

SPATIAL ORGANIZATION OF INDUSTRIAL TOURISM OBJECTS: CASE OF THE KEMEROVO REGION – KUZBASS

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Abstract: In recent years, the industrialized regions of Russia have faced the need to diversify the economy and develop new industries. The advantage of such regions is that they can use their industrial heritage to develop primarily industrial tourism. The purpose of the article is to analyze the spatial organization of industrial tourism objects on the territory of the Kemerovo region – Kuzbass. The authors analyze the approaches to the essence of the concept of "industrial tourism", study international and Russian experience in the development of industrial areas and assess the state of industrial tourism in the region with the help of SWOT-analysis method. Authors also identify the potential objects of industrial tourism and analyze their spatial organization. With the help of the QGIS 3.20 program, thematic map-scheme of the location of industrial tourism objects has been made. The conclusions about the prospects and directions of development of industrial tourism in the Kemerovo region – Kuzbass are made.

Key words: industrial tourism, industrial heritage, spatial organization, Kemerovo region, Kuzbass, enterprise

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INTRODUCTION

Recently, tourism has received increasing attention from the perspective of the concept of sustainable development. This is due to the fact that tourism can contribute to the sustainable development of territories, as the territories themselves are part of an interactive, integrated and responsible economic, social state of nature on which they depend. There are different types of tourism. Usually, the type of tourism that receives the greatest development is the one for which the necessary prerequisites have developed in a certain area. For example, a rich cultural heritage is necessary for historical and cultural tourism, unique and diverse natural resources – for nature-oriented species, a large number of existing and former industrial enterprises – for industrial tourism, etc. Tourism is the most obvious and traditional way of capitalizing industrial heritage sites, which has long been actively used by a large number of foreign countries to ensure a return on investment in the reconstruction and maintenance of these sites. The tourism sector is therefore fundamental for the recovery of urban spaces and vital in the regeneration of cities (Zarrilli, 2021). Industrial tourism can become an effective tool for the development of industrial regions of Russia. At a relatively low cost, it can make a significant contribution to economic growth.

A large number of projects have been implemented in Russia to preserve industrial heritage and develop industrial tourism. Extensive experience in the preservation of industrial heritage has been accumulated in the regions of central Russia, the Urals and Siberia. The Kemerovo region - Kuzbass is one of the most important industrial regions of the country. First of all the history of Kuzbass is connected with the development of coal and metallurgical industries. A large number of objects associated with its industrial past have been preserved on the territory of the region. Some of them are identified as the objects of display for tourists and already used in industrial tourism projects. The other part may have the potential for further development of this type of tourism and diversification of the tourist offer. The purpose of the research is to analyze the spatial organization of industrial tourism objects on the territory of the Kemerovo region – Kuzbass.

MATERIALS AND METHODS

In foreign studies on the conditions and factors for the development of industrial tourism, two terms are widely used – “industrial heritage tourism” and “industrial tourism”. Most of foreign studies think industrial tourism means “industrial heritage tourism”. It is developed from the protection of industrial heritage (Wang and Fu, 2019). The documents of the International Committee for the Preservation of Industrial Heritage (TICCIH) note that industrial heritage consists of material objects of industrial and technical culture, created for production, and not for the purpose of

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possessing historical, technological, social, architectural and scientific value. Industrial heritage sites are predominantly functional, they were created to ensure maximum productivity (Duet, 2016; Ifko and Stoki, 2017).

In modern Russian and foreign literature, there is no unified approach to identifying criteria for classifying objects of industrial heritage and industrial tourism, respectively. The principles, classification criteria, types of industrial heritage objects as well as different countries and regions' experience are discussed in the works of Marot and Harfst (2012), Otgaar (2012), P. Kitay (2014), Hu and Hassink (2015), Zapariy and Zaitseva (2017), Lin (2017), Belot (2020), Price (2021) and other authors. An analysis of the works allows us to note the main criterion for industrial heritage. It is, first of all, documentary evidence of its extraordinary nature in human history. An object begins to be classified as an industrial heritage, as soon as it ceases to be used for its intended purpose, its technologies and equipment become obsolete.

As the main parameters, according to which the object can be attributed to the industrial heritage and in the future become a resource of industrial tourism, it is worth noting:

- a) the value of the object, its uniqueness, authenticity, physical integrity;
- b) historical, social, technological, artistic, architectural, territorial significance;
- c) the possibility of reconstruction, renovation, conversion, adaptation;
- d) level of preservation, viability and social significance, legal situation, security. Based on the essence of the concept of industrial heritage and approaches to the classification of objects, most foreign, and, following them, Russian authors understand industrial tourism as:

- visits to operating companies (industrial production tourism) - organizing and conducting regular excursion programs to existing industrial enterprises for educational purposes;

- visits to inactive (once operating) enterprises (industrial heritage tourism) - thematic tours to inactive production, industrial facilities in order to explore the territory and its industrial heritage sites, study the technology for creating a particular product, familiarize with the history of industrial enterprises, visit industrial zones or cities seeking to a functional transformation to achieve urban regeneration.

