



BRINGING REGIONAL INDUSTRIAL COOPERATION TO A NEW LEVEL IN CENTRAL ASIA: OPPORTUNITIES AND CHALLENGES

Urinboev Khabibullo Sadulla ugli

Abstract

To date, the countries of Central Asia - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan have great potential for regional industrial cooperation and are interested in developing this cooperation. For these countries with a rich history and diverse resources, the development of economic integration and cooperation has a strategic position, and high profitability can be achieved by launching new projects. Strengthening regional ties will help to diversify the economy, increase competitiveness and attract foreign investments. This article examines the current landscape of industrial cooperation in Central Asia, highlights opportunities for development, and analyzes the challenges to be overcome.

Keywords: regional industrial cooperation, SWOT analysis, Industry 4.0, industrial revolution, production automation, customs reform, sustainable development.

Introduction

When it comes to industrial cooperation, different sources give different definitions of this concept. In general, in terms of content, the concept of industrial cooperation is a long and stable form of relations between several separate subjects (enterprises, firms, corporations, states, regions, etc.) located in different regions, aimed at the production of a certain product and economic benefit. [2]

Central Asia is distinguished by traditional sectors such as agriculture and mining, as well as developing sectors such as energy, manufacturing and technology. The region's vast mineral resources, including oil, gas and minerals, provide a solid foundation for industrial development and export-oriented growth. Initiatives such as the Eurasian Economic Union (EEU) and the Central Asian Regional Economic Cooperation (CAREC) create platforms for the development of cooperation and trade integration, and create opportunities for mutually beneficial cooperation.

The Central Asian Regional Economic Cooperation (CAREC) program is a cooperation of 11 countries (including Uzbekistan) and development partners to promote development through cooperation leading to rapid economic growth and poverty reduction. It is based on the common vision of "Good Neighbors, Good Partners and Good Prospects".

The program is an active supporter of practical, results-based regional projects and policy initiatives critical to sustainable economic growth and overall prosperity in the region. Since its inception in 2001 and as of December 2023, CAREC has invested a total of \$51.02 billion in various sectors.[5]

In the path of modern development of our country in Central Asia, regional stability, consistent development, harmonious relations between neighbors are gaining importance. The development of Uzbekistan is closely related to the general development of the region. As stated by the President



of Uzbekistan Shavkat Mirziyoyev, achieving peace and economic prosperity in Central Asia is our main goal and most important task.[4]

Industry plays a critical role in achieving the Sustainable Development Goals by stimulating economic growth, promoting innovation and promoting responsible resource management. As economies develop, industries contribute to job creation, infrastructure development and technology adoption, creating a foundation for sustainable practices and inclusive growth.

By integrating sustainable principles into industrial processes, such as reducing carbon emissions, minimizing waste generation, and adopting renewable energy sources, industries can mitigate environmental impacts and support long-term social and economic well-being. Adopting sustainable industrial practices protects the environment and helps achieve the broader development goals, which include poverty alleviation, quality education and climate action.

Conducting a SWOT analysis (Strengths and Weaknesses, Opportunities and Threats Analysis) for regional industrial cooperation in Central Asia can provide valuable insights into the current situation and factors affecting cooperation and development. Below is a SWOT analysis of the region's industrial cooperation activities:

S – Strength

1. Strategic location: Central Asia's strategic geographic location between Europe and Asia positions it as an important transit hub for trade and logistics. This strategic advantage facilitates the flow of goods, services and investment between major markets, providing opportunities for enhanced regional economic integration and cross-border connectivity.

2. Natural Resources: Central Asia is rich in natural resources, including oil, gas, minerals, and fertile agricultural land. This rich resource base provides a solid basis for the development of export-oriented industries and for generating income. It offers significant potential for value-added processing and export activities, contributing to economic diversification and growth.

3. Growing infrastructure investment: Investment in infrastructure is growing in the region, particularly in transport corridors and collaborative projects such as the One Belt One Road initiative. These investments will improve physical connectivity within and beyond Central Asia, expand trade routes, reduce transportation costs, and facilitate cross-border trade and economic activity.

4. Development of regional economic integration: Central Asian countries are actively participating in regional economic integration initiatives such as Eurasian Economic Union (EEU) and Central Asian Regional Economic Cooperation (CAREC). These initiatives facilitate trade harmonization, market access and policy coordination among member countries, promote economic cooperation, cross-border investment and cooperation in key sectors.

