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## Justification of the need for forming a frame of mutually complimentary industrial innovation centers in the ultracontinental core of the Eurasian space

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# Justification of the need for forming a frame of mutually complimentary industrial innovation centers in the ultracontinental core of the Eurasian space

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**Abstract.** Growing disagreements between major actors of world politics and economy have aggravated the conflict between leading competing states and caused expansion of geopolitical and geo-economic rivalry. Living conditions of the population of territories located in the most vulnerable places of the Earth, including ultra-continental cores in the countries of the former “socialist camp” (USSR, China, Mongolia) are sharply deteriorating. Creation of a frame-type network model based on the new industrial innovation centers could contribute to the development of these areas. Such centers should pool and reasonably direct available resources to the most competitive and called-for economy sectors capable to provide the best performance of end-use products output. Along with already recognized subnational leaders, agglomerations of Barnaul, Irkutsk, the Tashkent-Shimkent and Rubtsovsk-Semey transboundary industrial hubs, Jiuquan city district of Gansu province are proposed as nodes for the future development of the study space. The prospects for the Rubtsovsk-Semey hub are demonstrated in more detail. Each core of macro-regional development should have its own polymodal specialization bound as to the world economy as to the interests of Eurasian central countries that enables to mutually complement and strengthen these territories. It is emphasized that the joint strategy of development will ensure a full-fledged economic breakthrough in the ultra-continental Eurasian space.

## 1. Introduction

The series of interrelated or mutually influencing events in modern world economy, social sphere, international politics as well as information and communication sector corrected by COVID-19 pandemic leads to unexpectedly rapid changes in almost all spheres of human development and increased geopolitical rivalry and geo-economic competition between developed and developing countries. At present, critical examination of values of post-industrial development in “Western” countries takes place; many of them do not stand the test of time and become pseudo-universal, irrelevant and unsuitable for other countries with another religion and mentality.

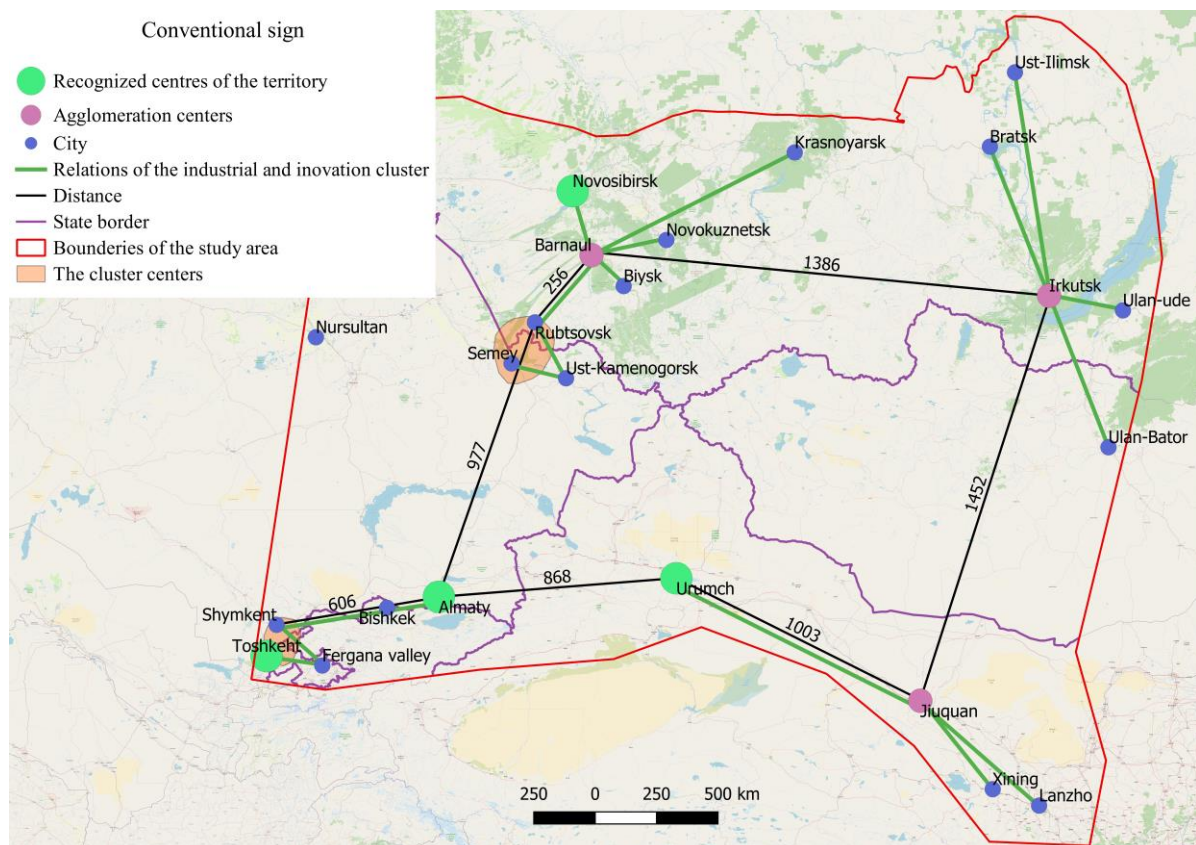
In times of crucial changes, living conditions of the population inhabiting the territories located in the most vulnerable natural and economic-geographical parts of our planet are sharply deteriorating. Along with extremely cold or hot places, these include ultra-continental territories. In the context of a liberal trade and export-oriented economy with hypertrophied demand for hydrocarbon raw materials, such territories are at disadvantage as compared to sea regions. The latter have clear advantages of