The definition of industrial tourism is used in official documents. For example, the Strategy for the Development of Tourism in Russia until 2035 (2019) and the National standard of the Russian Federation "Tourism services. Industrial tourism. Service provision" (2017) includes both types mentioned above: "visits to operating companies and exploring of industrial heritage sites". It is noted in the literature that in order to increase revenues generated from the positive emotions of customers within the impressions economy, many enterprises have become involved in industrial tourism by transforming their structure. From this point of view, industrial tourism is a tourism activity that includes excursions to manufacturing plants, company museums, brand parks, etc. in order to show the production process of the enterprise, the features of the product produced and the history of the company (Otgaar, 2012). Industrial tourism emerged largely as a result of the global crisis of the industrial regions of developed countries. This crisis is mainly related to the exhaustion of natural resources, the rising cost of mining, environmental problems, etc. World experience shows that the way out of this situation is the diversification of the economy with its subsequent reorientation to the tertiary sector of the economy. That is why the study of conditions and opportunities for the development of industrial tourism is quite relevant for industrial regions.

Industrial tourism is declared as one of the main directions of the strategic development of tourism in the Russian Federation and increasing its investment attractiveness. In 2017 the Council for the Development of Industrial Tourism in the Russian Federation was established in order to achieve this goal. The objectives of the Council are to stimulate the development of interregional routes of industrial tourism, to strengthen the links between industrial enterprises of Russia and tourist companies engaged in cognitive tours, including visits to industrial sites, in obtaining access to industrial sites, the formation of a unified map of industrial tourism in Russia. The tasks of the Council include stimulating the development of interregional industrial tourism routes, strengthening ties between industrial enterprises in Russia and tourist companies involved in educational tours, including visits to industrial facilities, obtaining admission to industrial facilities, the formation of a unified map of industrial tourism in the Russian Federation, etc. During the work of the Council more than 20 cross-border and dozens of interregional routes have been formed.

It is necessary to note the Udmurt Republic, Sverdlovsk, Chelyabinsk, Volgograd, Nizhny Novgorod and Vologda regions among the leading regions for the development of industrial tourism in Russia. A certain achievement in the direction of developing theoretical and methodological foundations for the development of industrial tourism in the Russian Federation can be considered the appearance of the official document "Guidelines for the organization of industrial tourism" (2020). It was developed with the support of the autonomous non-profit organization "Agency for Strategic Initiatives to Promote New Projects". Recommendations for the development of industrial tourism in the regions of the Russian Federation are a practical guide for organizing a new area of tourism business, a step-by-step instruction for creating excursions to industrial enterprises. Industrial tourism can become an efficient and cost-effective tool for promoting the goods of these enterprises, popularizing the brand and building consumer loyalty.

The development of industrial tourism in the regions of the Russian Federation contributes to the solution of a number of socio-economic problems: increasing the investment attractiveness of the regions; increasing the competitiveness and promotion of local brands and regional goods; creating an effective vocational guidance system for schoolchildren and students; increasing tourist attractiveness and tourist flow; organization of experience and knowledge exchange between specialists of enterprises, establishment of industry relations; organization of business missions for professional buyers and promotion of export potential; development of domestic and inbound tourism in the regions of the Russian Federation.

Despite some practical success, the issues of further development of industrial tourism are still poorly worked out. Until now, there is no clear interaction between industrial enterprises, state and municipal authorities, educational organizations

and commerce and industry chambers in terms of coordinating joint efforts to implement it at the regional level (Kosyakova, 2016). Old-industrial regions with a rich industrial heritage, as well as industrial centers, whose economic base has undergone significant changes in recent decades, can be primarily interested in the development of industrial tourism. The practice of developing industrial tourism shows that its success requires the participation of the manufacturing enterprises themselves, state and regional authorities, population, public and educational, organizations and cultural institutions, taking into account the views of all interested parties (Tankiyeva, 2020).

