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Resource and Logistics Opportunities for the Development of Industrial Tourism in the Russian Arctic

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Abstract. Over the years of industrial development in the regions of the Russian Arctic, a significant potential of industrial heritage has been accumulated, with industrial sites serving as attractions for potential tourists. This provides an opportunity to develop industrial tourism, which is a promising sector of the modern tourism industry. The geographical features of the Arctic and its uneven transport infrastructure complicate the development of tourism in the region, including industrial one. To address this issue, it is necessary to identify the most accessible areas for tourists and to determine the types of industrial tourism that may be in demand. In this study, using content analysis of specialized tourism websites, we assessed the current state of industrial tourism development in each region of the Russian Arctic and identified what types of it are presented in tour programs. We analyzed the logistics capabilities of the Arctic regions for tourism development by determining the financial and time costs for potential tourists and comparing the results for each selected Arctic transport center. In terms of the availability of necessary resources and the lowest financial and time costs, the development of industrial tourism shows the greatest potential in the Murmansk Oblast, the Republic of Karelia, the Arkhangelsk Oblast, the Komi Republic and the Yamalo-Nenets Autonomous Okrug. For each region of the Russian Arctic, we have identified the sectors that form the resource base for the development of industrial tourism, and recommended enterprises that should be used to develop career-oriented tours designed to attract labor resources.

Keywords: Arctic, industrial tourism, financial and time costs, transport center, industrial heritage

Introduction

Industrial tours first appeared in the 17th century. In the second half of the 20th century, industrial tourism acquired its modern form. The Strategy for the Development of Tourism in the Russian Federation until 2035, approved by government decree in 2019, identifies industrial enterprises as attractions for both domestic and international tourists. Each region is characterized by the presence of industrial enterprises, but not all regions possess significant natural, climatic, cultural, and historical resources capable of attracting tourists. Using the resources of certain enterprises as a basis for creating sightseeing programs allows for the development of tourism even in regions with limited recreational potential. This is particularly relevant for towns and settle-

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ments with higher and secondary vocational educational institutions training personnel for regional enterprises. Such enterprises usually have museums and specialists capable of conducting industrial tours. Consequently, the necessary foundation for the development of industrial tourism exists. Industrial tourism is defined as visits and activities at a site that enable visitors to understand the processes and secrets of production relating to the past, present or future¹. Arctic tourism is mainly associated with the use of the natural component of recreational resources. However, the history of human settlement in the Arctic regions cannot be ignored. Industrial heritage is also a potential attraction for tourists. As Z.Yu. Zhelnina notes, the interpretation of industrial resources and their inclusion in Arctic tourism is a pressing issue (Zhelnina, 2021). At the same time, the development of industrial tourism in the Arctic has its own specific characteristics, relating to the selection of sites to be visited and the organization of logistics. In Russia, the main sites used in industrial tourism are enterprises in food industry, mechanical engineering, timber industry, metallurgy, energy, mining, and agriculture². The main activity of an industrial tour is the demonstration of the production process (Chkhotua, Vlasyuk, Zadorozhnaya, 2021). One of the challenges in attracting tourists to factory tours is the lack of diversity in the sectoral composition of enterprises in certain regions (including the Arctic zone). The distant location of potential tourists from attractions, combined with poor transport links, is another significant challenge for organizing industrial tourism. The aim of our study is to identify the most promising industrial tourism destinations and regions in the Russian Arctic where they could be developed.

Research materials and methods

According to the Association of Tour Operators of Russia (ATOR), the regions of the Russian Arctic were visited by 1.3 million tourists in 2024, an increase of 8.3% compared to 2023³. According to Rosstat, among the regions that are fully located in the Arctic zone, the Murmansk Oblast (674,151 arrivals) and the Yamalo-Nenets Autonomous Okrug (460,451 arrivals) were the leaders in terms of tourist visits in 2024. The Chukotka Autonomous Okrug (48,109 arrivals) ranked first among the other two regions that are entirely within the Arctic, despite its remoteness and inaccessibility. Meanwhile, the Nenets Autonomous Okrug, located closer to tourist flow centers than Chukotka, recorded 39,756 arrivals in 2024. In other regions, partially located within the Arctic zone, it is difficult to distinguish tourists visiting the Arctic from the general tourist flow, but experts identify the Arkhangelsk Oblast as a leader⁴.

The development of industrial tourism in the Russian Arctic regions is currently understudied. This can be explained by the fact that the Arctic attracts tourists primarily due to its unique

¹ National Standard of the Russian Federation. Tourism Services. Industrial Tourism. Provision of Services. URL: <https://docs.cntd.ru/document/1200142466> (accessed 15 October 2025).

² Methodology for the development of industrial tourism in the Russian Federation. URL: <https://asi.ru/library/promtourism/184110/> (accessed 15 October 2025).