economic and geographical location; they enhance their capabilities at most, unlike remote and unprofitable ultra-continental territories of Central Eurasia.

## 2. Study object

In our opinion, ultra-continental territories and their cores identified in the works by L.A. Bezrukov [1, 2] require some revision and “expansion” in Eurasia, where the borders of the largest (by area) state (Russia), the most powerful economy in terms of gross production (China) and two largest inland states in the world (Kazakhstan and Mongolia) converge. Noteworthy that at a relatively close economically and logistically accessible distance, there are five more countries having no access to the open sea, but possessing significant labor forces and natural resources. All these countries share borders and have prospects for cooperation with India and Iran (3rd and 18th world economies, respectively). The considered territories (figure 1) have a huge transboundary potential for developing trade, transport, industrial and innovative links in Eurasia and adjacent areas, especially in the light of the implementation of the Chinese initiative “One Road – One Way”.



**Figure 1.** Transport and transit, industrial and innovative centers of the ultra-continental territories of the Eurasia.

Among main features of the considered transboundary areas are their remoteness from the open seas, relatively low population density, sparse network of cities, lack of high-margin natural resources in the energy sector, depressive industrial development, lack of leading center and effective joint strategies for socio-economic development, poor research and innovation centers, low initiative and atomicity of local communities, output of raw materials and semi-finished products. The latter component should be emphasized when working out a strategy for spatial and organization development of central ultra-continental territories of Eurasia.

### 3. Models and methods

The system-dialectical research paradigm is proposed as a methodological basis. It envisages consideration of most important system-forming aspects, i.e. formation, functioning and development of relations and opportunities of the transboundary territory under study. The current world economic and political system is at a certain turning point because of obvious clash of vital interests of leading actors. Being middle-located relative to the largest economical centers, the study region is not strictly associated with one powerful state or the Union that makes it extremely promising [3-7]. Therefore, to provide efficient use of all available resources and development boost of adjacent territories and countries, it is necessary to create a model for reformatting the Eurasian space.