There are prerequisites for the development of industrial tourism in the Kemerovo region – Kuzbass – a typical industrial region, where the history of the formation of the coal and metallurgical industries can become the basis for the development of industrial tourism. So in the region there are examples of successful museumification of the mining and coal heritage in the region. For example, expositions demonstrating the coal wealth of the subsoil of the Kuznetsk coal basin with varying degrees of depth and information content are presented in the museum-reserve "Krasnaya Gorka" (Kemerovo) (Zaitseva et al., 2018). The purpose of this study is to identify industrial tourism sites and determine the features of their territorial organization in the Kemerovo region using GIS technologies. The main research methods were content analysis of the materials of industrial enterprises' websites, comparative geographical, descriptive, analytical (SWOT-analysis) and cartographic methods. The authors' publications on the research topic, strategies and programs for the development of domestic and inbound tourism in the Kemerovo region, as well as other open sources (tourist Internet portals, blogs, etc.) were the information base and materials for this study. The study took place in several stages.

Stage 1. Conducting a primary analysis of the current state of industrial tourism in the Kemerovo region using the methods of descriptive, comparative geographical and SWOT-analysis.

Stage 2. Identification of industrial objects suitable for the development of industrial tourism. Compilation of a database of enterprises, their grouping by industry, identification of enterprises that have conditions for receiving tourists and are already actively receiving tourists.

Stage 3. Determination of the spatial organization of industrial tourism objects using GIS technologies, construction of map-scheme reflecting objects of interest for the development of industrial tourism in the Kemerovo region. Drawing up recommendations for the effective development of industrial tourism in the Kemerovo region based on the results obtained.

RESULTS AND DISCUSSION

Stage 1

To identify the current state and determine the prospects for the development of industrial tourism in the Kemerovo region, a SWOT-analysis was carried out. Its results are presented in Table 1.

Table 1. SWOT-analysis of the current state and prospects for the development of industrial tourism in the Kemerovo region (Source: authors)

Strengths	Weaknesses
<ul style="list-style-type: none"> - Rich history associated with the industrial development of the territory; - A large number of industrial enterprises of different specialization (coal, metallurgical, food, etc.); - Availability of museums and other tourist facilities that can be included in industrial tourism programs; - The presence of educational organizations that train personnel in tourism and hospitality field; - The absence of world-class competitors in the field of industrial tourism (a free niche that can become a "highlight" of the region); - The novelty of this type of tourism; - Benefits for industrial enterprises in terms of advertising and promotion of their products and services; - Stimulation of sales of goods and services of enterprises that receive tourists; - Interest of authorities and representatives of the tourism industry in the development of industrial tourism in the region, etc. 	<ul style="list-style-type: none"> - Geographical location (distance from the main tourist flows); - Outdated equipment in many industries, requiring additional costs for the arrangement of industrial facilities attractive to tourists and for the organization of excursion services; - Lack of a comprehensive tourism infrastructure at enterprises – potential objects of industrial tourism; - Lack of tourist personnel who understand the specifics of the organization of industrial tourism; - Unwillingness and weak interest of industrial enterprises in receiving tourists (including due to the need to ensure the safety of tourists); - The prevailing negative image of Kuzbass as one of the most polluted regions of Russia; - Lack of guarantee of safety of tourists when visiting enterprises, etc.
Opportunities	Threats
<ul style="list-style-type: none"> - Increasing the tourist flow due to the development of domestic tourism; - Promotion of Kuzbass as a center of industrial tourism in Russia; - Formation of the region's brand; - Construction of the Krapivinskaya HPP as a potential object of industrial tourism; - Increasing the investment attractiveness of the region; - Modification of a purely industrial image of the region into an industrial and tourist one; - Preparation of local regulatory documents aimed at the development of industrial tourism; - An additional source of income for enterprises and companies involved in the organization of industrial tourism; - Government support for enterprises developing industrial tourism; - Creation of a system of career guidance work with schoolchildren and students. 	<ul style="list-style-type: none"> - Deterioration of the environmental situation, which may reduce the attractiveness of industrial tourism; - Accidents at industrial enterprises, including during excursions; - The emergence of competitors involved in the development of industrial tourism in other industrial regions of Russia; - Decrease in the number of tourists due to the specifics of the type of tourism (non-mass character, narrow orientation towards industrial objects lovers); - Reduction of display objects due to the closure of enterprises; - Competition from other types of tourism.

The results of the SWOT-analysis showed that the industrial Kuzbass is a region in which industrial tourism has the conditions, prerequisites and prospects for development. Strengths and opportunities allow us to develop a competitive tourism product despite all the threats and shortcomings. But which objects of industrial tourism may be of the greatest interest for tourists and, thus, are the most promising? The experience of which countries and regions of Russia can be used as a guideline? The old industrial centers of the world, which were able to use their industrial heritage for the reorganization of the territory, can become indicative for Kuzbass.

