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Brief article

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Arctic Agenda of SPIEF 2023 — Digital, Economic, Environmental, and Socio-Cultural Aspects

Diana S. Timoshenko ^{1⊠}, Cand. Sci. (Econ.), Senior Researcher

Abstract. The article summarizes the results of the 26th St. Petersburg International Economic Forum (SPIEF-2023), which took place in St. Petersburg from June 14 to 17, 2022. V. P. Zhuravel, Head of the Centre for Arctic Studies of the Institute of Europe RAS, is a permanent member of the Forum. In 2023, he attended the meetings of all 15 events of the "Arctic: Territory of Dialogue" program. The article deals with issues that were widely discussed at SPIEF-2023, related to the prospects and opportunities for international cooperation, social, economic and investment development of the Arctic regions, Arctic biodiversity, development of specially protected natural areas, northern cities, human resources, scientific and educational potential of the Arctic, branding of the northern regions, digitalization of the northern territories. All these topics are widely covered by the CAS IE RAS scientific group on a regular basis. The author also analyses the development of the tourism, culture, and film industries in the Arctic with a focus on the promotion of Arctic topics in the media. Speakers of the thematic sections emphasized the increasing role of the Arctic in the social and economic development of the Russian Federation, noted the negative consequences of limiting the activities of the Arctic Council. The forum was held under the slogan "Sovereign development is the basis of a just world. Let's join forces for the sake of future generations".

Keywords: Russia, Arctic, economy, international cooperation, regional development, digitalization, science, investment projects, tourism, ecology, protected areas, professional personnel, CAS IE RAS

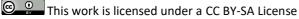
Introduction

This article is part of the anthology of scientific articles by the Centre for Arctic Studies of the Institute of Europe RAS and represents a logical continuation of the annual analytical review of the results of the Arctic segment of the St. Petersburg International Economic Forum. The annual review is conducted by the Centre for Arctic Studies of the Institute of Europe of the Russian Academy of Sciences under the charge of leading researcher V.P. Zhuravel [1]. This work reflects the digital, economic, environmental and socio-cultural aspects of the Arctic agenda of the St. Petersburg International Economic Forum 2023. The CAS IE RAS team continues its scientific work on researching aspects of security, socio-economic development and international cooperation in the Arctic in tandem with leading contemporary scientists who study Arctic issues [2, Lukin Yu.F.; 3].

Arctic agenda of the Forum

Arctic topics occupied a significant place in the work of the Forum. V. P. Zhuravel, head of

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¹Institute of Europe, Russian Academy of Sciences, ul. Mokhovaya, 11-3, Moscow, Russia

¹ artemideus@gmail.com [⊠], ORCID: https://orcid.org/0000-0002-2780-6464

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the CAS IE RAS research group, is a permanent member of the Forum. In 2023, he attended all 15 events of the "Arctic: Territory of Dialogue" program for 4 days. At SPIEF 2023, the prospects and opportunities for international cooperation with Asian countries, issues of Arctic biodiversity, specially protected natural areas, development of the Northern Sea Route, human capital, Arctic cities, scientific and educational potential of the Arctic, and digitalization of the northern territories were widely discussed. Leaders of the Arctic regions of the Russian Federation presented new investment projects of their regions. Events dedicated to the development of tourism, branding, and promotion of Arctic themes in the media and film production have become significant.

The speakers at these events were the Minister of the Russian Federation for the Development of the Far East and the Arctic A.O. Chekunkov, heads of subjects of the Arctic zone of the Russian Federation: Governor of the Murmansk Oblast A.V. Chibis, Governor of the Arkhangelsk Oblast A.V. Tsybulskiy, Governor of the Nenets Autonomous Okrug Yu.V. Bezdudnyy, head of the Yamalo-Nenets Autonomous Okrug D.A. Artyukhov, Head of the Republic of Sakha (Yakutia) A.S. Nikolaev, head of the Komi Republic V.V. Uiba, Head of the Republic of Karelia A.O. Parfenchikov, Acting Governor of the Chukotka Autonomous Okrug V.G. Kuznetsov, as well as officials of the Ministry of Natural Resources, the Ministry of Transport, the Ministry of Education and Science of Russia, the Russian Academy of Sciences, the State Atomic Energy Corporation Rosatom, heads of large industrial enterprises, business structures, the Association of Indigenous Peoples of the North, Siberia and the Far East.

The speakers emphasized the increasing role of the Arctic in the socio-economic development of the Russian Federation and its regions and noted the negative consequences of limiting the activities of the Arctic Council.

Digital, economic, environmental and socio-cultural aspects

The session "Conservation and Monitoring of Arctic Biodiversity", which took place within the framework of Russia's chairmanship of the Arctic Council (AC), discussed the impact of climate change, thawing of permafrost, the formation and development of integrated monitoring of ecosystems in the Arctic, the use of modern technologies, aspects of public-private partnerships, and the initiation of special climate norms in the legal field. Considerable attention was paid to the preservation of Lake Baikal.

The moderator of the session was I.Yu. Makanova, Director of the Department of State Policy and Regulation in the Development of Specially Protected Natural Areas of the Russian Ministry of Natural Resources. Discussion participants were: N.Yu. Belyakova, Director of the Department of Expedition Activities and Tourism Development of the Russian Geographical Society (RGS), E.I. Kompasenko, Head of the Department for Labor Protection, Industrial Safety and Environmental Protection of JSC Zarubezhneft, O.N. Krever, Deputy Director of the FSBI "Roszapovedtsentr" of the Ministry of Natural Resources of the Russian Federation, E.V. Matveeva, Coordinator of the subcommittee on the protection of Lake Baikal of the State Duma of the Federal Assembly of the

Russian Federation, E.A. Perfilyev, acting Minister of Ecology, Nature Management and Forestry of the Republic of Sakha (Yakutia), R.L. Romanenkov, Deputy General Director 2 State Secretary of the ANO Center "Arctic Initiatives", S.S. Seleznev, Vice President for Ecology and Industrial Safety of PJSC MMC Norilsk Nickel, Paul Foose, Honorary President of the Alaska Marine Exchange and N.V. Shabalin, Executive Director of the Marine Research Center, Moscow State University named after M.V. Lomonosov.

