



ECOSYSTEM
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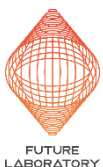
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STARTUP CENTRAL EURASIA



REPORT

KAZAKHSTAN / KYRGYZSTAN / TAJIKISTAN /
UZBEKISTAN



Startup Central Eurasia



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Foreword

I am proud to present the first Startup Central Eurasia Report - view on Central Asia, which has been created with the support of ITU. This report will help strengthen the capacity of innovation and startup ecosystems of Central Asia. The Startup Central Eurasia report will be published every year and will cover more countries. The Report will play the role of an analytical document for the countries of the region wishing to improve their performance in the process of developing startup ecosystems and the country's competitiveness in general.



The innovation plays a major role in global development and productivity growth by creating new and improved products and services for citizens.

National innovation ecosystems are key to accelerating development and fostering digital economies.

Innovation and startups are also an important factor in the process of fighting with global challenges and crisis. Those countries and organizations that were able to adapt to the challenges that followed the global COVID-19 pandemic and began to actively use innovations suffered not only less economic losses, but according to global studies, strangely enough it may seem, increased their productivity (GII2022). Unfortunately, after the normalization of the situation with the pandemic, the process of increasing productivity began to decrease.

The innovation ecosystem consists of the building blocks which are essential to unlocking opportunities and ensuring sustainability. The efficiency of the work of innovation ecosystem is achieved through the development of all blocks that ensure its operation.

Foreword

Innovative entrepreneurship is one of the driving forces of modern socio-economic development of countries, and policies and strategies for development of innovative potential and startup ecosystems are the most discussed issues. The governments of the countries of Central Eurasia are actively participating and promoting the development of innovations and create a favorable environment for the development of human potential and launching business.



The International Telecommunication Union, in its turn, while observing the potential and demand of the countries of the Central Eurasia region, is open to cooperation and assistance in the development of the startup ecosystem of the region. In response to the challenges facing the countries regarding the development of the legislative framework, human potential, financing and investment, access to global markets, the Startup Central Eurasia platform was created, which allows the countries of the region to unite their resources for joint successful development, and also provides information and tools for startups to enter global markets.

The Startup Central Eurasia Report and Ecosystem Ranking is a joint product of the International Telecommunication Union and the Startup Central Eurasia platform, prepared on the basis of a comprehensive study of the current development of startup ecosystems in the countries of the region based on the ITU methodology for assessing ICT-oriented innovation and startup ecosystems.

We express the hope that the data and recommendations provided in the Report on improving the innovative potential will allow the countries of the Central Eurasia region to assess the level of development of startup ecosystems, detect problem areas, define points of growth and make decisions aimed at the consistent development of innovation and startup ecosystems and the digital development of countries and the region as a whole.

Structure of the report

This report Will stimulate the development of successful entrepreneurial communities, Willfoster technology start-ups that prosper and create jobs, support the growth of small and medium enterprises, and encourage new public-private and regional partnerships thatfuel digital transformation and capacity growth.

First report
covering 4
Countries of
Central Asia

The International Telecommunication Union (ITU), the lead United Nations agency for information and communication technologies (ICTs), has a key role in ensuring that Member States are able to navigate technological changes. ITU has created the framework, tools, and methodology to analyze the innovation ecosystems and their building blocks. The outcome has often been used to lay the foundation for national strategies and policies that foster innovation growth and a sustainable enabling environment.

This report is a practical toolkit for stakeholders to undertake rapid innovation ecosystem assessments and develop projects that effectively nurture innovation and the startup ecosystem.

The report aims to enable and inspire successful startup communities, resulting in technology start-ups that prosper and create jobs and inspire governments to be more responsive to citizen needs

We decided to cover in our first report the ecosystems of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan to show what are the strengths and main challenges of the region and what the ecosystems should do to improve its development.

Partners

KAZAKHSTAN



KYRGYZSTAN



TAJIKISTAN



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Methodology

The startup ecosystem and startups should provide a measurable effect for the country (make global products aiming to increase the added value and improve the productivity of the economy in the country). For the development of startups, it is necessary to have the processes that promote the emergence of innovative companies and their development at the initial stage, the so-called Pre-seed and Seed stages.

Startup ecosystem consists of building blocks, efficiency and interconnected use of which serves as a condition for the creation of full-fledged technology companies, that have potential to change the world for the better in the context of solving social problems and digital transformation.

In this report we analyze the Building blocks in two sections:

- Building blocks of Startup Ecosystem supporting creation of Pre-seed stage startups
- Building blocks of Startup Ecosystem supporting creation of Seed stage startups.

For the assessment of Building blocks quantitative and qualitative indicators of the development of a startup ecosystem were developed based on the ITU methodology. We have focused on the first two levels of startup ecosystem development across six main stakeholders (Entrepreneurs, Academia, Financiers, Entrepreneurial support networks, Private sector, Public sector). Through in-depth interviews with the main stakeholders of the startup ecosystems of countries and through data analysis we received a study that generally reflects the problems and opportunities of the four countries of Central Eurasia (Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan) in developing Building blocks in two sections Pre-seed and Seed, which are faced by concerned parties. The report should serve as a good reference tool, which will help to guide innovation support and the development of the startup ecosystem in the right direction.

What is a Startup Ecosystem?