³ URL: <https://arctic-russia.ru/news/minvostokrazvitiya-turpotok-v-arktiku-v-2025-godu-sostavit-1-5-mln-chelovek/> (accessed 15 October 2025).

⁴ URL: <https://www.rosstat.gov.ru/statistics/turizm> (accessed 15 October 2025).

natural environment. However, academic works focusing on specific aspects of Arctic industrial tourism have recently begun to appear. For example, Z.Yu. Zhelnina examines the industrial image of the Arctic, which is often contrasted with its natural potential. She notes that organizing trips to visit industrial sites in the Arctic differs from organizing similar tours in old industrial regions (Zhelnina, 2021). E.L. Panchenko suggests paying attention to the possibility of attracting labor to the Arctic regions through the organization of career-oriented industrial tourism tours (Panchenko, 2024). O. Podshuveit expresses a similar expert opinion, believing that industrial tourism in the Arctic should be viewed not as a means of profit-making, but as a career guidance activity for young people aimed at addressing the Arctic's labor force challenges⁵. Authors studying industrial tourism highlight its marketing, human resources and image-building effects, as well as its impact on economic diversification (Chkhotua, Vlasyuk, Zadorozhnaya, 2021). Due to its marketing and image-building effects, industrial tourism contributes to increasing the region's investment attractiveness, the creation of regional brands, and the development of export potential and the tourism industry⁶.

Across Russia as a whole, without specific reference to the Arctic, the framework for industrial tourism is better developed. The Agency for Strategic Initiatives for the Promotion of New Projects has compiled a practical guide and step-by-step instructions for developing a regional strategy for industrial tourism in the Russian Federation⁷. There is no consensus amongst scholars from different countries on the definition of industrial tourism (Chkhotua, Vlasyuk, Zadorozhnaya, 2021). Industrial tourism includes visits to industrial heritage sites (tangible and intangible assets used in the past), tours to operating enterprises attended by both tourists and entrepreneurs, career-oriented excursions for schoolchildren and students, and industrial exhibitions (Chkhotua, Vlasyuk, Zadorozhnaya, 2021). A significant resource base for industrial tourism is old industrial enterprises that have ceased operation. If the production facilities, equipment and technologies used at a given factory are preserved, such an enterprise can be transformed into a cultural heritage site that is popular with tourists. For example, the Verla Factory Museum (Finland), which produced paper and cardboard from 1892 to 1964, was converted into Finland's first industrial museum after its closure, and UNESCO designated it a World Heritage Site (Potapov, 2020). Industrial tourism accounts for 10 to 15% of global tourism. In the USA, industrial tourism began in single-industry towns; nowadays, almost all industrial sites are open to tourists. In European countries, industrial tours for visitors were organized at food industry sites. In China, the 20 largest enterprises across various sectors (food, pharmaceutical and light industry) have been selected as the main destinations for industrial tourism (Ivanova, Matyunin, 2022).

⁵ Interview with O. Podshuveit. URL: <https://goarctic.ru/opinions/olga-podshuveyt-o-potentsiale-promyshlennogo-turizma-dlya-sotsialno-ekonomicheskogo-razvitiya-arktik/> (accessed 15 October 2025).

⁶ URL: <https://promtourism.online/> (accessed 15 October 2025).

⁷ Methodology for the development of industrial tourism in the Russian Federation. URL: <https://asi.ru/library/promtourism/184110/> (accessed 15 October 2025).

The research by E.E. Ibragimov, S.S. Skaranik and V.V. Verna presents a classification of industrial tourism types based on the number of sites visited simultaneously (a single enterprise or several enterprises in the same sector), the composition of the excursion group, the influence of economic and business factors (paid and free tourism), the organization of tours, the internal and external characteristics (local, national, international tourism), and the objectives of the impact on the target audience (educational, career-oriented, business, scientific, image-building tourism) (Verna, Ibragimov, Skaranik, 2023). In our study, we have categorized industrial tourism according to the primary purpose of the trip into the following types: industrial heritage tourism, career guidance tourism, educational tourism at operational enterprises, and business tourism. This classification is useful for selecting priority areas in the planning of industrial tourism at a regional level.