The species diversity of the Arctic amounts to 20 thousand organisms, most of which are listed in the Red Book of Russia. The Russian Arctic currently has 40 specially protected natural areas (SPNA), the most significant of which are 14 nature reserves, 10 national parks and 8 wildlife sanctuaries. "And they are entrusted with the task of preserving biodiversity... SPNA are managed by 19 institutions under the jurisdiction of the Russian Ministry of Natural Resources, and they employ almost 1,300 specialists," stated O.N. Krever, Deputy Director of the FSBI "Roszapovedtsentr" of the Ministry of Natural Resources of the Russian Federation. Olga Nikolaevna Krever also highlighted the "know-how" of the USSR — the scientific report of the nature reserves "Chronicle of Nature", the first of which in the Arctic began to be compiled in the Kandalaksha Nature Reserve in 1932. When it came to polar bears on Wrangel Island, the moderator noted that "the country should have such a methodology that the same bear is not counted twice, that is, we need to see the processes occurring in nature." It concerns an integrated monitoring system, and UAVs can help with this.

S.S. Seleznev drew the attention of his colleagues to the cooperation of PJSC MMC Norilsk Nickel with 15 institutes of the Russian Academy of Sciences to study the processes of industrial production and transport damaging the Arctic nature.

US Representative Paul Foose noted that the planned increase in ship traffic in the Bering Strait will disrupt the ecology in the area and the habitual way of life of fur seals. It is necessary to achieve a balance between economy and nature.

The active development of SPNA was facilitated by the implementation of the federal project "Preservation of biological diversity and development of ecological tourism" of the national project "Ecology" since 2018, as well as the competitive program launched in tandem with it for the creation of tourist and recreational clusters and the development of ecotourism in Russia. The program, initiated in 2020 by the Agency for Strategic Initiatives with the support of the Ministry of Natural Resources of the Russian Federation, the Ministry of Economic Development of the Russian Federation, the Ministry of Eastern Development of the Russian Federation and the Federal Agency for Tourism, provided for an all-Russian competition for the creation of tourist and recreational clusters (TRC) and the development of ecotourism in Russia [4, Timoshenko D.S.]. At the Forum session, it was proposed to amend the law "On Environmental Protection" and consider SPNA as unique model sites for environmental monitoring. Problems of climate and ecology in the Arctic are discussed in the monograph of the CAS IE RAS, which emphasizes the importance of en-

vironmental engineering and biodiversity conservation in the North from the perspective of national security [3].

One of the sessions at the Arctic stand was dedicated to filmmaking — "Film Production in the Arctic: A Dialogue between Nature and Technology". Participants reported that over the past few years, film production has brought about 9 billion rubles to the region. Filmmaking contributes to the inflow of tourists and investment, the construction of infrastructure, and the conservation of species and culture. At the same time, film production processes can become a threat to the ecology of the Arctic. Currently, large-scale filming of the series "Chelyuskin" about the development of the Northern Sea Route is underway in the Arctic. The section discussed issues of sustainable film production in the Arctic and balance with nature conservation, measures to reduce and compensate for damage caused during filming, environmental requirements and standards necessary to preserve the vulnerable nature of the North, formats of practical cooperation with NPOs and indigenous peoples in film production.

The session was moderated by D.V. Pristanskov, State Secretary — Vice President for Relations with Government and Management Bodies of PJSC MMC Norilsk Nickel. The participants included B.Yu. Bulychev, blogger, Head of the ANO "Center for Support and Development of Expedition Activities and Tourist Attractiveness of Regions 'RGO Expo'"; E.V. Dyagileva, Deputy Governor of the Murmansk Oblast; S.A. Korshunov, director; A.A. Melnik, producer of the film "Territory"; I.A. Neverov, acting General Director of the FSUE "State Trust 'Arktikugol'"; A.S. Nikolaev, Head of the Republic of Sakha (Yakutia); N.V. Novikov, Secretary of the Presidium of the Council of Heads of Representative Offices of Russian Regions under the President of the Russian Federation and the Government of the Russian Federation; member of the board of the Regional Cinema Support Fund of the Union of Cinematographers of Russia; S.Yu. Soldatova, director, producer of the ANO "Production Center 'Northern Character'"; D.A. Tabarchuk, General Director of LLC "NMG Studio"; D.M. Yakunin, Russian producer, executive director of the youth center of the Union of Cinematographers of Russia; Deputy Executive Director of the Regional Cinema Support Fund.

A.S. Nikolaev expressed the opinion that Yakutia's experience and potential as a center for preservation and development of traditional culture and crafts of the peoples of the North is important for Russia's cultural dominance in the world Arctic and promotion of Russia's cultural code in the circumpolar space. The head of the Republic of Sakha (Yakutia) also said that the multifunctional film pavilion would be the only full-cycle film technology center in the Far East, and its core would be Russia's largest virtual film pavilion ¹. N.V. Novikov put forward the idea that it is necessary to film in the regions, considering regional cinema as a cultural support for business projects, as well as the great role of working with young screenwriters and directors locally. It is important to be able to write scripts and make films about the Arctic and tourist attractions in the northern regions.

¹ V Yakutii postroyat mnogofunktsional'nyy kinopavil'on [A multifunctional film pavilion will be built in Yakutia]. URL: https://www.sakha.gov.ru/news/front/view/id/3359734 (accessed 20 June 2023).