ITU defines an ecosystem as a system or network of interconnecting and interacting organizations and stakeholders, from multiple sectors, who come together and address the problems people are facing within their communities. The previous toolkit defined six key stakeholder groups, each with an important role to play at every stage of the innovation journey.

Entrepreneurs: Entrepreneurs stimulate innovation by building companies that deliver novel solutions.

Academia: This group includes primary, secondary and tertiary institutions; research institutions and training centres.

Entrepreneurial support networks: These are the organizations within the ecosystem — such as innovation hubs, incubators, accelerators, and associations — that support entrepreneurs.

Financiers: This category includes investors that support the different stages of the start-up lifecycle, from prototyping to initial public offering (IPO) for more mature companies.

Private sector: This sector includes large and mature corporations, established SMEs and groups that represent the interests of the private sector, such as chambers of commerce.

Public sector: This stakeholder group includes policy-makers and regulators who are active in the innovation ecosystem, along with other actors such as international organizations and civil society groups.

Building Blocks of Startup Ecosystem

The building blocks imply the following elements:

Entrepreneurial Interest

Pre-seed: Before creating a startup, potential innovators should be interested in entrepreneurship and understand the characteristics of technological entrepreneurship and current technology.

Seed: Entrepreneurs should discover and focus their work on relevant problems when they come up with an idea for a new innovation (including understanding how to create original products relevant to the global market or considering the context of their country's problems).

Access to financing

Pre-Seed: research funding: need to provide resources for basic research that will lead to innovation and provide access to early investment (including angel investment).

Seed: Early-stage, high-risk investments, usually less than \$100,000, are needed to launch a startup. They come from a variety of sources, including investors, public and private sectors.

Access to infrastructure

Pre-seed: events for innovators and potential innovators spread the entrepreneurial culture and provide the support needed to start the life cycle of an entrepreneur.

Seed: hackathons and contests: Idea pitching processes and contests reward innovators for successfully pitching ideas and help build connections that foster the process.

Performance

Pre-seed: success stories: Successful innovators should be visible and available to young entrepreneurs as mentors and inspirers.

Seed: Funding and support for R&D by private firms is often a major source of support for upcoming innovations, both inside and outside the firm.

Education and talent development

Pre-seed: entrepreneurial inspiration: Universities must create environments and communities that inspire and foster new entrepreneurs.

Seed: Basic research: Basic research contributes to the idea creation process by working on practical problems and developing valuable innovations.

Shared vision and strategy

Pre-seed: vision and strategy: Government should provide a clear vision and strategy for the innovation ecosystem and bring stakeholders together to support them.

Seed: Public policy should support IP rights and R&D through funding, legal protection, and other measures. Including legal frameworks for the transition to digital transformation (regulatory sandboxes, regulation of the crypto segment, crowdfunding, venture capital and investor protection guarantees) should be created.

Central Asia Startup Ecosystem Overview

In the Central Asian region is witnessed an active development of an ecosystem of innovations and startups. Success stories of startups are emerging - they are attracting investments from both regional and international investors. In the region the popularity of entrepreneurship is growing rapidly, but there are still countries where for the society is not still clearly understandable the difference between innovative entrepreneurship and small or medium-sized businesses. As before, a large number of startups are created focused on the local market, or the idea is copied from existing startup projects in the region.

Positive moments in the countries of Central Asia are the creation of specialized government agencies responsible for the development of the startup ecosystem. These state institutions with different status provide concerned parts with support programs, access to innovation infrastructure, finance and other products for the development of innovative enterprises. Unfortunately, in the countries of Central Asia some state institutions duplicate each other and are engaged in the development of one direction. But a positive trend is noticeable on the same example of Kazakhstan, where duplicating agencies were connected to the Astana Hub technopark to conduct a unified policy in the field of innovation and startups.



Waiting for Unicorn from this region

Main challenges of Central Asia Ecosystem Overview

It is important to note in the aspect of regional cooperation that the countries have elements which can be useful to all countries of Central Asia. Astana International Financial Center is an effective tool to promote the development of the startup ecosystem both in Kazakhstan and in the region. The AIFC was created similarly to the Dubai International Center and a number of others in which English law operates. The AIFC has an efficient system for registering venture funds, which can be used by both regional and international players.

The venture industry in Central Asia is in its infancy, but active processes are going on for its development. Venture funds themselves are actively involved in the development of the venture market by the means of conducting trainings for both potential partners of the fund and angel investors.

Concerning the problems in the region, all countries emphasize the need for highly qualified IT personnel and competencies necessary for the development of startups. All concerned parties note the importance of developing entrepreneurship education systems in universities and university infrastructure for student startups, which will be supportive of innovative projects. There are also problems of legislation in the field of venture financing, of supporting startups in entering international markets and cooperation between ecosystems.

As a whole, the region has great potential for development and achievement of high results in case of active collaboration of ecosystems, sharing of existing resources, optimization of state institutions responsible for the development of the startup ecosystem, orientation on the global market and increasing the productivity of local industries.