In the work by I.Z. Chkhotua, L.I. Vlasyuk and G.V. Zadorozhnaya, all constituent entities of the Russian Federation are divided into clusters in terms of the level and strategic potential for the development of industrial tourism. Transport accessibility was also taken into account. Russia's Arctic regions were grouped into three clusters. The authors classified the Nenets, Yamalo-Nenets, and Chukotka Autonomous Okrugs (cluster 1) as lagging behind in industrial tourism development; the Republic of Karelia, Komi Republic, Arkhangelsk Oblast, and Krasnoyarsk Krai (cluster 2) as moderately developed; and the Murmansk Oblast and Sakha Republic (Yakutia) as leading in industrial tourism development (Chkhotua, Vlasyuk, Zadorozhnaya, 2021). However, it should be noted that the composite indicator in this work was calculated for the entire territory of the regions, without taking into account the Arctic zone status of individual districts. Furthermore, the level of industrial tourism development in some of them has changed since the publication of this work. Barriers hindering the development of industrial tourism are highlighted in the work by M.V. Ivanova and V.M. Matyunin. They include inaccessibility and remoteness of industrial tourism sites from tourist flow areas; high cost of travel to tourist sites; significant time expenditures; unequal competition with popular tourist destinations; lack of safety at industrial sites for visitors; and the restricted status of certain sites (Ivanova, Matyunin, 2022). There are also infrastructure-related constraints, which result in difficulties in organizing tourist routes within industrial sites. Consequently, the potential of industrial tourism is not fully utilized, although it could contribute to the sustainable development of the region (Chkhotua, Vlasyuk, Zadorozhnaya, 2021). The specific characteristics of the Arctic influence the development of all sectors of the economy. Therefore, the feasibility of industrial tourism development for each specific region is an important issue in regional planning.

We analyzed the resource and logistical potential for industrial tourism development, taking into account the specific characteristics of the territories of the Russian Arctic. Resource potential refers to the availability of recreational resources in these territories that enable the development of industrial tourism, logistical potential — to the availability of regular transport links connecting these territories with the areas where tourist flows are generated. Furthermore, logistical

potential for tourists is also linked to ticket prices, travel time, and flight frequency; in other words, to the financial and time costs.

In our study of the current state of industrial tourism in the Arctic regions of the Russian Federation, we used both non-quantitative and quantitative content analysis of their official tourism information portals and the websites of selected tour operators, as well as the portal on industrial tourism in Russia and the website of the Agency for Strategic Initiatives. We counted the number of industrial tourism offers from tour operators in each region and analyzed their content to determine the type of tourism offered. We studied the geographical distribution of economic sectors in the Arctic territories to identify their resource potential for the development of industrial tourism, and identified the most unique potential sites of interest representing the most valuable recreational resources. We assessed the transport accessibility and logistical capabilities of the regions based on the financial and time costs for tourists (Tsvetkov, 2022). We also examined how the financial and time costs for tourists travelling to specific destinations in the Russian Arctic have changed since 2022. Analysis and synthesis of the information obtained have enabled us to identify the Arctic regions of the Russian Federation that offer the greatest potential for the development of industrial tourism, as well as the types of tourism best suited to this purpose. Geographically, our study covers those constituent entities of the Russian Federation and their parts that are defined as the Arctic in Federal Law No. 193 of July 13, 2020 (as amended on April 21, 2025 – No. 97) “On State Support for Entrepreneurial Activity in the Arctic Zone of the Russian Federation”⁸. These are the territories of the Murmansk Oblast, the Nenets, Yamalo-Nenets and Chukotka Autonomous Okrugs, parts of the Arkhangelsk Oblast classified as the Arctic territories (the city of Arkhangelsk, the city of Novodvinsk, the urban okrugs of Severodvinsk and Novaya Zemlya, Onega, Primorskiy, Leshukonskiy, Pinezhskiy districts), the Republic of Karelia (Belomorskiy, Kemskiy, Loukhskiy, Kalevalskiy, Segezhskiy districts, Kostomuksha urban okrug), the Komi Republic (the urban okrugs of Vorkuta, Inta, Usinsk, Ust-Tsilemskiy district), the Republic of Sakha (Yakutia) (13 northern municipalities), the Khanty-Mansi Autonomous Okrug (Berezovskiy, Beloyarskiy districts), and Krasnoyarsk Krai (Taimyrskiy district, the city of Norilsk, Turukhanskiy district, part of the Evenki district).

Results and discussion

In the USSR, industrial tourism was primarily aimed at career guidance and involved schoolchildren visiting manufacturing sites. In the post-Soviet period, industrial heritage has become a focus of tourism planning in Russia. At the end of the 20th century, the Nizhny Tagil Museum-Reserve of Mining and Metallurgy of the Middle Urals was established, comprising a previous-

⁸ Federal Law of July 13, 2020 No. 193-FZ (as amended on April 21, 2025) “On State Support for Entrepreneurial Activity in the Arctic Zone of the Russian Federation”. URL: https://www.consultant.ru/document/cons_doc_LAW_357078/b819c620a8c698de35861ad4c9d9696ee0c3ee7a/ (accessed 15 October 2025).

ly closed metallurgical plant and the house of the manager of the mining and metallurgical district⁹.

In order to highlight the tourism potential of industrial enterprises and engage regional administrations in the development of industrial tourism, the Agency for Strategic Initiatives, together with the Ministry of Industry and Trade of the Russian Federation, launched the Industrial Tourism Development Accelerator in 2021. This resulted in the development and implementation of industrial tours in the regions participating in the project. Among the Arctic regions, teams from the Murmansk and Arkhangelsk Oblasts, the Republic of Karelia, the Yamalo-Nenets Autonomous Okrug, the Krasnoyarsk Krai, and the Republic of Sakha (Yakutia) participated in the Accelerator. However, the Volga Federal District was the leader in terms of the number of enterprises involved in organizing industrial tours (Chkhotua, Vlasyuk, Zadorozhnaya, 2021).