The session "New Opportunities for the Development of Arctic Cities" ² was attended by representatives of federal and regional authorities, development institutes, and large companies. The session was moderated by A.V. Finogenov, Director for Urban Development of JSC DOM.RF. The participants included E.A. Akhmeeva, First Deputy Chairman of the Government of the Komi Republic, A.M. Grachev, Vice President for Federal and Regional Programs of PJSC MMC Norilsk Nickel; A.S. Dovlatov, Deputy Chairman of VEB.RF; P.A. Kudryavtsev, founder of Citymakers; E.R. Nurgalieva, Deputy Minister of the Russian Federation for the Development of the Far East and the Arctic; R.V. Trotsenko, founder, chairman of the board of directors of AEON Corporation; A.V. Chibis, Governor of the Murmansk Oblast.

E.R. Nurgalieva, Deputy Minister of the Russian Federation for the Development of the Far East and the Arctic, opened the session by announcing the allocation of about 8 billion rubles for the next three years to develop master strategies for the development of cities in the Arctic zone of the Russian Federation ³.

New opportunities for the development of Arctic cities in the Russian Arctic were considered as a driver for the formation of a supporting framework for the development of the Arctic. Key approaches to the development of master plans and strategic projects, balances between city-forming enterprises and the development of a modern service urban economy, processes for launching sustainable mechanisms for interaction between "Arctic business captains" and authorities were discussed. In this regard, the audience was interested in the speech of the Director of the Department for the Development of the Arctic Zone of the Russian Federation and the Implementation of Infrastructure Projects of the Ministry of Eastern Development of Russia M.A. Dankin, who shared his accumulated experience in this area.

A.V. Chibis, Governor of the Murmansk Oblast, emphasized the importance of implementing the mechanism for creating master development plans, identifying anchor cities in the Arctic and multiplying federal support, such as the "Unified Subsidy" in order to accelerate the dynamics of urban development and attract people ⁴. The head of Norilsk D.V. Karasev announced the approval of a comprehensive development plan for Norilsk until 2035 ⁵, noting that Murmansk and Norilsk are the largest Arctic cities in the world.

³ Gorodam Arkticheskoy zony Rossii na blizhayshie tri goda vydelili okolo 8 mlrd rubley [About 8 billion rubles have been allocated to the cities of the Arctic zone of Russia for the next three years]. URL: https://tass.ru/ekonomika/18013965 (accessed 28 June 2023).

² SPIEF-2023: The Arctic: Territory of Dialogue. URL: https://forumspb.com/programme/arctic/111143/ (accessed 28 June 2023).

⁴ Na PMEF obsudili «Novye vozmozhnosti arkticheskikh gorodov» ["New opportunities for Arctic cities" were discussed at SPIEF]. URL: https://invest.nashsever51.ru/list_item/news/na-pmef-obsudili-novye-vozmozhnosti-arkticheskikh-gorodov (accessed 30 June 2023).

⁵ Dmitriy Karasev: «Gorod menyaetsya, i bukval'no cherez 20 let eto budet novyy Noril'sk» ["The city is changing, and literally in 20 years it will be a new Norilsk"]. URL: https://24rus.ru/news/power/206742.html?%20utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3 A%2F%2Fdzen.ru%2Fnews%2Fsearch%3Ftext%3D (accessed 28 June 2023).

In order to conduct a detailed and objective analysis of the problem, it is worth taking into account the developed methods for assessing critical factors that limit the development of single-industry towns in the Russian Arctic [5, Korchak E.A.].

On June 15, 2023, the second day of the SPIEF-2023 "Arctic-Territory of Dialogue" stand program, the session "Development of the Scientific and Educational Potential of the Arctic" was opened. The participants discussed the issues of ensuring access to quality education in the Arctic zone of the Russian Federation in the new geopolitical conditions and the situation of suspension of membership of Russian universities in the Association of Arctic Universities "UArctic", as well as further development of international scientific and educational cooperation in modern realities. The speakers analyzed the most popular and necessary professions and specialties in the near future in the Russian Arctic, raised issues of the relationship between the implementation of strategic projects and the development of science and education, considered the best practices and forms of interaction between educational and scientific organizations with stakeholders (state level, regional needs, investors). In order to preserve and increase the scientific and educational potential, the activity of the Association "National Arctic Scientific and Educational Consortium" was presented, which is aimed at monitoring the accessibility of the education sector of the Russian Arctic and international cooperation with partners from friendly countries.

The session was moderated by G.D. Hasanbalaev, Executive Director for Social Development of JSC Far East and Arctic Development Corporation. The participants included A.I. Bondar, Director of the Department of Educational, Scientific and Technical Activities of the Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters; E.V. Dyagileva, Deputy Governor of the Murmansk Oblast; D.A. Kryachkova, Vice President for Personnel Policy of PJSC MMC Norilsk Nickel; Yu.F. Sychev, Deputy General Director for work with scientific organizations "Arktikugol"; M.V. Gordin, Rector of Moscow State Technical University named after N.E. Bauman; I.V. Vorotyntsev, acting Rector of the Russian Chemical-Technological University named after D.I. Mendeleev; E.V. Kudryashova, Rector of the Northern (Arctic) Federal University named after M.V. Lomonosov; A.N. Nikolaev, Rector of the North-Eastern Federal University named after M.K. Ammosov. Mr. Gao Tianming, Professor, Director of the Arctic Blue Economy Research Center at Harbin Engineering University of China and Ms. Li Xin, General Director of Beijing Jining Technology Company / Joinyea education & technology Co.Itd participated online.