Startup Ecosystem Ranking

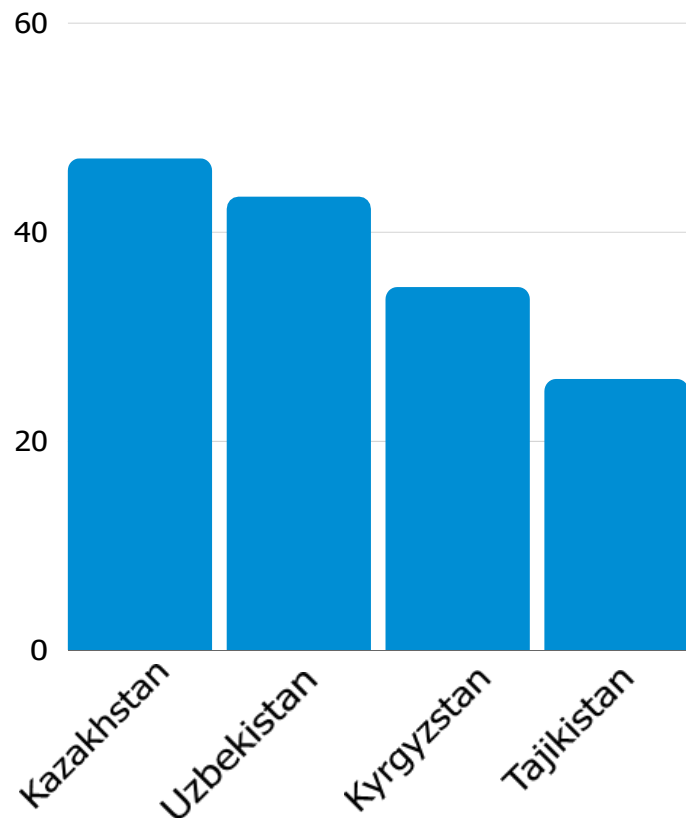


Figure 1: Comparison of countries by ranking

	Entrepreneurial Interest		Access to financing		Access to infrastructure		Performance		Education and talent		Vision and strategy		Index	Rank
	Pre-seed	Seed	Pre-seed	Seed	Pre-seed	Seed	Pre-seed	Seed	Pre-seed	Seed	Pre-seed	Seed		
Kazakhstan	4,00	4,00	3,67	4,00	4,00	4,00	3,67	4,00	4,00	3,67	4,00	4,00	47,01	1
Uzbekistan	3,75	3,33	3,00	3,50	3,00	4,33	3,67	3,67	4,60	3,50	4,00	3,00	43,35	2
Kyrgyzstan	2,50	4,10	2,70	2,00	3,00	3,50	3,40	3,00	2,75	3,00	3,25	1,50	34,70	3
Tajikistan	2,00	2,00	2,00	1,50	2,60	2,40	2,00	2,00	2,70	2,50	2,70	1,50	25,90	4

Figure 2: Detailed Comparison of Countries by Rating

The Ecosystem Maturity Map, also known as the Innovation Journey Map, sets out the work that needs to be done within the ecosystem to harness innovation on a transformative journey from pre-ideation to high growth. It describes stakeholder roles in support of entrepreneurs and innovators at each stage of the lifecycle.

The Ecosystem Maturity Map colour-coding system identifies areas which are well-supported (**green**), inadequate (**yellow**) and missing/weak (**red**).

Ecosystem Ranking

Kazakhstan / Ranking in Central Asia: 1



Indicators of development maturity	Pre-seed	Seed
Building block 1. Entrepreneurial interest	4,00	4,00
Building block 2. Access to finance	3,67	4,00
Building block 3. Access to infrastructure	4,00	4,00
Building block 4. Performance	3,67	4,00
Building block 5. Education and talent	4,00	3,67
Building block 6. Shared vision and strategy	4,00	4,00

Kazakhstan is an Upper middle-income group country with a developing economy and innovative potential. GDP as of 2021 is \$190.814.270.000¹. GDP is mainly dependent on the oil and gas sector. In 2021, the average GDP growth was about 4% percent. Also, the country is rich in natural resources. The population of Kazakhstan is 19,644,000² according to 2022 data. According to data for 2021 the total percentage of the population with access to the Internet is 92.9%³. Proportion of the population with a high level of digital literacy as of 2021 is 87.3%⁴. The share of large and medium-sized industrial enterprises using digital technologies in the whole republic for 2022 is 9.9%.

The main strategy in Kazakhstan which has orientation on ICT, an innovation ecosystem and start-ups is called the "Concept for the development of the information and communication technologies industry and the digital sphere" and was approved by the Decree No. 961⁵ of the Government of the Republic of Kazakhstan dated December 30, 2021. Also, we would like to note the national project "Technological breakthrough through digitalization, science and innovation", approved by the Decree No. 727⁶ of the Government of the Republic of Kazakhstan dated October 12, 2021.

In 2022, the Global Innovation Index ranked the country 83rd (up from 79th in 2021). It is worth noting that the Republic has dropped to 4th position in the Global Innovation Index compared to 2021, which is assessed through 81 indicators.

According to the United Nations E-Government Survey 2022, Kazakhstan is classified as "Very High" in the field of Online Service and its components Index (OSI), while Local Online Service Index (LOSI) and its components ranks 26th.