Using content analysis of official tourism portals and specialized industrial tourism websites, we have identified the Arctic regions where industrial tours are organized (Table 1).

Table 1

Industrial tours in the Arctic regions of Russia^{10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20}

Region	Tour	Type	Industry	Location
Murmansk Oblast	"Shpil-555" – an ecological and industrial route on the territory of a closed nickel-copper quarry	industrial heritage tourism	mining, non-ferrous metallurgy	Nikel urban-type settlement
	Kola Nuclear Power Plant and trout farm	career-oriented, educational tourism	electricity generation, agriculture	Polyarnye Zori
	Kola Wind Farm	career-oriented, educational tourism	electricity generation	Tumannyy settlement
	Kola Superdeep Borehole	industrial heritage tourism, career-oriented, educational tourism	scientific research	Zapolyarnyy settlement
Republic of Karelia	Segezha Pulp and Paper Mill	career-oriented, educational tourism	pulp and paper industry	Segezha
Arkhangelsk Oblast	"Pomorskiy Koch" shipyard	educational tourism	shipbuilding	Arkhangelsk
Komi Republic	"Vorkuta means coal". VorkutaUgol Company	career-oriented, educational tourism	coal industry	Vorkuta, Yunyaginskiy open-pit mine
Yamalo-	Vyngapurovskiy Gas Pro-	career-oriented,	gas industry	Noyabrsk

⁹ Methodology for the development of industrial tourism in the Russian Federation. URL: <https://asi.ru/library/promtourism/184110/> (accessed 15 October 2025).

¹⁰ Selection of an industrial tour. URL: <https://promtourism.ru/katalog/> (accessed 15 October 2025).

¹¹ Tours and excursions. URL: <https://murmansk.travel/excursions> (accessed 15 October 2025).

¹² Legendary Karelia. URL: <https://legendary-karelia.ru/> (accessed 15 October 2025).

¹³ Tours and excursions in the Komi Republic. URL: <https://tourism.rkomi.ru/adventures/tours-and-excursions> (accessed 15 October 2025).

¹⁴ Tourist guide to Yamal. URL: <https://yamal.travel/> (accessed 15 October 2025).

¹⁵ URL: <https://www.visitnao.ru/> (accessed 15 October 2025).

¹⁶ Tourist information center of the Krasnoyarsk Krai. URL: <https://visitsiberia.info/> (accessed 15 October 2025).

¹⁷ Yakutia tourism portal. URL: <https://travel-ykt.ru/> (accessed 15 October 2025).

¹⁸ Chukotka tourism portal. URL: <https://chukotka.travel/> (accessed 15 October 2025).

¹⁹ URL: <https://tours.pomorland.travel/> (accessed 16 October 2025).

²⁰ Tourism in Yugra, Khanty-Mansi Autonomous Okrug – Yugra. URL: <https://tourism.admhmao.ru/> (accessed 16 October 2025).

Nenets AO	cessing Plant JSC SiburTyumengaz	educational tourism		
Nenets AO	Introduction to ethnic traditions	educational tourism	traditional crafts	Naryan-Mar
Khanty-Mansi AO	-	-	-	-
Krasnoyarsk Krai	Norilsk Nickel	career-oriented, educational tourism	non-ferrous metallurgy	Norilsk
	Gigawatt, BitCluster Mining Company	career-oriented, educational tourism	IT	Norilsk
Republic of Sakha (Yakutia)	-	-	-	-
Chukotka AO	Tour to reindeer herders	educational tourism	agriculture	Tundra

As shown in Table 1, the largest number of industrial tours is offered on the official tourism websites of the Murmansk Oblast, which confirms the findings of I.Z. Chkhutua, L.I. Vlasyuk and G.V. Zadorozhnaya regarding the level of its development (Chkhutua, Vlasyuk, Zadorozhnaya, 2021). Similar tours were not found on the websites of the Republic of Sakha (Yakutia) and the Khanty-Mansi Autonomous Okrug. It should be noted that not all the websites we examined marked their tours as industrial, and some websites did not provide any information at all. These included websites of the Arkhangelsk Oblast, the Nenets Autonomous Okrug, the Khanty-Mansi Autonomous Okrug, the Republic of Sakha (Yakutia), and the Chukotka Autonomous Okrug. Table 1 contains data only on tours for which information was publicly available and which were clearly identified as industrial. Educational industrial tours accounted for 92% of the offerings, 66% of programs could be classified as career-oriented, and only 17% were industrial heritage tours. Business tours were not found among the regional tourism industry offerings. Most frequently, tours focused on agriculture (crop production, reindeer herding, and fish farming), non-ferrous metallurgy (mining, copper-nickel industry), and the fuel and energy complex (gas, coal, and electricity sectors). The forestry and shipbuilding sectors, which are important to the economies of some Arctic territories, are represented to a lesser extent. No tours to oil industry facilities were identified. Industrial tours do not always reflect the economic specialization of regions. Some programs focus on cultural and educational tourism, using local attractions associated with specific economic activities or local traditions. It is worth noting the geographical dispersion of Arctic industrial tour routes and their significant distance from the cities where the majority of potential tourists reside. Consequently, from a logistical and economic perspective, it is difficult to combine several regional sites into a single industrial tour.