E.V. Dyagileva presented the scientific and educational potential in the development of infrastructure of universities in the Murmansk Oblast. Professor E.V. Kudryashova, speaking about the Arctic cooperation of universities on the basis of the conducted research, said that, according to the Ministry of Eastern Development, about 28 thousand specialists are required for the existing Arctic projects today. At the same time, about 6 thousand are highly productive jobs. Until 2035, according to the development strategy of the Russian Arctic, up to 180 thousand specialists will be required to be employed in the Arctic, including professionals in the field of new economy,

artificial intelligence, robotization, etc. She also noted that "today, there are 19 universities and their branches and about 96 vocational education institutions, which, in terms of budget places, covers only 59% of school graduates in the Russian Arctic. Therefore, the tasks that the Russian Arctic faces today cannot be fulfilled under the existing infrastructure. In this regard, it is possible to focus on cooperation." Rector of NArFU E.V. Kudryashova also made a presentation of the scientific and educational consortium of Arctic universities NAREC — "National Arctic Research and Educational Consortium", formed within the framework of the conference "The Arctic — a national megaproject: staffing and scientific support", which was held on June 5–7, 2016 on the basis of the Northern (Arctic) Federal University named after M.V. Lomonosov (NArFU). She also reported on the possibility of developing a scientific and technological map of the Russian Arctic on the basis of NAREC to help employers, on joint network educational programs, student mobility programs, educational programs for indigenous minorities, motivation and stimulation of scientific research on Arctic topics. Professor E.V. Kudryashova confirmed the readiness of NArFU to become the flagship of scientific and technical developments for the entire region.

D.A. Kryachkova noted that currently there are two vacancies per one good CV. At the same time, the Norilsk Nickel corporate educational university has about 900 educational programs that help employees master new competencies in the process of work, career guidance for children and their parents is carried out, cooperation with universities is developed, the possibility of providing professional corridors, production case championships "Conquerors of the North", the "Professional Start" program, attracting more residents to Norilsk. Yu.F. Sychev announced the initiative to organize a scientific and educational center (a research complex and an Arctic educational center) on the Spitsbergen archipelago in the Russian village of Pyramida, the main goal of which will be to create opportunities for international scientific cooperation between the BRICS countries, the SCO and other countries friendly to Russia.

It was also noted at the session that Ammosov University (NEFU) initiated a new model of international cooperation "Arctic – Asia" with the aim of creating research ties between leading scientific and educational organizations of Russia, China, India, as well as, together with the international organization of northern regions "Northern Forum", creating the Russian-Asian Consortium for Arctic Research (RACAR). The agreement on the establishment of the consortium was signed on November 28, 2022 ⁶.

CAS IE RAS researches personnel problems in the Arctic on a regular basis and publishes the results obtained, including in foreign publications. Thus, the staff of the CAS IE RAS is conducting scientific work to improve the proposed mechanism for managing the personnel policy of the Arctic in modern geopolitical conditions and in accordance with the strategic objectives of the state [7, Timoshenko D.S.].

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⁶ Razvitie nauchno-obrazovatel'nogo potentsiala Arktiki [Development of scientific and educational potential of the Arctic]. URL: https://roscongress.org/sessions/spief-arctic-2023-razvitie-nauchno-obrazovatelnogo-potentsiala-arktiki/about/# (accessed 20 June 2023).

During the session "Investment Potential of the Russian Arctic", the heads of the Russian Arctic presented the main projects of their regions.

Governor of the Murmansk Oblast A.V. Chibis focused on the construction of the Murmansk transport hub, the gas agreement with Gazprom, and emphasized that 900 billion investments have been made over four years: "the region ranks second in the Northwestern Federal District in terms of investment growth, third in GRP growth, and is the leader in the number of residents of the Russian Arctic".

Within the framework of SPIEF, the Governor of the Nenets Autonomous Okrug Yu.V. Bezdudny held a working meeting with A. Molskiy, member of the board, deputy for investments and capital construction of PJSC Rosseti, during which they discussed the pre-design stage of justification for the construction of high-voltage overhead power lines from the Komi Republic to Naryan-Mar. Agreements were signed between the Administration of the Nenets Autonomous Okrug, the Far East and Arctic Development Corporation and LLC NORD-GROUP on the reproduction of wild salmon, as well as on the joint development of unmanned aircraft between the State Transport Leasing Company and the Administration of the Nenets Autonomous Okrug.

Head of the Chukotka Autonomous Okrug V.G. Kuznetsov said that eight agreements on infrastructure projects with a total investment volume of 25 billion rubles (the largest is the Chukotskiy greenhouse complex) are being signed within the framework of the forum.

Head of the Republic of Karelia A.O. Parfenchikov signed an agreement with the general director of PC Geoplast on the production of polymer pipes for utility networks on the premises of the former Nadvoitskiy aluminum plant, located in the Arctic zone of Karelia. The project involves investing 900 million rubles and creating 120 new jobs.

Head of the Komi Republic V.V. Uiba reported on successful negotiations with the Republic of Tatarstan on the use of experience in organizing the work of a management team, construction and creation of new residential complexes and infrastructure. An agreement was reached with the Republic of Dagestan on a joint project for the construction of a children's recreation camp.

Head of the Republic of Sakha (Yakutia) A.S. Nikolaev reported that within the framework of the Forum, the regional delegation signed 12 major agreements in strategically important areas related to the development of the region's transport system, the introduction of new IT technologies, and reducing the cost of northern deliveries. One of the most important results of SPIEF for the republic's economy is the agreement with PJSC Tupolev on the purchase of new passenger aircraft. By 2030, the company will build and supply 12 Tu-214 midrange narrow-body airliners for Yakutia Airlines. An agreement was signed with JSC GLONASS on the development of a satellite system in the region. An agreement was reached with the Chairman of the Board of Sberbank Herman Gref to open in Yakutsk the country's fifth campus of School 21 to train IT specialists. The head of the republic drew attention to the further development of the "Children of Asia" project.