W – Weaknesses

1. Limited diversification: Central Asian economies are largely dependent on traditional sectors such as extractive industries (oil, gas, minerals) and agriculture, with limited diversification into industries with high added value. This dependence creates challenges for sustainable development



and economic stability, making the region vulnerable to commodity price fluctuations and global market trends.

2. **Infrastructure Gaps:** Despite growing investment, Central Asia has serious infrastructure gaps, including cross-border transport networks (roads, railways), limited energy connectivity and logistical challenges. These gaps impede effective trade, connectivity and supply chain integration, affecting overall economic competitiveness and growth potential.

3. **Regulatory and institutional constraints:** various regulatory and legal frameworks and bureaucratic obstacles in the countries of Central Asia create complexity for enterprises operating in the region. Inconsistent regulations, administrative procedures, and legal uncertainties hinder cross-border trade, foreign investment, and business expansion, deter potential investors, and hinder economic integration.

4. **Lack of qualifications and skills:** Lack of skilled labor in advanced technologies and industries has a detrimental effect on labor productivity. In Central Asia, there is a shortage of skilled labor in advanced technologies and industries, and there are gaps in vocational education. These skills mismatches limit innovation, technological adoption and competitiveness in key sectors critical to industrial development and economic diversification.

O – Opportunities

1. **Growth of trade and investment:** Central Asia's proximity to rapidly developing markets such as China, Russia and South Asia provides great opportunities for expanding trade and attracting investment. Increased demand for goods and services in these neighboring markets creates opportunities for export-oriented industries and cross-border cooperation.

2. **Energy sector development:** Energy cooperation, including renewable energy projects, oil and gas exploration, and energy infrastructure investments, will provide opportunities to increase energy security and promote sustainable development. The vast energy resources of Central Asia serve as a solid basis for regional cooperation and energy trade.

3. **Technology transfer:** Cooperation on technology transfer and innovation exchange provides opportunities for industrial modernization and capacity building in Central Asia. The use and sharing of advanced technologies can stimulate innovation, increase productivity and stimulate growth in key sectors such as manufacturing, agriculture and services.

4. **Regional Stability Initiatives:** Efforts to improve political stability, resolve conflicts, and expand regional cooperation are contributing to investor confidence and economic stability. Strengthening diplomatic ties and promoting peace-building initiatives will create an environment conducive to business expansion, foreign investment and economic cooperation across borders.

T – Threats

1. **Global Economic Uncertainties:** External economic factors such as changes in commodity prices, global market downturns, and trade conflicts can have a negative impact on export-



dependent economies in Central Asia. Economic shocks and disruptions in global markets can lead to economic instability, reduced investment flows, and challenges to industry growth and diversification.

2. Impacts of climate change: Climate change-related risks (eg, water scarcity, extreme weather events) create challenges for agriculture and natural resource-based industries. Central Asia is vulnerable to climate change, including water scarcity, desertification and extreme weather events. Environmental problems threaten the stability of agriculture, natural resource management and infrastructure, and affect industrial activity and economic stability in the region.

3. Geopolitical instability: Persistent geopolitical tensions, border disputes, and competing regional interests threaten stability and investor confidence in Central Asia. Uncertainties related to geopolitical dynamics can disrupt economic cooperation, trade activities and investment flows, affect regional integration efforts and industrial partnerships.

