arkhangelsk on the 15th of December 2014; association members are Severodvinsk municipalities of the Polar area of the NAD and the Primorsky region [6]. Later, the decision to join the association was taken by six more municipalities of the Arkhangelsk region and the Komi Republic. In February 2015 it was officially registered. The association allows interaction of federal and regional authorities and will become a platform for the local positioning of the Arctic municipalities in the tourism sector, economic, scientific, technical and cultural cooperation, exchange of experience, study and promotion of the best practices, cultural exchange and cooperation in education, public health and sports.

The territories, islands and water areas of modern Arkhangelsk Region were included into the AZRF by not only the astronomical (Polar Circle), physical-geographical and bioclimatic approaches, but also by a long-standing historical and cultural traditions of our region, its geopolitical importance and by the social and economic approaches. The Russian Arctic consists of seven municipalities: "Town of Arkhangelsk", "Mezensky municipal district", "Novaya Zemlya", "Town of Novodvinsk", "Onega municipal district", "Primorsky municipal district" and "Severodvinsk". Towns of Arkhangelsk, Severodvinsk and Novodvinsk form Arkhangelsk—Severodvinsk metropolitan area, the so-called "*Great Archangelsk*", where more than 576,000 people, or nearly one-fifth of the total population of the Russian Arctic, live.

The Russian Arctic also includes the islands of Novaya Zemlya archipelago (2 large islands and many small ones), 192 islands of the Franz Josef Land archipelago, more than 100 islands of the Solovetsky archipelago. Since the end of the XX century the Arkhangelsk region management structure has a municipal district "Novaya Zemlya". It's *the most northern city district and the most populated island in the Russian Arctic*. In 2013 the population of the Novaya Zemlya was 2 623 people, 1736 of them were military men, 603 — civilians and 284 — children. Municipality "Rural area of Solovki" is a part of the Primorsky Municipal District and it is located on eight islands in the White Sea, the area of 28,829 hectares with 6 settlements, inhabited by 898 people (2014).

Since 2009—2010 the Arctic archipelagoes of Novaya Zemlya and Franz Josef Land are a part of a national park “Russian Arctic” in order to preserve cultural and natural heritage of the Western sector of the Russian Arctic. In addition to the development of the Arctic tourism and protection of cultural and natural heritage the national park “Russian Arctic” fulfills an important mission to minimize the environmental damage. Cleaning the area of the Novaya Zemlya and Franz Josef land is done under the leadership of the NP “Russian Arctic”. Arter five years of the Arctic “cleaning”, the most “hot” spots in terms of ecology at the Franz Josef Land have been removed. All the dangerous objects were removed or cleaned, including oil products stocks located in coastal zone and therefore prone to severe erosion that cosed a threat of ecological disaster.

Russian North preserves the cultural and historical traditions

In general, the Arkhangelsk region is not only a region that generats new ideas and projects, but it also preserves the cultural and historical traditions of the Russian North. A special role of the region is traditionally caused by its geographical location of the seaports on the coast of the White Sea, justified by the inclusion of a number of municipalities in the Arctic Zone of the Russian Federation and past and the present industrial and cultural development of the area. It is uniquely positioned to implement the Arctic projects in many spheres of life, and seek for making the most of them.

Historically Arkhangelsk, founded in times of the Veliky Novgorod as a monastic settlement at the end of the 14th century, has transformed to the Arctic Sea port of the Russian centralized state, the All-Russian Centre for Trade and ship building and the home of the Naval Fleet of Russia. One and a half centuries, since the middle of the 16th century and until the founding of St. Petersburg in 1703 Arkhangelsk was the only Russian “window” to Western Europe, the main source of fees and the country's customs revenue. The Northern Sea Route from Europe through the Barents and White Seas went to Arkhangelsk and then to the Severnaya Dvina trade route to the central regions of the country and after that via the Volga River to the Caspian Sea, and then to Persia and other countries of the East, via so-called “The way from England to Persia” [7, p. 215]. Hundreds of Arctic expeditions sailed off from Arkhangelsk berths to the polar areas.