Governor of the Arkhangelsk Oblast A.V. Tsybulskiy and General Director of Rosseti North-West A.Yu. Pidnik signed an agreement on cooperation to develop electricity supply and improve

energy efficiency. By the end of 2023, the company will conduct an energy audit of 20 hospitals, educational institutions and kindergartens in the Arkhangelsk Oblast and will modernize the lighting system of socially significant institutions in the region. Rosseti North-West plans to invest 1.6 billion rubles in the power grid infrastructure of the Arkhangelsk Oblast in 2023 as part of the investment and repair program.

On June 16, 2023, the session "Russian Arctic — The Center of Gravity. SPNA of the 21st Century" was held. The moderator was Yu.E. Bekhtereva, journalist, TV presenter and social and political figure. The participants included I.Yu. Makanova, Director of the Department of State Policy and Regulation in the Development of Specially Protected Natural Areas of the Russian Ministry of Natural Resources; D.A. Artyukhov, Governor of the Yamalo-Nenets Autonomous Okrug; O.A. Kuznetsova, Deputy Governor of the Murmansk Oblast, V.A. Fetisov, Goodwill Ambassador of the United Nations Environment Program (UNEP); N.V. Korchunov, Ambassador at Large of the Russian Foreign Ministry; A.M. Grachev, Vice President for Federal and Regional Programs of PJSC MMC Norilsk Nickel; A.G. Kirilov, Director of the FSBI "Russian Arctic National Park"; Glenn Diesen, Professor of the Department of Business, History and Social Sciences, University of South-Eastern Norway; B.Yu. Bulychev, blogger ⁷.

Glenn Diesen noted that in the era of "economic globalization" there is a problem of environmental protection opposing economic interests, which also contributes to understanding and implementation of business and territory sustainability strategies. I.Yu. Makanova cited statistics on the increase in the number of tourists and noted that the tourist flow in 2021 amounted to 103 thousand tourists in Arctic SPNA, in 2022 — 111 thousand visitors, as of June 1, 2023, 50 thousand visits were recorded in the Russian Arctic. According to her assessment, "...it should not be about ecological tourism, when we talk on a national scale, probably the goal of the Arctic is popular science and expedition tourism". According to N.V. Korchunov, the Arctic is experiencing serious climatic changes, it is opening up to economic activity, and all this exacerbates this pressure on nature. He also noted the importance of developing a comprehensive line of action integrating economic operators and regions.

In the context of promoting northern regions and SPNA for visiting and economic development, the session also discussed a mechanism for calculating the anthropogenic load of each protected area and the use of artificial intelligence for analytical activities. The successful practice of finding a balance between economic development and conservation of biodiversity in the Murmansk Oblast in the context of its expansion to neighboring regions was analyzed. Deputy of the State Duma of the Federal Assembly of the Russian Federation, UN Goodwill Ambassador V.A. Fetisov noted that it is necessary to correctly calculate the maximum recreational capacity and

⁷ Russkaya Arktika — tsentr prityazheniya. OOPT XXI veka [The Russian Arctic is the center of gravity. SPNA of the 21st century]. URL: https://roscongress.org/sessions/spief-arctic-2023-russkaya-arktika-tsentr-prityazheniya-oopt-xxi-veka/translation/# (accessed 20 June 2023).

permissible recreational load for the territory, and paid special attention to preserving the quality of life of the indigenous peoples of the North.

Since 2009, the author has repeatedly initiated research on these issues and proposed existing schemes for reasonable, balanced and comprehensive economic promotion and staffing of Russian regions, including within the framework of the implementation of northern strategies and in the context of the tense geopolitical and economic situation [10, Timoshenko D. S.; 11, Timoshenko D.S.].

During the session "Digital North: The Potential for Developing a DPC Network in the Northern Regions of Russia" 8, strategic issues of developing digital foundations in the Arctic were discussed. The issues of creating data processing centers, connecting sparsely populated and remote areas, and satellite coverage of the Arctic were discussed in detail. Internet connectivity and digitalization are now considered as important for the economic development of the region, for the future of the Russian Arctic and the development of the NSR, as electrification. The participants included Deputy Minister of Digital Development and Mass Communications of the Russian Federation Maxim Parshin, Minister of Innovation, Digital Development and Infocommunication Technologies of the Republic of Sakha (Yakutia) Anatoliy Semyonov, Director of the Center for Global IT Cooperation Vadim Glushchenko, Director of the Department for Development of the Arctic Zone of the Russian Federation and Implementation of Infrastructure Projects Maxim Dankin, Deputy General Director of Gazprom SCAIT Facility Sergey Masalov, Technical Director of Rostelecom-DPC Alexey Zabrodin and program manager of the Russian International Affairs Council Natalya Vyakhireva. The moderator of the session was the Deputy General Director for ICT projects in the Arctic zone of the Russian Federation of the ATOMDATA group of companies (part of the Electric Power Division of Rosatom), head of the interdepartmental working group of Rosatom for preparing the concept of the project for creating a trans-Arctic telecom operator, Roman Yakovlev.

Deputy General Director of Gazprom SCAIT S.A. Masalov made a report "Advanced space systems and services", in which he spoke about the area of interest of PJSC Gazprom in space. Sergey Anatolyevich Masalov said that the company's priorities are: 1) satellite communications and broadcasting through updating and expanding the Yamal constellation with Yamal-501 and Yamal-502 satellites (included in the Sphere project); 2) industrial safety and ecology through the development of geotechnical and environmental monitoring technology, the creation of the SMOTR-V remote sensing satellite constellation (included in the Sphere project), creation of the SMOTR-R radar constellation of satellites; 3) development and integration of space systems through the creation of an assembly plant for spacecraft and the development of a universal space platform. At the moment, given the current situation, maintaining the operation of the orbital constellation is becoming one of the highest priority tasks. In order to service the Arctic shelf and the Northern

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⁸ SPIEF-2023: The Arctic: Territory of Dialogue. URL: https://forumspb.com/programme/arctic/105491/ (accessed 11 July 2023).