We analyzed economic distances based on the potential financial and time costs for tourists to reach industrial tourism centers in the Arctic regions via direct flights, assuming that the departure points for tourist flows would be Moscow and St. Petersburg, the country's main transport and distribution hubs, and the destinations would be regional transport centers, following the methodology proposed by I.A. Potapov (Potapov, 2016). The indicators used for the assessment were travel time (minimum), cost of travel (minimum), and the number and frequency of direct flights and train services operating between industrial tourism centers, Moscow and St.

Petersburg. The results were expressed as points (the maximum is 10). Thus, if the travel time between the given locations is up to 2 hours, this corresponds to 1 point, up to 3 hours — 2 points, etc. If the minimum travel cost is less than 1,000 rubles, this corresponds to 1 point, less than 2,000 rubles — 2 points, etc. If the frequency of flights on a given route by a given mode of transport is equal to 1 or more times per day, this corresponds to 1 point, 6 times a week — 2 points, 5 times a week — 3 points, 1 time a week — 7 points. If the number of modes of transport available to reach a given destination is 1, this is expressed as 7 points, 2 or more — 1 point. The sum of all indicators, expressed in points, is a generalized indicator of tourists' financial and time costs (Tsvetkov, 2022) (Table 2).

Table 2

Assessment of tourists' financial and time costs when travelling to Arctic industrial tourism centers²¹ (7)

Region	Industrial tourism center	Transport center	Cities connected by regular air and rail services to transport centers				
			All cities	Moscow		Saint Petersburg	
				air	railway	air	railway
Murmansk Oblast	Nikel urban-type settlement, Polyarnye Zori, Tumanny settlement, Zapolyarny settlement	Murmansk	Anapa, Arkhangelsk, Ekaterinburg, Kazan, Kaliningrad, Krasnodar, Moscow, Petrozavodsk, Pskov, St. Petersburg, Sevastopol, Smolensk, Sochi, Veliky Novgorod, Cherepovets	7	17	7	16
		Apatity	Anapa, Pskov, Moscow, Veliky Novgorod, St. Petersburg, Smolensk, Kaliningrad	10	18	11	16
Karelia	Segezha	Segezha	Anapa, Pskov, Moscow, Veliky Novgorod, St. Petersburg, Smolensk	-	22	-	21
Arkhangelsk Oblast	Arkhangelsk	Arkhangelsk	Adler, Vologda, Kaliningrad, Kislovodsk, Mikun, Moscow, Murmansk, Naryan-Mar, Novorossiysk, St. Petersburg, Smolensk, Cherepovets	8	16	7	20
Komi	Vorkuta	Vorkuta	Adler, Syktyvkar, Kotlas, Labytnangi, Moscow, Nizhny Novgorod, Novorossiysk, St. Petersburg	21	17	-	29
	Usinsk	Usinsk	Bugulma, Kazan, Kirov, Mineralnye Vody, Moscow, Perm, Pechora, Samara, Syktyvkar, Ufa	17	17	-	-
Nenets AO	Naryan-Mar	Naryan-Mar	Arkhangelsk, Ekaterinburg, Kazan, Kirov,	22	-	22	-

²¹ Suburban and intercity transport schedules. URL: <https://rasp.yandex.ru/> (accessed 18 October 2025).

			Moscow, St. Petersburg, Syktyvkar, Ufa				
Yamalo-Nenets AO	Salekhard, Kharp settlement, Noyabrsk	Salekhard (air) and Labytnangi (railway)	Vorkuta, Ekaterinburg, Kazan, Moscow, Mineralnye Vody, Nizhny Novgorod, Novosibirsk, Omsk, St. Petersburg, Sochi, Tyumen, Ufa	14	22	16	24
		Noyabrsk	Ekaterinburg, Kazan, Krasnodar, Mineralnye Vody, Moscow, Novosibirsk, Novy Urengoy, Omsk, Orenburg, St. Petersburg, Sochi, Tyumen, Ufa	17	23	20	24
Khanty-Mansi AO	Berezovo urban-type settlement, Beloyarskiy	Beloyarskiy	Moscow, Ekaterinburg, Tyumen, Surgut, Khanty-Mansiysk, Nyagan	26	-	-	-
Krasnoyarsk Krai	Norilsk	Norilsk	Abakan, Ekaterinburg, Krasnodar, Krasnoyarsk, Mineralnye Vody, Moscow, St. Petersburg, Novosibirsk, Sochi, Ufa, Chelyabinsk	22	-	27	-
Sakha (Yakutia)		Tiksi settlement	Yakutsk	-	-	-	-
Chukotka AO		Anadyr	Vladivostok, Krasnoyarsk, Moscow, Khabarovsk	31	-	-	-
		Pevek	Novosibirsk, Magadan, Moscow, Yakutsk	34	-	-	-