As the World Bank index in Kazakhstan notes, the Account ownership (Adults with an account) indicator is 81%, which creates excellent conditions for the development of the B2C segment

¹ <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

² Population (as of August 1, 2022, thousand people) <https://stat.gov.kz/>

³ <https://stat.gov.kz/official/industry/29/statistic/7>

⁴ <https://mitc.uz/ru/stat/7>

⁵ <https://adilet.zan.kz/rus/docs/P2100000961>

⁶ <https://adilet.zan.kz/rus/docs/P2100000727>

and the expansion of the startup market. Wherein, according to the Human Development Index (HDI), the country ranks 56th, ahead of everyone else in the region.

Startup Ecosystem of Kazakhstan

Many startups see Kazakhstan as an entry point to the Central Asian market, taking into account tax preferences. The main driver for the development of the startup ecosystem on the part of the state is Astana Hub. Astana Hub was established by the Decree of the Government of the Republic of Kazakhstan dated October 16, 2018 No. 644 KF International technopark of IT startups "Astana Hub" and defined as the international technology park "Astana Hub". It has been officially opened in November 6, 2018.

The subject of Astana Hub activity is the development of an innovative culture and improvement of the startup ecosystem through the provision of acceleration services, technological business incubation to Astana Hub participants, holding consulting, informational, analytical, educational, marketing and other events aimed at stimulating the development of Astana Hub participants and other areas of activity in the field of innovation ecosystem development. An important stage in the development of Astana Hub and startup ecosystem of Kazakhstan in general is the abolition of several state departments that were engaged in duplicating functions and their transfer under the management of Astana Hub (Reformation of the Zerde holding and merging the QazInnovations agency and the Astana Hub technopark into one organization - the park of innovative technologies).

As the Astana Hub experts are noting, the country is approaching the point where the market begins to develop itself, the growth of the ecosystem and startups occurs more organically. At the initial stages of the development of Astana Hub, classes of venture investors were held. The courses were conducted with the involvement of international experts. Currently, the market situation has changed, and venture funds already conduct such trainings themselves, create clubs of angel investors and hold large local and regional forums to attract investment in startup projects.

The following is the opinion of Astana Hub experts: "One of the features that I would like to mark is that we do not limit startups to the local market and facilitate the entry of startups to global consumers, help to enter the USA, Southeast Asia and other countries. This process creates more opportunities the Unicorn Startup to be emerged in Kazakhstan. The Astana Hub service also includes access to experts, mentors, international agents and embassies., Astana Hub is ready to help enter the global market and raise money through any channels. This is our top priority and is becoming driver for growth of the country."

In 2022, in Astana Hub was launched Silkway Accelerator in collaboration with Google for Startups. Google for Startups is a startup program launched by Google Corporation in 2011. In 2022, Astana Hub became the program's first partner in Central Asia⁷.

Astana Hub is cooperating with the representative office of Plug and Play in Kazakhstan and conducts mutual work within a corporate acceleration program. The project is being implemented with the participation of Transtelecom JSC. Priority within the acceleration program is given to startups in the field of telecommunications technologies, 5G and cloud solutions, cybersecurity, blockchain technologies, Web3, artificial intelligence and business process automation.

Astana Hub also has unique IT training programs: TechOrda is a program which is providing Funding amount - up to 600,000 tenge (1 USD=470 tenge) per students to the private schools to train students in the field of IT. Program is stimulating the opening of new IT schools in all regions of the country, project is oriented on the creation of the qualified specialists and

⁷ <https://astanahub.com/en/article/silkway-accelerator-ot-astana-hub-i-google-for-startups-startapy-vyrosli-v-neskolko-raz-i-vyshli-n>

strengthening the IT industry of Kazakhstan. Selected schools will begin training about 3,000 IT specialists this year.

Astana Hub also has a Techpreneurs program that provides uninterrupted support for startup projects of all stages, with the ability to choose services within the program separately from each other.

Scalerator - the Astana Hub training program is aimed at increasing competencies for entering the markets in North and South America and Europe. It consists of tracking and individual consultations from experts in the field of marketing, PR, sales, design, finance, pitching, law, taxes, intellectual property and other areas. Besides, during the classes, startups learn how to effectively search for business partners, attract customers and actively promote the product in the market.

During the program period in 2021, participants signed contracts and agreements for \$886,000 and attracted investments for more than \$300,000.

Seed Money is seed funding up to 20 million tenge (\$47,000) for IT startups from Kazakhstan, CIS countries and around the world under the revenue share model, also it is free workspace, expert advice, training and PR support. Funding is provided under the revenue share (equity free) model. The model implies an obligation to pay 2% income of the project realization, where: +1% - payment during 3 years after disbursement of funds (under the financing program) +1% - payment of fees (as a member of Astana Hub), wherein, 100% of the share (equity) of the startup remains with the team. Astana Hub receives only assignment from income.

Astana Hub is actively developing Startup school. A startup can take part in Startup School even if it doesn't have a startup or idea yet. The course is aimed at entrepreneurs beginners, it also focuses on startups with an idea at the MVP stage. 6,785 people have already become listeners of the school (1,058 people received certificates), according to data of Astana Hub.

In the autumn of 2022, the Remofirst⁸ startup from Kazakhstan attracted a record \$14 million investments in development⁹. In general, startups from Kazakhstan are actively invested in the fields of medicine, finance, HR, transport, retail and the music industry¹⁰. To this facilitates protection of investments based on English law from the Astana International Financial Center (AIFC).