Such illustrative examples include the Ruhr, formerly the coal-mining center of Germany; the Blanford industrial landscape in Wales, shaped by the massive production of iron and coal during the industrial revolution; former coal basin Nord-Pas-de-Calais in northern France, and now a UNESCO World Heritage Site, etc. It is unlikely that Kuzbass will be able to repeat the experience of one this region in the near future at the current level of development.

However, it is important to understand that the reorganization of these industrial territories took place over several decades and was carried out in connection with the need to overcome the crisis. The Kemerovo region has the opportunity to avoid entering into the deepest crisis associated with its dependence on raw material rent by reorienting to the tertiary sector of the economy. Diversification and orientation towards industrial tourism can be the way out. In addition, comprehensive work on the development of industrial tourism will contribute to the sustainable positioning of the industrial potential of the entire region in domestic and foreign markets.

Stage 2

To identify the objects of industrial tourism, a primary database was compiled indicating enterprises and objects that are promising for the development of industrial tourism. A grouping of objects and facilities by industries was carried out, the amount of enterprises ready or not ready to receive tourists were marked (Table 2).

Table 2. Amount of industrial tourism objects and enterprises grouping by industries (Source: made by authors)

Industry	Amount of objects / enterprises	
	ready to receive tourists	not ready to receive tourists
Electric power	2	7
Chemical	2	6
Mechanical engineering	-	11
Coal mining	4	others
Metallurgical	3	4
Food and processing	8	13
Oil refining industry	-	3

It follows from the table that only a small part of enterprises is ready to receive tourists. The enterprises of food processing and coal mining industry are the most prepared for the organization of excursions.

For example, some open pit mines have observation decks. There are some objects of special interest except for enterprises mentioned in the table. They can also be the potential objects of industrial tourism, and some of them already accept or are ready to accept tourists as part of organized tours and excursions.

Stage 3

In the QGIS 3.20 program, a schematic map has been compiled. It reflects potential objects of interest for the development of industrial tourism in the Kemerovo region. This map-scheme shows the most promising objects of industrial tourism in Kuzbass. Analyzing the location of objects in terms of the possibilities for the development of industrial tourism, we can talk about their concentration in the two largest cities of the Kemerovo region – Kemerovo and Novokuznetsk (Figure 1).

The results of the study demonstrate the presence of a large and diverse base of objects for the development of industrial tourism in the Kemerovo region – Kuzbass. For example, observation decks have been organized at some existing open pit mines (Bachatskiy, Kedrovskiy and others), while inactive ones become the basis for the creation of diving centers (for example, the flooded Temir-Tau quarry) or the recreation areas (lakes Aprel'ka and Tolstochikha). Excursions are organized and conducted at numerous enterprises of various industries.

However, the examples given are isolated cases of organizing tourism activities for industrial enterprises, which indicates the need to develop this area, including because of the growing need for the development of domestic

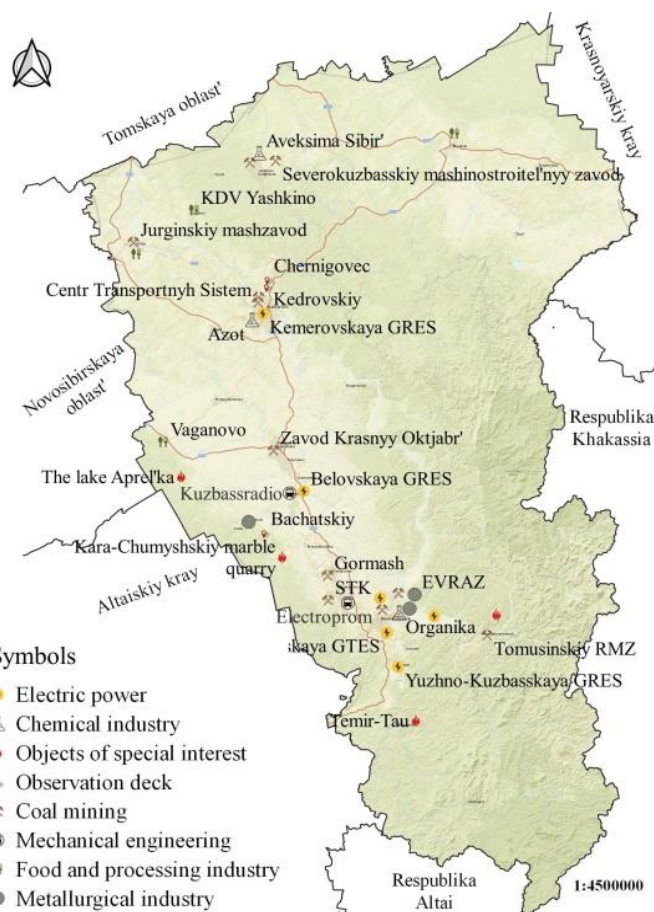


Figure 1. The map-scheme of potential objects of industrial tourism in the Kemerovo region – Kuzbass (made by the authors)

tourism. Industrial tourism in the Kemerovo region should be conditionally divided into two areas – the actual industrial and industrial-historical tourism. Both of these areas are potentially beneficial for development.