According to the data in Table 2, tourists travelling to the Murmansk Oblast and the Arctic areas of the Arkhangelsk Oblast have the lowest financial and time costs. Travelers can choose from two modes of transport, depending on the individual priority: travel time or cost. The transport hubs of these regions are connected by regular flights to a large number of cities, and the number of destinations has increased since 2022 (Tsvetkov, 2022). High financial and time costs associated with travelling to Segezha (Karelia) are due to the fact that it can only be reached by one mode of transport (by train). Travelling eastward, tourists' financial and time costs will increase because of the lack of alternatives to air travel, the infrequency of flights and the high cost of tickets. The financial and time costs of visiting destinations in the Yamalo-Nenets Autonomous Okrug are slightly lower than in neighboring regions, as there are more regular connections to Moscow and St. Petersburg via two modes of transport. The regions located further east have no rail links, making air travel expensive. There are no direct flights to St. Petersburg from airports in the Chukotka Autonomous Okrug, and there are no direct flights to Moscow from the Arctic part of the Republic of Sakha (Yakutia). The cost of a "Moscow – Pevek" flight ticket starts at 49,000 rubles²².

Overall, compared to 2022, travel costs to these centers of the Russian Arctic have increased. In the Murmansk and Arkhangelsk Oblasts, the increase was 1-2 points; in the Nenets Autonomous Okrug — 10-16 points; in the northern Krasnoyarsk Krai (Norilsk) — 5 points; in the

²² Yakutia Airlines. URL: <https://www.yakutia.aero/wx/booking/#/results/9261486373> (accessed 17 October 2025).

Chukotka Autonomous Okrug (Anadyr) — 8 points. The financial and time costs of travelling to Vorkuta, Labytnangi and Salekhard have changed in varying ways. Transport links between Vorkuta and St. Petersburg have deteriorated, resulting in a 7-point increase in costs; meanwhile, the financial and time costs of travelling from Moscow have remained almost unchanged. Air travel costs from Moscow to Salekhard remained unchanged, while train travel costs increased by 6 points. Air travel costs from St. Petersburg to Salekhard increased by 3 points; however, a rail service was introduced, providing an alternative for tourists from that city. The increase in financial and time costs is linked to rising ticket prices and a reduction in the frequency of flights. The exceptions are the Yamalo-Nenets Autonomous Okrug and, to some extent, the Komi Republic, where the number of services has increased slightly on certain routes and for certain modes of transport. Consequently, the development of tourism in the European sector of the Russian Arctic is the most promising in terms of financial and time costs. This applies to the Murmansk and Arkhangelsk Oblasts. The Yamalo-Nenets Autonomous Okrug also has significant potential for attracting tourists (Tsvetkov, 2022). Industrial tours created there could be more popular with tourists from other regions of the country travelling through Moscow, St. Petersburg, or directly from their home regions. For regions in the Asian sector of the Arctic, particularly the north of the Krasnoyarsk Krai, the Republic of Sakha and the Chukotka Autonomous Okrug, it is preferable to target industrial tours at the local population or to incorporate them into other types of travel programs.

The potential locations for developing industrial tours were identified on the basis of knowledge of the sectoral composition of the economy in Russia's Arctic regions and the geographical distribution of enterprises. The main industry in most regions of the Russian Arctic is mining, particularly in its Asian sector. The main enterprises include mining and processing plants, open-cast mines and underground mines. After the collapse of the USSR, more than 12,000 industrial sites were abandoned in the Russian Arctic²³. The use of depleted mineral deposits as tourist attractions is widespread in international practice. For example, the "Carpathian Oil Route" was created on the site of former oil fields in the Polish Carpathians (Kruczek, Kruczek, 2016). In Sweden, industrial tourism is developing at a depleted copper ore deposit. This location (the "Great Copper Mountain" in Falun) is a UNESCO World Heritage Site; it includes a mine closed in 1992, a copper smelter, and a number of associated facilities (Della Lucia, Pashkevich, 2023). In our view, using such sites as attractions could be a promising approach to developing industrial tourism routes in the Arctic. Some of them are mothballed, as their resources have not yet been fully exhausted, and it is possible to resume mineral extraction at these sites. Using them for tourism would help to prevent their complete abandonment, preserve the infrastructure of enterprises, and maintain a number of jobs. A particularly large number of mining and processing plants were closed in the Chukotka Autonomous Okrug during the 1990s and 2000s. These mines primarily produced non-ferrous and precious metals (tin, tungsten, mercury, gold, silver, etc.) (Vashchuk,

²³ Scientists have compiled a list of abandoned industrial sites in the Arctic. URL: <https://rough-polished.expert/ru/arctica/136619.html> (accessed 13 October 2025).