Sea Route, it is planned to replace the Yamal-402 satellite, which will run out of fuel and will be decommissioned by 2025. Another important task is the creation of an assembly production facility for spacecraft, the commissioning of which is scheduled for the end of 2023. At the same time, the SCAIT design bureau is working on the creation of remote sensing satellites "SMOTR-V" weighing up to 800 kg and "SMOTR-R" weighing up to 600 kg, as well as the creation of a universal space platform with a mass of up to 350 kg and a service life of 7–10 years.

Technical Director of Rostelecom-DPC A.I. Zabrodin made a presentation "Effective methods for constructing data centers in cold climates", reporting on the main methods of cooling data centers (DPCs): 1) Cooling traditional data centers by switching off compressor equipment in winter (universal method). 2) Adiabatic method — effective in regions with a dry climate (Central Asia, most of the USA, etc.). 3) Thermal method — effective in regions with large volumes of fresh or salt water (most of Russia, Canada, Scandinavian countries). The speaker noted that limited communications do not allow the northern regions to use remote large data centers. The needs of the northern regions are not concentrated in one area, which limits the capabilities of commercial operators. Small data centers, in his opinion, are not profitable to build. Rostelecom's proposals are to create a technological base using mobile data centers with a pre-installed secure cloud infrastructure and thermal cooling; to work out the deployment of the IT infrastructure of cloud operators based on mobile data centers, taking into account the needs of the northern regions, including for the development of public services; to synchronize the development of data centers in the northern regions with the state program for the socio-economic development of the Arctic.

A.A. Semyonov, Minister of Innovation, Digital Development and Infocommunication Technologies, presented a report "Digital Development of the Republic of Sakha (Yakutia)". Anatoliy Askalonovich Semyonov presented a detailed plan for the digitalization of remote areas of Siberia, in particular, he announced the extension of up to 7000 kilometers of fiber-optic communication lines, through which over 72 thousand people in 86 settlements would receive Internet access. The implementation of these plans will make it possible to increase the growth of tourism by 2 times, online banking by 3 times, and Internet commerce by up to 4 times.

A number of works by modern scientists involved in the study of the Arctic are devoted to the problems of digitalization. For example, Kuratova L.A. proposed an index method of ranking the Arctic regions of Russia by the level of digitalization according to four sub-indexes: activities of households, population, authorities, and organizations. This made it possible to track the dynamics of indicators and evaluate the effectiveness of measures to develop the digital space of the regions [6, Kuratova L.A.]. This scientific work should be continued in order to objectively assess the dynamics of digitalization of the Russian Arctic in the modern period.

The session "Human Capital for the Conquest of the Arctic" discussed the possibilities of Russian universities in ensuring the implementation of the state strategy for the development of the Arctic, the features of education in high latitudes, the definition of key "supraprofessional" competencies for the Arctic, as well as the role of interuniversity associations in career guidance

for future and current specialists. The session was moderated by D.Yu. Guzhelya, Deputy General Director of the Autonomous Non-Profit Organization "Russia – Land of Opportunities". The key speakers were E.V. Kudryashova, Rector of the Northern (Arctic) Federal University named after M.V. Lomonosov; A.N. Nikolaev, Rector of the North-Eastern Federal University named after M.K. Ammosov; A.N. Nagibin, Head of the project office of the ANO Clean Arctic; R.V. Churaevskiy, Rector of Norilsk Nickel Corporate University; G.D. Hasanbalaev, Executive Director for Social Development of JSC Far East and Arctic Development Corporation.

Professor E.V. Kudryashova emphasized the importance of organizing systematic career guidance work starting from kindergarten, and the unity of career guidance with employers in the North, as well as its role in solving the problems of technological sovereignty. A unified system of continuous education and improvement of competencies, starting from the earliest preschool age and continuing throughout the life of a specialist, was developed and proposed by senior researcher of CAS IE RAS D.S. Timoshenko in 2021 and has been successfully implemented in whole or in part in many Arctic regions [7].

Over the past years, the Government of the Russian Federation has created favorable conditions for the development of the tourism sector in the Arctic regions of Russia. We have repeatedly emphasized that tourism should be considered as a factor of civilizational development, unity and cooperation [8, Timoshenko D.S.; 4, Timoshenko D.S.]. Issues of development of the tourism industry in the Arctic were discussed at several venues of the Forum in 2023. The session "Tourism in the Arctic: Points of Attraction, Prospects, People Creating Tourism Products" included a presentation by the Deputy Minister of the Russian Federation for the Development of the Far East and the Arctic E.R. Nurgalieva. As E.R. Nurgalieva reported at the Forum, residents are implementing 116 investment projects worth 38.6 billion rubles in order to boost the tourism sector, and "every fourth of the 4.8 thousand recipients of "hectares" opens a tourist or recreational proiect on their land" 9. According to her report, about 1.5 million people visited the territory in 2022, but there is no data in value terms about these visits and about the profit for the Arctic regions from tourism activities, as well as no information about the damage suffered by the territories from the organization of tours. The Head of the Republic of Sakha (Yakutia) A.S. Nikolaev noted the important role of subsidizing regional air routes and launching special programs for tourists, equalizing the load on tourism infrastructure during the season. A clear example of the synergy of tourism, ethno-cultural heritage, modern design, musical culture and cinema was the "Soul of Russia" festival, which demonstrated the best projects and achievements of the creative economy of the northern territories of the Russian Federation ¹⁰. The festival program included film screen-

⁹ Razvitie turizma v Arktike obsudili na panel'noy diskussii v ramkakh PMEF [The development of tourism in the Arctic was discussed at a panel discussion at SPIEF]. URL: https://gtrksakha.ru/news/2023/06/18/razvitie-turizma-v-arktike-obsudili-na-panelnoj-diskussii-v-ramkah-pmef/ (accessed 20 June 2023).