Historical traditions are preserved and are still ongoing. The shores of the White Sea that enters the Arctic Ocean are full of sea ports that today are officially included in the register of the Russian sea ports in the Western Arctic: Arkhangelsk, Mezen, Onega and Kandalaksha. Two more ports Varandey and Naryan-Mar are referred to the Nenets Autonomous District, historically and geographically constituting a unit with the Arkhangelsk region, and previously with the Arkhangelsk province. Thus among 12 seaports, included in the register of the Western Arctic, a half has a

direct relation to the Russian North. Even Murmansk Commercial Seaport was founded in 1915, when Alexander County had been a part of the Arkhangelsk province.

One of the oldest maritime transport enterprises in the Arctic is the Northern Shipping Company, dating back to the 1870 and the "Commodity society of the White Sea and Murmansk Shipping Company". In 1940—1980s Arkhangelsk had a control over the Northern Sea Route. Since June 2013 in Arkhangelsk we have the FGKU branch "Administration of the Northern Sea Route". The transportation and logistics attractiveness of the region is growing together with the caro growth, means the continued development of the Arctic traditions and new perspectives for Arkhangelsk, a town that opened Arctic to Russia and Europe and will once again occupy a worthy place in the Northern Sea Route development, Arctic National transportation line "Belkomur" and all the Arctic zone of the Russian Federation.

Economically, the Russian North has become one of the first industrial developed district of the Russian Arctic. For 170 years (1693—1862) the stocks of the Solombalskaya ship-building yard and Arkhangelsk Admiralty constructed 585 military vessels and military transport ships. Pomor shipbuilding was developed in the settlements on the shores of the White Sea; merchant ships were built on private shipyards owned by a merchant Bazhenov in Vavchuga on the Northern Dvina. The best traditions of Russian shipbuilding are being continued in 20th—21st centuries by the advanced domestic defense industry: "Sevmash", "Zvezdochka" and "Arktika". In 1939—2010 the "Sevmash" gave the Navy of the country 132 nuclear submarines, 36 diesel-electric submarines and 45 surface ships[4]. Some unique nuclear submarines and ships are among them [8].

Today, Arkhangelsk region, as it was in the past, played a significant role in the economic, political and cultural development of the country, in strengthening its defense capabilities and the development of cross-border cooperation. Here in the area there are: a Russian cosmodrome "Plesetsk", the only diamond deposits in Europe, the largest Russian enterprises of timber processing and wood chemistry, the Russian shipbuilding industry, a unique complex of natural and historical-cultural heritage. The region has a developed infrastructure: airports of international and regional air service, sea and river ports, water, road and railway hubs.

Conclusion

In conclusion it should be noted that the constant search for and promotion of investment projects and their monitoring, informational partnership, establishment of the Arctic projects bank (business ideas, investment projects, business plans, master plans and etc.) will be continued. We

[4] Sevmash: Osnovnye napravleniya deyatelnosti. URL: http://www.sevmash.ru/rus/sevmash.html (Accessed: 06 January 2016).

are talking about the Arctic project portfolio, not only federal one, but also regional and municipal. At the moment we have not yet worked out an open, understandable and accessible system of development, searcing and selection of long-term, medium-term and short-term projects for the Arctic. If such a system is established for the selection of projects for inclusion in the federal program, the target state and regional programs, to some extent such a system is still is closed to the taxpayers, Arctic stakeholders and media, which is not conducive to effective spending of budgetary funds.

Existence of problems in this field is proven by a great number of discussions at scientific conferences and by the assessment of the situation in the media and publicism. In particular, as it was noted by Y. V. Neyolov, V.A. Lamin, V.Y. Malov and other authors of the monograph "Trajectorii proektov v visokih shirotah" that there were no urgent need to study Arctic zone as a priority area for living and development, due to its doubtable boundaries that were causing heating debates. The authors of the monography emphasized that the project management approach had historically proven itself, even regional infrastructure projects of the past years had not lost their relevance until the present day [9, p. 263, 343].