Kovalenko, 2022). According to the investment portal of the Arctic Zone of Russia, the Chukotka Autonomous Okrug contains many unique industrial sites that are not used for their intended purpose, but could attract tourists due to their historical and cultural value²⁴. For example, the military town of Gudym with its airfield (closed in 2002); the settlement of Apapelgino, which housed employees of the Pevek airport (liquidated in 2003); the settlement of Komsomolskiy in the Chaunskiy District, which had a gold mine; the settlement of Valkumey with its tin mine; the settlement of Iultin, which had a tin, tungsten, gold, and silver mine; and other sites. Their use is complicated by their inaccessibility, which is why they were initially unable to compete with other mining enterprises with more advantageous transport and geographical locations. However, some of them are located near cities with airports (Anadyr, Pevek, Bilibino) and could potentially be used as tourist attractions. The main visitors to these sites may be local residents and prospective university applicants, with career guidance as the primary purpose of the visit. Furthermore, these sites could be included in educational and adventure tourism for visitors from other regions. A similar approach is possible for old Arctic weather stations, mines, and sawmills. During the Soviet era, there were 13 coal mines operating in Vorkuta; currently, only 4 remain, scheduled for closure by 2037. It may be possible to establish a museum complex based on one of these sites, similar to the Museum-Reserve of Mining and Metallurgy of the Middle Urals. Such a facility could be used both for career guidance and for educational tourism, for both local residents and visiting guests. Vorkuta's convenient transportation and geographical location facilitate this, along with the existing experience in industrial tourism offered by the VorkutaUgol Company.

In 1928, approximately 30 sawmills operated in Arkhangelsk, most of which were founded before 1917. By 2024, only 4 remained (Potapov, Erokhin, 2025). After the closure of most enterprises in Arkhangelsk's timber industry, many vacant industrial sites and production buildings remained; one of these could be used to create a museum of sawmilling and woodworking, using modern visualization techniques.

If we follow the idea that industrial tourism in the Arctic primarily involves career-guided tours to address staffing issues, then each Arctic region should create museums at enterprises in their respective industries, and leading companies in these sectors should develop excursion programs and establish cooperation with the region's tourism industry. Such successful experience has already been acquired by enterprises in the Murmansk Oblast (Kola Nuclear Power Plant), Karelia (Segezha Pulp and Paper Mill), the Yamalo-Nenets Autonomous Okrug (Vyngapurovskiy Gas Processing Plant of SiburTyumengaz), and Krasnoyarsk Krai (Norilsk Nickel Mining and Metallurgical Company). We have examined which enterprises and companies could use their potential to develop industrial tours, as well as possible transport hubs through which tourists could arrive (Table 3).

²⁴ Abandoned sites in Chukotka: nuclear missiles, mines, and settlements. URL: <https://arctic-russia.ru/article/zabroshennyye-obekty-chukotki-yadernyye-rakety-rudniki-i-poselki/> (accessed 14 October 2025).

Table 3

*Potential industrial tourism sites in the Russian Arctic and their nearest transport centers*²⁵

Region	Industry	Enterprise or company	Transport center
Murmansk Oblast	shipbuilding	OJSC Murmansk Ship Repair Plant of the Marine Fleet, JSC 10 th Ship Repair Plant	Murmansk
	fishing industry	PJSC Murmansk Fish Plant, PJSC Inarktika	Murmansk
	non-ferrous metallurgy	JSC Kola Mining and Metallurgical Plant, JSC Kandalaksha Aluminum Plant, LLC Lovozerskiy MPP	Apatity
	ferrous metallurgy	JSC Olenegorskiy MPP, JSC Kovdorskiy MPP	Apatity
	mining and chemical industry	JSC Apatit	Apatity
Republic of Karelia	ferrous metallurgy	JSC Karelskiy Okatysh	Segezha, Kostomuksha
	non-ferrous metallurgy	OJSC Nadvoitskiy Aluminum Plant	Nadvoitsy
	pulp and paper industry	JSC Segezha PPM	Segezha
Arkhangelsk Oblast	forestry and timber industry	JSC Arkhangelsk Plywood Plant , CJSC Lesozavod 25 , OJSC Arkhangelsk PPM	Arkhangelsk
	extractive industries	JSC Severoalmaz, JSC AGD Diamond	
	shipbuilding	JSC SRC Zvezdochka SRY Krasnaya Kuznitsa	
	food industry	LLC Arkhangelsk Seaweed Factory	
Nenets AO	fuel and energy complex	JSC Pechoraneft	Naryan-Mar
	food industry	JSC Myasoprodukty	
Komi Republic	fuel and energy complex	JSC Vorkutaugol, LLC LUKOIL-Komi	Vorkuta, Usinsk
Yamalo-Nenets AO	fuel and energy complex	JSC Gazpromneft-Noyabrskneftegaz, LLC Gazprom Dobycha Nadym	Noyabrsk, Salekhard, Labytnangi, Nadym
Khanty-Mansi AO	fuel and energy complex, extractive industries	Beloyarskneftegaz, LLC LUKOIL-Western Siberia, JSC Polar Quartz	Beloyarskiy
Krasnoyarsk Krai	non-ferrous metallurgy	PJSC MMC Norilsk Nickel	Norilsk
	transport	sea port of Dudinka	
Republic of Sakha (Yakutia)	extractive industries	PJSC ALROSA	Tiksi, Mirny
	transport	sea port of Tiksi	
Chukotka AO	extractive industries	LLC Gold Mining Artel "Chukotka" (Komsomolskiy settlement), LLC Gold Mining Artel "Shakhter" (Leningradskiy settlement), LLC Gold Mining Artel "Polyarnaya" (Polyarny settlement)	Pevek, Anadyr