### 4. Results and discussion

In economic terms, the mentioned ultra-continental territories are mainly the periphery of the powerful former USSR and two adjacent depressed countries. The geopolitical situation has changed over the past quarter-century making a significant effect on the alignment of forces in the region. New actors, countries and forces have emerged, enormous economic and political changes occurred resulting in escalation of previously latent religious, national, ethnic and domestic political conflicts. Thus, it is in the interests of all border countries of the ultra-continental core and adjacent states to implement a transboundary megaproject in this space. For instance, “cementing” this space economically and establishing local centers will allow to attract much-needed foreign investments. The regions are undoubtedly short of investments. A vivid example is Novosibirsk oblast – the center of Siberian Federal District (SFD). Its capital is ranked third by population among Russian cities and famous for its strong research center. Currently, only 0.38% of total foreign direct investment in the country fall on this region [8]. The task of the expert community and business circles is to link scientific developments and industrial investment projects with trends in spatial and economic development of countries and territories adjacent to the transit zone. The Chinese initiative “The Silk Road Economic Belt” is primarily aimed at establishment of close ties between the transboundary territories involved. However, existing and projected transport arteries (even with well-developed logistics) are not major specialization of these territories, but just a necessary component of their multi-structural development. Otherwise, we should agree with researchers [9, 10], who do not see any prospects for local communities in case of the Chinese initiative implementation solely as a transit project.

Based on realities of world economy, in the Russian strategy of spatial development agglomerations act as main industrial and food producers. In this context, it is necessary to create a network of agglomeration zones connected to each other by both transport and cooperation links.

The analysis of the development of core countries and regions suggests the establishment of centers for investment attraction in order to provide economic and technological ties and create value chains on equal terms with adjacent states and territories. Operation of international corporations based on functioning branches of transnational corporations will contribute to innovations formation and overcoming negative consequences of site remoteness from seaports, major political and economic centers. Hence, these territories will be able to output end-use products and have access to end-use goods and services instead of resource and raw material specializations strictly dependent on global markets.

Figure 1 shows the proposed frame of the future economic complex in the ultra-continental cores and adjacent territories. It is especially important when actors of new production and service technologies are local producers, who along with extracting high added cost are able to modernize territories due to their business and enterprises as well as the introduction of digital economy technologies thus giving an impetus to the territory development [11].

The largest regional cities have poor passenger routes and cooperation. Connections are made through national and regional capitals or megacities. As a result, there are no local multinational holdings here, only enterprises dealing with raw materials and intermediate products output.

The study is evidence of the absence of joint innovation information centers (with established interrelations) responsible for working out scenarios of the territory development. This explains specialization choice in such remote territories by the residual principle without taking into account their

own strategical interests. Because of poor living conditions, the most educated and qualified part of local communities "vote with their feet" migrating to other countries and regions. In order to avoid the outflow of the most valuable human capital, a new impetus and prospects for the transboundary area development are required; they may be achieved through stimulating tourism as well as educational, medical inter-regional and inter-agglomeration ties. An additional argument in favor of creation of the industrial-innovative frame could be the entry of north-western territories of Xinjiang into the ultra-continental core of Eurasian space. In the recent decade, along with central provinces, Qinghai and Gansu have shown a higher industrial growth than the national average [12]. Unfortunately, China is pursuing an expansion policy in the Central Asian Region with a focus on the transport and raw materials vector. This does not contribute to a long-term relationships among all the territories under consideration and does not create an additional product sufficient for national economies development, not to mention the increasing negative factor of the public opinion because of COVID-19 pandemic, a sharp drop in prices for energy and some commodities [13].

Specialization of recognized local service-oriented capitals (Urumqi, Tashkent, Novosibirsk, Almaty) should be strengthened or new production and innovation sites in smaller agglomerations should be created. Such locations can link the adjacent rural areas with industrial zones and act as new exporters in the markets of adjacent territories, promote cooperation and mutually beneficial establishment of cross-border holdings. This is important not only for the countries of the ultra-continental core, but also for enterprises of other countries, i.e. Pakistan, Iran and India. In the age of patent and innovation competition, only a broad cooperation can give competitive technical, economic and technological solutions. Such an industrial specialization-cooperation could contribute to forming a conglomerate of local interconnected and complementary research and innovation centers for obtaining world-class results actual for internal territories of Eurasia.

Agglomerations of Barnaul and Irkutsk, the Tashkent-Shimkent and Rubtsovsk-Semey cross-border industrial hubs as well as Jiuquan city district of Gansu province can be considered as the cores or nodes of intensive innovation and industrial development of the Region. Each of these cores can have its own polymodal specialization, well-bound with world economy and interests of central territories of Eurasia thus ensuring mutual complementing and strengthening.