The venture sector has received significant development in Kazakhstan in recent years and several venture funds have been created. 20 million venture fund MyVentures¹¹ was launched at the end of December last year. Fund has become an "accredited investor" in the US under the Securities Act 1933 Regulations. MyVentures¹² was founded with the aim of investing in Kazakh and foreign startups. MyVentures invested \$275,000¹³ in artificial intelligence startup Solai. Also, Medical startup FORUS DATA LLP from Kazakhstan has developed the iMedHub lung disease diagnostic system. In total, MyVentures has already invested in more than 6 startups worth over \$1.5 million. MyVentures is actively working on the process of developing smart financing, where in addition to investments, startups will be provided with services to increase competence in specific areas, as well as assistance in entering international markets.

⁸ <https://www.remofirst.com/>

⁹ https://forbes.kz//finances/investment/startap_kazahstantsa_privlek_rekordnyie_dlya_sng_posevnyie_141 mln_investitsiy/?fbclid=IwAR2UnnUvHKz22R-yf0hAygQ_T2fFQw3KPVkTnCo5Bl63IRcuRNZqyj9uXXk

¹⁰ https://forbes.kz//finances/investment/startap_kazahstantsa_privlek_rekordnyie_dlya_sng_posevnyie_141 mln_investitsiy/?fbclid=IwAR2UnnUvHKz22R-yf0hAygQ_T2fFQw3KPVkTnCo5Bl63IRcuRNZqyj9uXXk

¹¹ <https://startupcentraleurasia.com/en/news/details/180>

¹² <https://myventures.kz/>

¹³ <https://astanahub.com/article/uchastnik-astana-hub-razrabotal-meditsinskuiu-sistemu-diagnostiki-zabolevanii-legkikh>

It is important to note the positive role of the Community Association of University Business Incubators and Accelerators of Kazakhstan (Association Business-Incubator), which unites 18 members from Universities and Venture Funds for developing the innovation and technology ecosystem, integrating the connection of the educational level with the rest of the ecosystem. It should be noted that two universities of Kazakhstan entered into the list of top 100 universities in Asia (according to the World University Rankings, which is compiled by QS Quacquarelli Symonds).

Kazyna Capital Management, as a fund of funds, is engaged in the formation of private venture funds (they invest money as LP - Limited Partners and try to expand the country's venture investment market as efficiently as possible). Kazyna Capital Management is also working to attract foreign investment to the country. The Fund of Funds works closely with the ecosystem and its core elements and private enterprises (Most Ventures, others). Kazyna Capital Management was performing a program for the development of the Kazakhstan Digital Accelerator¹⁴ startup ecosystem together with a Singaporean company and the Quest Ventures fund.

As part of the KDA program 39 startups has been trained and invested in since 2020, some of which have already managed to attract large investments. For example, Kazakhstan-based startup Cerebra (an artificial intelligence-based software for the early diagnosis of stroke) received a \$1 million investment from businessman Timur Turlov. In addition, thanks to signed agreements with international funds - Quest Ventures in Singapore and 500 Global in the US, 3 domestic startups were able to attract investments.

An active player in the development of the startup ecosystem in Kazakhstan and the region is MOST Ventures, which includes several directions and projects:

- MOST Ventures is private venture of \$10 million fund in Central Asia. The Fund provides both financial and non-financial support to startups, conducts incubation and acceleration programs for the whole region. The fund focuses on IT startups building international business. MOST Ventures has invested in such startups as Namba One, Sway Pay, STOGram. At the beginning of November 2022, MOST Ventures and UMay Angels Club invested \$500,000 into startup Dolon from Kyrgyzstan in the field of geological exploration.
- UMay Angels club - Our mission is to unite the business angels and venture capitalists throughout Central Asia to integrate actions and obtain synergies in the development of the venture investment ecosystems and the startup markets.
- MOST Business Incubator helps to develop companies at an early stage and finance with the small checks of 20-50k USD in early stage startups.

Astana International Financial Center is an effective tool to promote the development of the startup ecosystem both in Kazakhstan and in the region. The AIFC (Astana International Financial Center) is a special center where a special legal regime is used in the financial sector, established by the Constitutional Law of the Republic of Kazakhstan "On the Astana International Financial Center". The Astana International Financial Center (AIFC) plays a key role as a regional center for business and finance. It is the first regulator in the region which implemented an international regulatory sandbox for testing innovative fintech and regtech products and services in a light regulatory regime.

The AIFC Tech Hub is the AIFC organization responsible for promoting the development of the

¹⁴ <https://www.questventures.com/businesses/accelerate/kazakhstan-digital-accelerator/>

startup ecosystem, venture market, e-commerce, corporate innovation and new technology areas in Kazakhstan (GovTech, SatelliteTech, 4PR, etc.). In cooperation with international partners, Tech Hub conducts programs to support market participants, contributes to the structuring of venture deals and testing of new fintech solutions.

The AIFC Fintech supported 135+ startups (by the data of the end of 2021) from all over Central Asia. 37 startups were presented at international platforms, one startup became the winner of the competition at the FinTech forum in Abu Dhabi, UAE. The volume of venture capital transactions in the AIFC exceeded \$7 million. In total, 26 startups entered into transactions on the AIFC platform by signing convertible loan agreements, also by the mean of private placement and acquisition of startups shares.