The first direction includes excursions to coal mines, chemical, metallurgical and food enterprises in different cities of the Kemerovo region, a number of which are already actively accepting tourists.

The second direction includes visiting the sights associated with the history of the industrial development of Kuzbass. Krasnaya Gorka Museum-Reserve, the Monument to the Miners of Kuzbass in Kemerovo, the Memorial Museum of Military and Labor Glory of Kuznetsk Metallurgists, the Garden of Metallurgists, the monumental composition "Steelworkers", the Museum of Mining Glory of the Kolchuginsky Mine, the Scientific and Technical Museum named after Academician I. P. Bardin in Novokuznetsk and much more are among such attractions.

Both directions of industrial tourism are included in the branded route "Kuzbass. Fire in the heart". The route provides an opportunity to visit the most significant places of the Kemerovo region, including the Krasnaya Gorka Museum-Reserve of Industrial History, created on the site of the discovery of the Kuznetsk coal basin. An excursion to the coal mine, acquaintance with the technology of coal mining and the experience of the enterprise in the biological reclamation of technogenically disturbed lands are also included in this route.

CONCLUSION

At first glance, industry as a phenomenon is opposed to the concept of sustainable development, because it is based on exhaustible natural resources – coal, iron ores, oil, etc. However, a closer look, including international experience, makes it clear that the industry can become the basis for the transition to the development of the tertiary sector of the economy thanks to tourism. It is tourism that can solve the problems of resource exhaustibility, the negative image of the region, limited jobs, etc. The ways of moving from raw material rent to more stable in the long term sources of financing are very important for Kuzbass. Tourism, in our opinion, is one of such ways. This is especially relevant and necessary in the context of the intensification of external factors, including the pandemic, when there is a need for domestic tourism.

The special role of tourism, including industrial tourism, in diversifying the economy of Russian regions is beyond doubt. The diversification effect of tourism is also revealed in stimulating the country's economic growth and accelerating regional development, increasing tax revenues, creating new jobs, improving the quality of life of the local population through the manifestation of positive economic and social effects (Brel et al., 2020).

Industrial tourism is an effective tool for promoting the brand of the region and the prospect of import substitution in domestic tourism, which is confirmed by tourism development strategies adopted in different regions of the Russian Federation for the coming decades, which also include the development of industrial tourism. Many Russian cities can become centers of industrial tourism. The objects of the industrial heritage of these cities are of significant historical, economic and educational interest. Due to the scale of production, they are not inferior to the European center of industrial tourism.

In addition to contributing to the region's economy, industrial tourism is also useful in that it performs an educational function. During the excursions to industrial enterprises, tourists can get acquainted with their history, with the features of the production of a particular product, with modern technologies, as well as problems and prospects for the further development of the enterprises. Moreover excursions to industrial enterprises contribute to the patriotic education of the local population, play an important role in professional orientation and help in the professional self-determination of youth. Creative understanding of the territories of former industrial sites provides a link between times and generations, creates new jobs, contributes to the creation of a positive image, and attracts tourists (Alekseeva, 2017).

To improve the efficiency of the development of industrial tourism in the Kemerovo region, we consider it expedient to solve the following tasks:

- museumification of industrial heritage objects, including the use of modern digital technologies;
- conversion of old industrial buildings for use in modern socio-cultural purposes;
- development of regional tourism products, including excursions to industrial enterprises and sights related to the industrial history of the region, as part of complex tours of the cities of the region;
- optimization of the system for organizing excursions to industrial enterprises;
- expansion of contacts between tourist firms and industrial enterprises;
- improvement of marketing activities to promote regional tourism products, including industrial tourism;
- improvement of the legislative framework, development of state programs for the development of industrial tourism, etc.

So, for many industrial regions of Russia, industrial tourism is an effective marketing tool for the territory and a promising direction for the diversification of their economy. The role of industrial tourism may become even more significant in the future. The potential of industrial regions, due to the existing industrial heritage objects is a solid basis for the development of industrial tourism in Russia, including the Kemerovo region – Kuzbass.

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