The territory between two border cities (Rubtsovsk and Semey), which are important industrial centers in Altai Krai and East Kazakhstan Oblast, is a good example of a new application of opportunities and capital.

In the recent past, Semey city was the administrative center of Semipalatinsk oblast, which by population size and industrial potential was slightly inferior to Ust-Kamenogorsk – the center of East Kazakhstan Oblast/akimat. This administrative territory is rich in deposits of coal, gold-bearing and polymetallic ores, including industrial reserves of marble, granite, gabbro and other non-metallic minerals. There are large extractive enterprises of coal (e.g. "Karazhyra LTD") and gold-bearing ore. "FIC Alel" JSC is a subsidiary of a fast growing gold mining company with its branches in West Africa, Kazakhstan and Russia. Production of the Semey cement plant is sold in the markets of Kazakhstan and SFD. The plant is among key suppliers of products for the construction of highways and roads of national significance, including "Western Europe - Western China". Another company, which is of interest in terms of cooperation, is a transboundary industrial complex "Zhana – Semey Shpalzauyty" JSC producing impregnated sleepers, telegraph poles, bridge beams, snow shields for the railway, etc. The Semipalatinsk machine – building plant is one of the city-forming and promising for cooperation companies; it produces tractors, spare parts, vehicles components, etc.

Highly industrial Rubtsovsk is a relatively young city of Altai Krai. It is the transport hub connected by rail and road lines with Kazakhstan and Central Asian republics. The Rubtsovsk branch of "Altaivagon" JSC and its Machine-building plant, Foundry and Railway machinery enterprises; "Altaitransmash service" Co LTD specializing in all-terrain caterpillar tractors; "Sibagromash" JSC, which produces tillage equipment and related spare parts; "Rubtsovsk spare parts plant" close corporation and "Rubtsovsk timber processing plant" hold the greatest promise in terms of international

cooperation. Enterprises for processing agricultural products are of great importance for the city's economy.

Semey and Rubtsovsk are the second and third most populated cities in the regions (including rural population of adjacent areas it is about 500 thousand people); the distance between them is less than to their regional capitals. Specializations in tractor construction and agricultural machinery appeared here during the Soviet period. Traditionally, the cities were famous for their skilled workers. Agricultural machine-building enterprises of these cities can complement each other and develop strong collaboration. A vast consumer market in Central Eurasia countries specializing in agriculture is a real incentive for establishment of a transnational agro – machine building cluster here. To facilitate the access to regional markets, it is reasonable to include the most competitive foreign enterprises in this agricultural holding.

Iran (closed for the West by sanctions) and Pakistan (a growing state with a larger population size than in Russia) offer promise as markets and partners for the Rubtsovsk-Semey cross-border industrial complex. Both cities are currently depressed, crushed with numerous problems and high unemployment rate exceeding the national average. Historically, they are connected with business, cultural, family and other relationships. It is a perfect location for creation of a modern transport and logistics center for redistribution of products flow via Russia – Central Eurasia and China and back. In addition, there are all the prerequisites for the development of a powerful food industry cluster in Rubtsovsk due to agricultural products supplied by Central Asian countries, Afghanistan, Iran and Pakistan, to be processed and sold in Asian Russia and the mentioned countries as well.

## 5. Conclusion

In the context of the aggravated geopolitical situation and tougher economic competition between the advanced "Western" countries, on the one hand, and Russia, China and other developing countries, on the other, the necessity in implementation of a powerful pilot project for the development of the considered ultra-continental transboundary space of Eurasia is obvious. The proposed framework, i.e. the combination of transport and logistics realities with local complementary industrial innovation centers, each of which should create its transnational cluster and provide a real breakthrough in economic development accompanied by environmental conservation, creation of a modern infrastructure and improved quality of life of the local population. This initiative should be supported by a joint detailed strategy of development and avoid unnecessary competition between the proposed nodes and national/regional communities.

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