We are ready and waiting for the most positive outcome of the discussions at the meetings of the Presidium of the State Commission on Arctic development in 2016 is and it is not only the new draft of State program "Social and economic development of the Russian Arctic for the period till 2020"; the "List of priority projects implemented on the territory of the Russian Arctic, and measures to ensure their implementation", but also "On the implementation of the project "Railway Belkomur" and "Arkhangelsk deep-water sea port"[5]. We consider it necessary to establish National arctic container line with support hubs not only in Murmansk and Petropavlovsk-Kamchatsky, but also in Arkhangelsk and Vladivostok.

The age-old experience of northerners in the industrial development and shipping in polar conditions is invaluable. That is why our region rightfully occupies a leading position in the realization of many significant Arctic projects. Arkhangelsk is the key to the Arctic and a town with the richest potential ready for the implementation of projects in the national interest of Russia. Arkhangelsk region is becoming one of the main "supporters" throughout this work.

References

1. Kalistratov N.Ya. «Zvezdochka» Arkticheskogo regiona. *Arkticheskie vedomosti*. 2015. № 3 (14). pp. 156—161.

[5] Plan raboty Gosudarstvennoj komissii po voprosam razvitiya Arktiki i eyo prezidiuma na 2016 god. URL: http://www.arctic.gov.ru/FilePreview/fb17f492-73a4-e511-80c7-9cddd716059e?nodeId=7a70427c-ea71-e511-80bf-e14c6e493e30 (Accessed: 03 June 2016)

2. Borodin V.V., Kalistratov N.Ya., Larionov A.V., Nikitin V.S., Popov V.M., Rusanov A.V. O so-zdanii i razvitii specializirovannoj verfi «Arktika — shelf». *Arktika i Sever*. 2014. №17. S.6. URL: http://narfu.ru/upload/iblock/27c/01-_-borodin-i-dr.pdf (Accessed: 07 January 2016).
3. Orlov I.A. Les — resurs, opredelyayushhij razvitie Arhangelskoj oblasti na stoletiya vperyod. *LesPromInform*. 2015. №3(109). URL:http://lesprominform.ru/jarchive/articles/itemshow/4038 (Accessed: 30 January 2016).
4. Pavlenko V.I. *Novyj centr issledovanij Arktiki budet orientirovan na potrebnosti arkticheskih regionov*. URL: http://pro-arctic.ru/23/09/2015/news/18291 (Accessed: 08 January 2016).
5. Grishhenko I.V. Osobennosti gidrometeorologicheskogo obespecheniya ekonomiki i naseleniya Arkticheskogo regiona. *Konkurentnyj potencial severnyx i arkticheskix regionov: sb. nauchnykh trudov* / Otv. red. d.e'.n. V.I. Pavlenko. Arhangelsk, 2014. 191p.
6. Gmyrin M.A. Pervye lica Rossijskoj Arktiki: «Associaciya «Arkticheskie municipalitety» — dlya zashhity interesov naseleniya. *Arktika i Sever*. 2015. № 19. pp.17—23. URL: http://narfu.ru/upload/iblock/af6/02-_-gmyrin.pdf (Accessed: 06 January 2016).
7. Lukin Yu.F. *Novaya Arhangelskaya letopis*: monografiya. 2-e izd., ispr. i dop. Arhangelsk: SAFU, 2015. 324 p.
8. Spirikhin S.A. *Nadvodnye korabli, suda i podvodnye lodki postrojki zavoda № 402— OAO «PO «Sevmash» (1942—2009).* Spravochnik. Izd.4-e, ispr. i dop. Severodvinsk: OAO «Severodvinskaya tipografiya», 2009. 284 p.
9. Traektoriya proektov v vysokih shirotah/ed: Yu.V. Neyolov, A.V. Arteev, V.A. Lamin, S.E. Alekseev, V.Yu. Malov. Novosibirsk: Nauka, 2011. 440 p.