¹⁰ Festival "Soul of Russia". URL: https://forumspb.com/programme/soul-of-russia/; Full Festival program: URL: https://forumspb.content.rcmedia.ru/upload/uf/bcb/bcbe82b76d37dd18cbacc7cab52e1d62.pdf (accessed 20 June 2023).

ings, exhibitions, concerts, master classes and project presentations; the life and traditions of indigenous peoples of the North were demonstrated. Exhibition events of the "Soul of Russia" festival were held simultaneously in all Arctic regions of Russia (Fig. 1).

Having analyzed the "Soul of Russia" program, we can summarize that the organizers of the event focused on the Arctic orientation of the ethno-cultural, exhibition and tourism programs. Special attention should be paid to the Northern Cinema Festival, which included historical and premiere screenings of Arctic-themed films. Thirteen films were shown: "Women's Voice of the Arctic", "Don't Bury Me Without Ivan" (Republic of Sakha (Yakutia), Krasnoyarsk Krai, St. Petersburg), "How to Fix a Bicycle" (Republic of Sakha (Yakutia), "Diary of a 'White Crow'" (Arkhangelsk Oblast), "Ugra Novels" (Khanty-Mansi Autonomous Okrug — Yugra), "Territory" (Krasnoyarsk Krai, Chukotka Autonomous Okrug), "White Nights of Postman Alexey Tryapitsyn" (Arkhangelsk Oblast), "...Nerkagi..." (Yamalo-Nenets Autonomous Okrug), "Book of the Sea", "Exit", "Whaler" (Chukotka Autonomous Okrug), "Chief of Chukotka" (special screening from the Lenfilm Film Studio), "History of Kamchatka Snowboarding" (Kamchatka Krai).

The concert musical program took place during all days of the "Place of Power" Forum and was full of authentic and national works in a modern interpretation.

14	1	Exhibition "People's Beauty. Russia – a deep image"
June	2	"Forgotten Craft", Lidia Kostareva, Komi Republic
2023	3	"The Magic of Kamchatka" photo exhibition, Maxim Balakhovsky, Kamchatka Krai
	4	Exhibition of art works by the IkkiTaba creative alliance, Norilsk, Krasnoyarsk Krai
	5	,,, ,,, ,,, ,, ,, ,, ,,
		Khanty-Mansi Autonomous Okrug – Yugra
	6	Beads in the Peoples of Siberia culture, Museum of Nature and Man, Khanty-Mansi Autonomous
	7	Okrug – Yugra "Ancient traditions of the Siberian North" exhibition of sculpture, Galina Wiesel, Khanty-Mansi
	,	Autonomous Okrug – Yugra
	8	"Man. Earth. Space" Exhibition by Gennady Raishev, Khanty-Mansi Autonomous Okrug – Yugra
	9	"Sacral North" exhibition of folk craftsmen, Republic of Sakha (Yakutia)
	#	Photo exhibition "Yamal Attraction", Yamalo-Nenets Autonomous Okrug
	1	Exhibition of art works by the IkkiTaba creative alliance, Norilsk, Krasnoyarsk Krai
15 June 2023	2	"Coloured threads of Kantele", Republic of Karelia
	3	Photo exhibition "Yamal Attraction", Yamalo-Nenets Autonomous Okrug
	4	
	5	out at the car extraction of the craresticity, republic of basina (taketa)
	6	Exhibition "People's Beauty, Russia – a deep image"
	7	
		Okrug – Yugra
	8	"The Magic of Kamchatka" photo exhibition, Maxim Balakhovsky, Kamchatka Krai
	9	Media exhibition – Artists of the North, Khanty-Mansi Autonomous Okrug – Yugra
16	1	Exhibition of art works by the IkkiTaba creative alliance, Norilsk, Krasnoyarsk Krai
June 2023	2	Beads in the Peoples of Siberia culture, Museum of Nature and Man, Khanty-Mansi Autonomous
		Okrug – Yugra
	3	"Coloured threads of Kantele", Republic of Karelia
	4	Photo exhibition "Yamal Attraction", Yamalo-Nenets Autonomous Okrug
	5	"Sacral North" exhibition of folk craftsmen, Republic of Sakha (Yakutia)
	6	Man. Earth. Space Exhibition by Gennady Raishev, Khanty-Mansi Autonomous Okrug – Yugra
	7	Exhibition "People's Beauty. Russia – a deep image"
	8	"The Magic of Kamchatka" photo exhibition, Maxim Balakhovsky, Kamchatka Krai
17 June 2023	1	Exhibition of art works by the IkkiTaba creative alliance, Norilsk, Krasnoyarsk Krai
	2	"Coloured threads of Kantele", Republic of Karelia
	3	Photo exhibition "Yamal Attraction", Yamalo-Nenets Autonomous Okrug
	4	"Sacral North" exhibition of folk craftsmen, Republic of Sakha (Yakutia)
	5	Man. Earth. Space Exhibition by Gennady Raishev, Khanty-Mansi Autonomous Okrug – Yugra
	6	"The Magic of Kamchatka" photo exhibition, Maxim Balakhovsky, Kamchatka Krai
	7	Exhibition "People's Beauty. Russia – a deep image"
	8	Beads in the Peoples of Siberia culture, Museum of Nature and Man, Khanty-Mansi Autonomous
		Okrug – Yugra

Fig. 1 Exhibitions within the official program of SPIEF-2023.