Also, the Affiliated Center of the Fourth Industrial Revolution of the World Economic Forum in Kazakhstan was officially opened on the territory of the AIFC in July 2021.

As Pavel Koktyshev notes: "The AIFC was created in the image and likeness of the Dubai International Center and a number of operating companies using English law. Kazakhstan has a unique ecosystem of financial center and Fintech direction. Liberal legislation and Internet penetration, financial and digital literacy allows people to use all the tools." In the AIFC there is an opportunity for crowdinvesting - an opportunity for individuals, unqualified investors to come and participate in investment transactions.

It is also important to highlight that the AIFC has an effective system for registering venture funds, which can be used by both regional and international players.

The main challenges for the development of the Startup Ecosystem of Kazakhstan

In this review, we want to highlight the challenges that Kazakhstan has in the process of developing a startup ecosystem, divided into several directions and affecting the sustainable development of the building blocks necessary at the initial stage of startup development.

Entrepreneurial Thinking

As the head of MOST, Alim Khamitov, notes: "Startups are afraid to grow globally, it is necessary to change thinking from local to global. Startups make a very big focus on the local market and the region. Startups lack a strategy of scaling. It would be ideal if startups would receive 80% of their profits from the international market, and 20% were generated from the local market.

As Alim Khamitov notes: it is necessary startup to pay 50% of its attention to the product and 50% of its attention to sales. Alim Khamitov also considers the inability of startups to find investments and communicate with venture investors as an important problem.

"We need to develop an entrepreneurial spirit; a startup is not a game. It is necessary to instill the spirit of entrepreneurship and the creation into startup, so that what is created by it was in need for the whole world and not in need only for the startup itself. A startup should approach to the working on the project as a full-fledged work" says Shahboz Rakhimov, head of MyVentures.

Knowledge and Competence of Startups

As the head of MyVentures Shahboz Rakhimov notes, the main mistakes of startups at this stage are the lack of knowledge on the development of a startup project. If the idea does not work, startups do not change strategies. They copy the ideas of international projects, do not create completely new or significantly improved products and services, focus on creating projects with a small innovative component that already have competitors in the form of Kaspi, Wildberries and Ozon or other international competitors.

As the head of MyVentures Shahboz Rakhimov notes: "Some startups immediately try to enter the US market and try to deploy their product there; it is easier at the first stage to scale your product in the nearest countries with a similar mentality and laws; check the work of a startup and its potential and subsequently scale up. It is important to take into account that in order to compete with American startups, you need to have a truly innovative solution and a startup must have the appropriate knowledge and competencies."

Market players name the lack of independence of startup founders and the lack of strategic planning an important problem.

The lack of relevant competencies and experience prevents startups in Kazakhstan

from reaching the next stages of financing, and therefore fund has to lead a startup until it reaches the next rounds of financing, to constantly monitor startup development processes.

Access to finance

The venture system is not fully formed at the legislative level. There is no protection and guarantee for venture funds and business angels.

The community of business angels is not fully formed and the investment culture is not perfect yet.

MOST Venture conducts courses of venture investors, after which conversion is very high. In practice, people join the club to make subsequently angel investments. But this process in the region must take place at all levels, so that there is an exchange of transactions, so that joint investment syndicates are created, as this happen in Europe and USA.

There is also a tendency to distrust the implementation of angel investments in Kazakhstan and therefore people having the appropriate capital make investments outside the country. The creation of legal regulation in this area has purpose to protect the rights of investors and will improve the situation in this direction.

Education and Science Sector

Students have many gaps in knowledge in the field of business and startup development projects. According to market players, there is no process of attracting talented graduates to the system of creation and development of startups, where they would test different hypotheses and ideas, develop innovative projects while obtaining education.

As the experts of the Association of Business-Incubator note, the problem in Central Eurasia is the weak motivation of students to pass business incubation programs, the lack of awareness among students (secondary priority for students to acquire entrepreneurial skills, while the primary one is not to lose a scholarship or grant).

Within the incubation program, only 10% of students reach the final.

Also, the process of creating support systems and financing startup initiatives by the university itself is at a very early stage (it is necessary to give grants to graduates so that they spend it and gain experience – this is marked in an interview with university representatives).

Concerning the question of funds within the University in Kazakhstan, it is too early to speak.

Representatives of the education sector also highlight the following problems: insufficient cooperation between universities for the exchange of experience, lack of university startup communities, lack of personnel or constant change of personnel responsible for startup education, there are absent single approach and educational programs for the development of startup skills.

As Bekzhan Tolybay from Suleyman Demirel University notes, it is difficult for universities to attract practitioners who have a precise understanding of processes and are able to give knowledge based on real processes and experience.

Involvement of Government Structures and Laws

The problem points of the startup ecosystem of Kazakhstan are considered insufficient development of the legislation, including the law on venture investments. This law has not been changed since 2018. They mark the need for co-investment on the part of state in the process of functioning of venture funds following the example of other countries.

"The state should actively develop the fund of funds model" – is the opinion of the head of MOST.

Common problems

Shortage of qualified personnel.

Market participants note the need to increase support in the process of developing IT personnel in Kazakhstan, also the need to focus on other areas of personnel development such as (digital marketing, IT management, etc.).