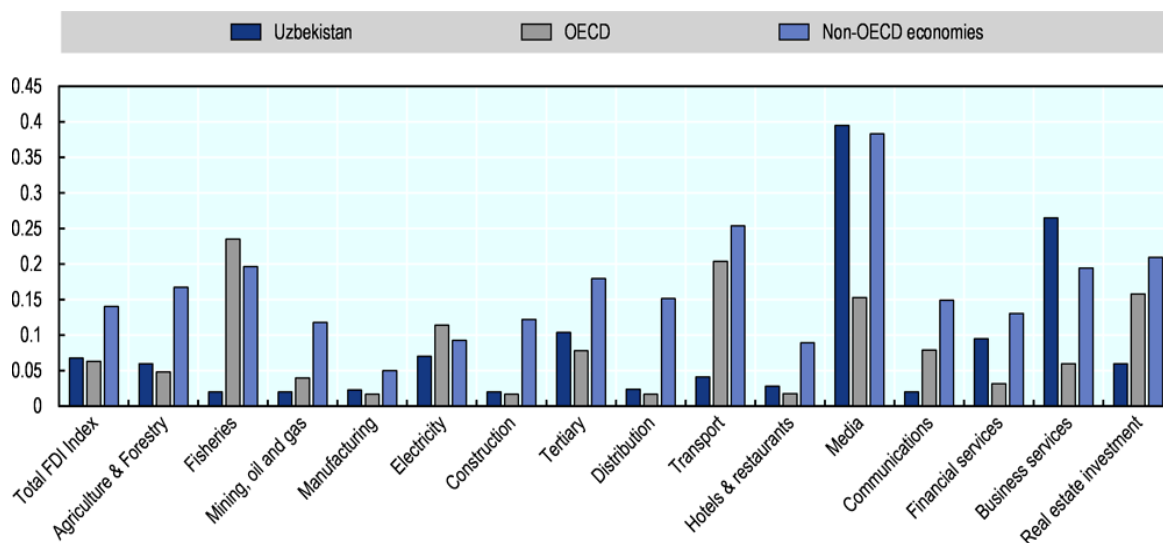
Today, countries face urgent issues such as removing bureaucratic obstacles and ensuring transparency, gradually transitioning to a digital economy, increasing the welfare of the population by providing relief for business activities, bringing industrial integration to a new level and bringing innovations to it.

In order to solve the above-mentioned problems and shortcomings, a number of new projects, especially customs reforms, are being emphasized. In this regard, in order to bring the Customs administration to a new level, drastically reduce the human factor through the digital transformation of customs and cargo operations, and transform the customs sector into a corruption-free system based on the principles of openness, transparency and reliability, a number of laws and regulations have been adopted in our country.

One of such important news is the Decree of the President of the Republic of Uzbekistan of April 2022 "On additional measures to further improve the customs administration", according to which a number of customs many reforms in the field are set to be introduced. In particular, from September 1, 2022, it was determined that the volume of automatic customs clearance of low-risk cargo declarations without human intervention will be gradually increased.[1]

One of the latest initiatives was the "Central Asia" industrial cooperation center aimed at developing industrial cooperation between Uzbekistan and Kazakhstan. In this regard, the agreement was signed in November 2023, and this center will allow the creation of new productions, job creation, promotion of processing of agricultural and industrial products, as well as the provision of logistics services for the transportation of goods. For the construction of the center, a total of 92 hectares of land from Turkestan region of Kazakhstan and Syrdarya region of Uzbekistan has been allocated, which will serve to increase the volume of trade between our countries to 10 billion US dollars.[2]

Today, as a result of the actions carried out in the field in our country, it can be seen that the volume of foreign direct investments (FDI) has increased significantly in recent years. Sector restrictions for foreign investments such as agriculture, transport, media and banking have been significantly reduced, and Uzbekistan is taking important steps to create opportunities for all partners and investors to operate under good conditions. The table below shows the current restrictions on foreign investments in Uzbekistan, the OECD and outside the sector. Higher values mean that there are restrictions on the activities of foreign investors in the sector.



Graph 1

OECD Index of Direct Investment Restrictions in Uzbekistan (2020). [7]

Automation of production provides important advantages for regional industrial cooperation in Central Asia, stimulates economic development, increases competitiveness and promotes sustainable growth.

By using technologies such as robotics, artificial intelligence and Internet of Things (IoT) systems, Central Asian industries can achieve high results in terms of quality, productivity, technological growth, cost and resource savings. In its place, this will serve as the first step to the emergence of a completely new era in the region - the industrial revolution.

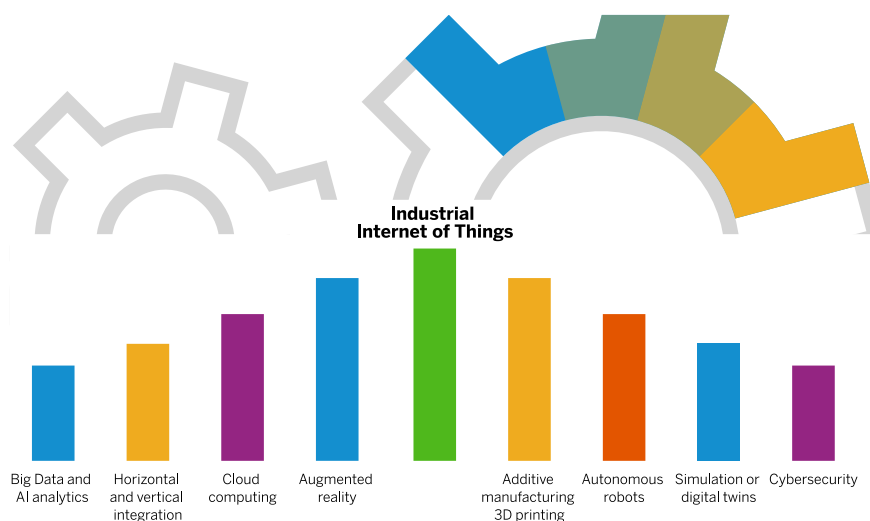
According to the sources, 4 main stages of the industrial revolution are distinguished:

- The first industrial revolution is characterized by the mechanization of production processes through the use of water and steam power. This period is distinguished by the development of the textile industry and the increase in iron production on a national scale. During this period, mass production techniques began to transform the economy.

- The second industrial revolution, that is, the technological revolution, took place from the end of the 19th century to the beginning of the 20th century. This period was marked by significant technological advances, including the development of electricity, steel production, the telegraph, and the telephone. The assembly line production method invented by Henry Ford revolutionized manufacturing and led to the mass production of consumer goods.

- Around the middle of the 20th century, computers came onto the main stage. the third industrial revolution saw the early development of factory automation and robotics. This period is also characterized by the first use of computerized business systems built for data management and analysis.[3]

- The fourth industrial revolution, also known as Industry 4.0, represents the ongoing digital transformation of industry through advanced technologies such as automation, artificial intelligence (AI), robotics, the Internet of Things (IoT), and data analytics. Smart factories equipped with interconnected machines and sensors enable autonomous production processes, real-time monitoring and predictive maintenance. In addition to manufacturing and logistics, Industry 4.0 is reshaping traditional industries such as education, healthcare, agriculture, and energy by increasing efficiency, productivity, and customization.



Picture 1

Key technologies of Industry 4.0 integration.[3]

The introduction of Industry 4.0 technologies plays a decisive role in the development of regional industrial cooperation in Central Asia and creates great opportunities for economic development, innovation and competitiveness.

Industry 4.0 technologies, such as automation, robotics, and IoT systems, can significantly increase productivity and operational efficiency in all industries. By integrating smart manufacturing practices and digital solutions, Central Asian countries can optimize production processes, reduce waste and increase resource utilization. These efficiency gains will not only save costs, but also strengthen supply chain management and logistics and facilitate collaboration between regional partners.

Advanced technologies such as artificial intelligence (AI), machine learning and additive manufacturing will create new products, services and business models, increase development opportunities, thereby making Central Asia a center of innovation and knowledge exchange.

Industry 4.0 will facilitate cross-border cooperation and integration among Central Asian countries by ensuring seamless data exchange, system interoperability and digital connectivity. Collaborative initiatives such as joint research projects, common industrial platforms and supply chain integration use digital technologies to coordinate activities and optimize value chains.

References:

1. Decree of the President of the Republic of Uzbekistan No. PF-122 dated 04.27.2022 "On additional measures to further improve the customs administration". <https://lex.uz/ru/docs/-5998615>
2. Data from the official page of the Ministry of Trade and Integration of the Republic of Kazakhstan. <https://www.gov.kz/memleket/entities/mti/press/news/details/649848?lang=en>
3. Fomina, Alena & Berduygina, Oksana & Shatsky, Alexander. (2018). Industrial cooperation and its influence on sustainable economic growth. *Entrepreneurship and Sustainability Issues*. 5. 467-479. 10.9770/jesi.2018.5.3(4).
4. Data from the official website of the SAP company. <https://www.sap.com/products/scm/industry-4-0.html>



5. Nazirov M. - O'zbekistondagi siyosiy o'zgarishlarning Markaziy Osiyoning barqaror rivojlanishiga ta'siri (Impact of political changes in Uzbekistan on the sustainable development of Central Asia). *Oriental Renaissance: Innovative, educational, natural and social sciences* 1/11. Article. https://oriens.uz/media/journalarticles/29_Mukhtor_Nazirov_233-243.pdf
6. Data from the official website of the Central Asian Regional Economic Cooperation (CAREC) program. <https://www.carecprogram.org/>
7. Organization for Economic Cooperation and Development (OECD) Online Library. *Improving the Legal Environment for Business and Investment in Central Asia: Progress Report. Report. 2023.* <https://www.oecd-ilibrary.org/sites/3092b837-en/index.html?itemId=/content/component/3092b837-en>