Excursions to national dwellings included visits to Yakut, Kalmyk, Buryat yurts, an Ob Ugrian chum, and a Chukchi yaranga. During the Forum, there were master classes of folk crafts of the Komi Republic, Yamalo-Nenets Autonomous Okrug, Kamchatka Krai, "Colored threads 'Kantele'" (Republic of Karelia), a master class on making a traditional Ob Ugrians doll from fabric (Khanty-Mansi Autonomous Okrug —Ugra), master classes on creating amulets and bead embroidery (Republic of Buryatia), master class on creating a traditional doll of the Chukotka Autonomous Okrug, master class on creating animation from the animation studio "Mechtalet" (Khabarovsk Krai), master class on creating media content for meta-universe Zov Zemli Cyber and the development of character prototypes to transfer the cultural code of peoples into virtual space. A separate series of master classes was organized by the Museum of Geology, Oil and Gas (Khanty-Mansi Autonomous Okrug —Ugra) and the School of Creative Industries (Ministry of Culture of the Russian Federation).

In order to promote and brand the Arctic tourist regions, VR tours "Meet the Ob Ugrians" (Khanty-Mansi Autonomous Okrug —Ugra), a VR video on the Manpupuner plateau (Komi Republic), "Meet Yamal!" (representative office of the Yamalo-Nenets Autonomous Okrug), VR trip through the polar Urals (Yamalo-Nenets Autonomous Okrug), "Eco Komi Republic: presentation of the cultural and tourist potential of the region" (Komi Republic), VR tour "Meet the Ob Ugrians" (Khanty-Mansi Autonomous Okrug —Ugra) were organized.

There were presentations of creative industries projects "Art collaboration as a driver for the development of creative industries" (State Academic Capella of St. Petersburg), presentation of the project "Creative industries as a new strategy for cultural institutions" (St. Petersburg SBIC "Petersburg Concert"). Lectures and performances were held: "Experience, practices, innovations" (St. Petersburg State Institution "St. Petersburg House of Nationalities"), "Zakhozhskoe lace. Interweaving of times" Traditions in modern creativity, "Traditional practices of the peoples of the North in the modern world: from risks to new opportunities" (Institute of the Peoples of the North of the Russian State Pedagogical University named after A.I. Herzen), "The image of the Arctic in the works of artists of the Komi Republic" (Komi Republic), presentation of the project Freeride Community (Kamchatka Krai).

Within the framework of SPIEF-2023, there were presentations of cinema from the Murmansk Oblast and the Komi Republic, a two-part animation program "The Soul of Russia in Animation. Echo of Suzdalfest", a film about the Youth National Ensemble "Koritev" (Kamchatka Krai) was shown.

During the Forum, there were presentations on tourist attractiveness, promotion of culture, customs and traditions of the Republic of Kalmykia, Kamchatka, events "The ritual of the Gorki holiday — the visiting card of the Komi region (Ust-Tsilma)" (representative office of the Komi Republic), a lecture "Prohibitions, superstitions, taboos and magic in the traditional cultures of the peoples of the North" (Institute of the Peoples of the North of the Russian State Pedagogical University named after A.I. Herzen), "Reserve volunteers "Heart of the Taiga": tourism with care

for nature" (Komi Republic), a lecture on working as a guide and volunteering in Kamchatka, a presentation of the project "Heritage of the Russian Great Silk and Tea Roads: problems and prospects" (Republic of Sakha (Yakutia), the board game "Monopoly — Ugra" (Khanty-Mansi Autonomous Okrug —Ugra), the project "Preservation of the traditional culture of peoples Arctic in the projects of the National Museum of the Komi Republic" (Komi Republic), presentation of a newspaper in the Nenets language (Yamalo-Nenets Autonomous Okrug). Among socially significant projects, it is worth mentioning the project about the support of the role of women of the North "Komi. Women in the Arctic. Yesterday, today, tomorrow" (representative office of the Komi Republic).

A number of modern scientists address the issues of studying the image and place of the Russian Arctic [9, Simakova A.V., Stepus I.S.; 2, Lukin Yu.F.]. Many of the author's works are devoted to tourism in the Arctic; guidelines for the formation, management and promotion of the tourism industry in the domestic regional and international markets are proposed. Most of the proposed methods, including those on the problems of forming a personnel reserve for the Arctic, have been successfully implemented by the tourist regions of Russia [10, Timoshenko D.S.; 11, Timoshenko D.S.].

Conclusion

The St. Petersburg International Economic Forum once again demonstrates the unity of key economic players of Russia and its foreign partners in the desire to strengthen and develop the Russian and global economy. Despite the special operation in Ukraine, comprehensive sanctions from the countries of the collective West [12, Zhuravel V.P., Timoshenko D.S., 13, Zhiltsov S.S.], the Forum summed up the results of systematic and precise work of the Russian Federation and its regions to strengthen their political, economic and socio-cultural positions within the framework of the tasks set by the President of the Russian Federation V.V. Putin. The stand "The Arctic — Territory of Dialogue" demonstrated the unity of the subjects of the Russian Arctic in understanding the strategically important role of the dynamic development of the Arctic region of the country. In the foreseeable future, according to experts, the main priorities will be economic projects, including those with Asian countries, as well as the development of scientific, educational and cultural cooperation between the Arctic regions and non-Arctic subjects, a balanced increase in domestic and international tourist flows, global digitalization of the North, promotion and branding of the Russian Arctic.

The scientific team of the CAS IE RAS continues to work on researching aspects of security, international cooperation in the Arctic, problems of social and economic development, digitalization, personnel policy, promotion of the Russian Arctic, as well as international relations in the Arctic [12, Zhuravel V.P., Timoshenko D.S.; 14, Zhuravel V.P.]

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