There is also a shortage of qualified personnel in the field of student entrepreneurship who would be able to develop a local ecosystem within Universities

Ecosystem Ranking

Kyrgyzstan / Ranking in Central Asia: 3



Indicators of development maturity	Pre-seed	Seed
Building block 1. Entrepreneurial interest	2,50	4,10
Building block 2. Access to finance	2,70	2,00
Building block 3. Access to infrastructure	3,00	3,50
Building block 4. Performance	3,40	3,00
Building block 5. Education and talent	2,75	3,00
Building block 6. Shared vision and strategy	3,25	1,50

Kyrgyzstan is a lower middle-income country¹⁵ with a changing economy and a creative population. GDP according to data for 2021 amounted to 8.543.420.000¹⁶. GDP is mainly dependent on industry, electricity and services. In 2021, the average GDP growth was about 3.6% percent. According to the data for 2022, the population of Kyrgyzstan is 7 million people. Today, 99% of Kyrgyzstanis are covered by mobile networks, of which 70% have access to high-quality 4G Internet¹⁷. About 63% of the Kyrgyz population aged 15 and over use the Internet wherein the most active Internet users are young people aged 15–28 years.

The main strategy for the development of innovation was approved by the Decree No. 265 of May 20, 2022 "On Approval of the State Program for the Development of Intellectual Property and Innovation in the Kyrgyz Republic for 2022-2026". As noted, in the Resolution, the main international indices demonstrate a low level of use of the results of intellectual activity and innovations based on them, which indicates the urgent need for the accelerated formation of an ecosystem of intellectual property (hereinafter referred to as IP) and innovation. The main strategic goal is to create conditions for the formation of a balanced and efficient ecosystem of IP and innovation in the Kyrgyz Republic by 2026, contributing to the development of the IP market and the creation of innovative products.

In 2022, the Global Innovation Index ranked the country 94th (up from 98th in 2021). It is worth noting that the Republic has risen by 4 positions compared to 2021 in the ranking of the Global Innovation Index, which is assessed by 81 indicators. According to the United Nations E-Government Survey 2022, Kyrgyzstan is classified as "High" in the Online Service Index (OSI) and its components, while it ranks 73rd in the Local Online Service Index (LOSI) and its components.

According to the World Bank index in Kyrgyzstan, the Account ownership (Adults with an account) indicator is 45%, which does not create a favorable situation for the development of

¹⁵ https://www.wipo.int/global_innovation_index/en/2022/

¹⁶ <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

¹⁷ <http://www.stat.kg/ru/news/den-interneta-99-kyrgyzstancev-ohvacheny-mobilnymi-setyami/>

the B2C segment. At the same time, according to the Human Development Index (HDI) the country ranks 118th.

Startup Ecosystem of Kyrgyzstan

The startup ecosystem of Kyrgyzstan is at an early stage of formation. Although it has been developing since 2011, having mainly a vector for outsourcing, outstaffing and export, this vector of the country is mainly based on the activities of the High Technology Park (HTP KR). This specificity of the field of activity is due to the small market and the size of the country.

In 2011, the Jogorku Kenesh adopted the law on "Park of high technology KR". Currently, 138 companies (about 1300 employees) are registered in PHT KR. Almost 90% of services in PHT are exported abroad. Residents of PHT KR export to more than 30 countries in the world. Turnover for 2021 amounted to more than 2.1 billion som (1 US dollar - 85 som).

Startups in Kyrgyzstan are mainly focused on the global and regional market. Based on the data of our survey, the majority of startups and potential founders of startups (52%) are focused on the global market, 48% of founders plan to expand to the region and neighboring countries.

The forming startup ecosystem of Kyrgyzstan is the result of the cooperation of the public sector (including the Park of High Technologies and Kyrgyzpatent), accelerators, networks of support and entrepreneurs. Recently incubators are being formed at the level of universities, first steps are being taken in this direction with the assistance of Kyrgyzpatent. Kyrgyzpatent also initiated the process of financing startup projects within Startup Kyrgyzstan, but at this stage the project is stopped.

Kyrgyzpatent also created the first multifunctional Innovation Center, which supports startups, provides them with various services, trainings, access to tools for prototyping and testing innovative products. The innovation center includes the production and innovation laboratory FabLab, the Children's technical laboratory Youth-iLab, a working area with mini-offices Co-working, a multifunctional conference hall with modern equipment, Front Desk - a single window for innovators with a database of mentors and startups. Kyrgyzpatent also pays attention to the segment of children's inventions - it works with all schools and children's centers, conducts events for young inventors, teaches intellectual property and startups. We work actively with schools - in the direction of understanding startups, innovations and intellectual property.

One of the key factors for the next stage of development of Kyrgyzstan will be the adoption of the Law of the Kyrgyz Republic "On Innovation", which has already been passed to the Parliament with the participation of Kyrgyzpatent.

It is also planned to work and adopt legislation in the field of venture investment to provide guarantees to the founders of startups, venture capital funds and single investors - angels. Adoption of relevant subordinate regulatory acts to ensure the operation of all parts of the startup ecosystem.