Industrial enterprises are typically located on or near transportation routes. Therefore, tourists can reach their destinations by using the towns we have suggested as transport centers. "This is especially convenient in the Murmansk Oblast, the Arkhangelsk Oblast, Karelia, and the

²⁵ Source: compiled by the author.

Komi Republic" (Tsvetkov, 2022). Oil and gas enterprises, which are usually located far from transportation hubs, are less accessible. The financial and time costs associated with reaching them increase due to the need for additional travel from the transport centers discussed. This applies to the Nenets and Yamalo-Nenets Autonomous Okrugs. In the Arctic part of the Sakha Republic (Yakutia) and the Chukotka Autonomous Okrug, there are almost no enterprises left that could accommodate industrial tourists. In Yakutia, this role could be taken on by ALROSA, which is developing new deposits, including in the northern regions of the republic. In the Chukotka Autonomous Okrug, gold mining cooperatives could theoretically accommodate tourists, but this function would have to be assumed by the administration. The remote areas of the Republic of Sakha (Yakutia) and the Chukotka Autonomous Okrug are sparsely populated and have significant transport problems. Industrial tourism there can rely primarily on local residents, as the conditions for organizing industrial tours are complex, the financial and time costs are high, and there would not be much demand for such tours.

The creation of industrial museums at enterprises is of great importance. Such museums will provide a foundation for industrial career-oriented tourism in the Arctic regions. This will further attract tourists interested in the history of the region's industrial development. Their work, combined with the efforts of the tourism industry, will help to make Arctic tourism more meaningful and enhance the effectiveness of the initiative to attract labor to the Arctic. Promoting such programs at the federal level will attract the attention of potential tourists.

Conclusion

Industrial tourism in the regions of the Russian Arctic is currently in its early stages of development. It is more successful in the most developed and easily accessible regions — the Murmansk Oblast, Karelia, the Komi Republic, and the Yamalo-Nenets Autonomous Okrug. The types of industrial tourism being promoted include educational, career-oriented and industrial heritage tourism. The regions of the Russian Arctic possess a rich industrial heritage, comprising numerous sites from the industrial era: mines, quarries, factories, and closed settlements, which are currently out of use, but have the potential to attract tourists. Using them to develop industrial heritage tourism will preserve infrastructure and create jobs.

Currently, there is great potential for the development of industrial tourism in regions where travel involves the lowest financial and time costs (the Murmansk Oblast, the Arkhangelsk Oblast, the Republic of Karelia, the Republic of Komi and the Yamalo-Nenets Autonomous Okrug). Other regions of the Arctic can expect to attract mainly local residents as tourists. It can be assumed that the development of industrial tourism programs will increase the number of tourist arrivals in the Yamalo-Nenets Autonomous Okrug, the Komi Republic, the Murmansk Oblast, the Arkhangelsk Oblast, the Nenets Autonomous Okrug and the Republic of Karelia. Furthermore, these programs may increase the length of tourists' stays in the Arctic regions. It is expected that career-oriented tourism will become the main type of industrial tourism in the Arctic. It is in demand

primarily among local schoolchildren and students. The difficult transport accessibility of most Arctic regions makes industrial tours highly expensive, which is why they cannot compete with nature-based Arctic tours. To address this situation, leading enterprises in each Arctic region should create modern industrial museums, develop tours, and engage with tourists. Companies interested in attracting skilled workers should sponsor such career-oriented tours.

The inclusion of industrial tourism programs in integrated tours, where tourists visit natural, cultural, historical, and industrial sites, opens up new prospects for the sector. Such tours are available in every region of the Arctic.

A challenge for promoting industrial tourism is its insufficient advertising on local tour operator websites. Some of these sites either lack information on industrial tours or do not provide clear details. Therefore, to develop industrial tourism, it is necessary to create targeted programs, attract leading companies, and provide accessible tour information to potential tourists.

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