Law No. 88 on the creation of the Creative Industries Park has been approved Since 2022. According to paragraph 10 of Article 4, the creative industries include the following sectors of the economy: programming, development of IT products, robotics and artificial intelligence. This Park will be a good factor in the development of a new phase of the innovation ecosystem of the Kyrgyz Republic.

DEVKIT is an active player in the development of the startup ecosystem. DEVKIT is a center that develops acceleration programs for business. It has been operating since 2019 and provides

acceleration services, prepare acceleration programs for businesses, and develop a startup studio. The main customers of these programs are international organizations and foundations. At the moment (2022), the center has conducted 10 acceleration programs, 2 mentoring programs. 360+ entrepreneurs and startups has been trained. At the same time, as a result of acceleration 24 companies received seed investments and 40 grants. DEVCIT Acceleration has 23 business trackers, 60+ consultants and experts in various fields.

PEAK - Entrepreneurship and Innovation Development Programme also operates in the country. As UK Government initiative it is aimed at promoting the development of a stronger, diversified and inclusive private sector in Kyrgyzstan by promoting innovation and growth among startups and micro, small and medium-sized companies through the creation centers for the development of business innovation and improvement of the market of business consulting services. The main KPIs of the program are to increase the number of jobs plus increasing of profitability.

The main challenges for the development of the Startup Ecosystem of Kyrgyzstan

In this review we want to highlight those challenges that Kyrgyzstan has in the process of developing a startup ecosystem, divided into areas that affect the sustainable development of the building blocks of a startup ecosystem necessary at the initial stage of startup development.

Entrepreneurial Thinking

As Devcit experts note: "Startups in Kyrgyzstan are focused on obtaining a grant, rather than gaining market share and profit. The same startups are coming and hope to get a \$10,000 grant to run a team. The grants are focused on social projects and are obtained almost effortlessly." According to Devcit, startups in Kyrgyzstan are focused on solving local problems. People are afraid to enter large markets. They think that in order to enter the US market, you need to be there physically.

Startups are created mainly in the capital ("95% Bishkek, 3% Osh and 2% other cities").

As noted in the High Technology Park of the Kyrgyz Republic, the challenge of the ecosystem is the lack of the right approach to interact with the experience of other startups and ecosystems. "You need to learn not only from success stories, but from failure stories too." Mostly startups copy projects from the CIS.

Access to finance

There is a very small percentage of Pre-seed investments in the country, potential investors are more interested in innovative projects of the Seed stage.

According to the High Technology Park in Kyrgyzstan, it is important to create conditions for venture capital funds at the growth stage.

As the director of the High Technology Park of Kyrgyzstan notes: "No foreign investor will finance the country's ecosystem if there is no domestic funding. Our entrepreneurs are used to investing in traditional business sectors - restaurants, real estate. We are used to the fact that the return on investment should be 10 out of 10, and startups are a high-risk business, albeit a profitable one. Therefore, to solve this problem, it is necessary to develop legislation and investment knowledge."

According to Peak experts: "The capital market is quite weak. There is no cheap long money, and the angel investment market is in its infancy".

Sector of Education and Science

The problem is the shortage of IT specialists in the country. According to Peak: "The education sector is not producing enough engineers, entrepreneurs and IT professionals." The population has a great interest in entrepreneurial activity, but there are no relevant competencies.

With increasing interest in entrepreneurship in universities, higher education institutions cannot finance startups.

Among other things, there is a lack of system in work, especially in the context of the role of startup education in the ecosystem. According to representatives of the startup ecosystem, it is necessary to teach programming from an early age. Also, everyone notes that Universities are the starting point for entrepreneurship education, but there is not enough staff and appropriate training programs for teaching entrepreneurship in the field of startups.

Involvement of State Structures and Legislation

There is no legislation for the venture sphere.

According to Devcit experts, there is no legal regulation in the field of company registration. "All growing startups are heading to Delaware (USA) to register and facilitate investment. Also, there is legal problems in the areas of crowdfunding".

Common problems

Culture and unpreparedness of the market for IT innovations.

Problems of using online payments.

Existence of several state departments responsible for the development of a startup direction.

Ecosystem Ranking

Tajikistan / Ranking in Central Asia: 4



Indicators of development maturity	Pre-seed	Seed
Building block 1. Entrepreneurial interest	2,00	2,00
Building block 2. Access to finance	2,00	1,50
Building block 3. Access to infrastructure	2,60	2,40
Building block 4. Performance	2,00	2,00
Building block 5. Education and talent	2,70	2,50
Building block 6. Shared vision and strategy	2,70	1,50

Tajikistan is a country with a lower middle-income¹⁸ level with the potential for economic development and integration into the digital space. GDP as of 2021 is \$8.750.000.000¹⁹. GDP is mainly dependent on the agricultural sector and industry. The population of Tajikistan is 10,046,428 according to 2022 data. The total number of Internet users, together with mobile and fixed Internet users has reached 4.2 million people, which is 42% of the population of Tajikistan²⁰.

The main strategy for the development of innovation was approved by the Decree No. 483 of the Government of the Republic of Tajikistan dated September 30, 2022 "On the Strategy for the Development of Artificial Intelligence in the Republic of Tajikistan for the period up to 2040²¹", but there is no general innovation strategy. It should be noted that Tajikistan is the only one in the region that has a strategy in the field of artificial intelligence and the Council on Artificial Intelligence under the Ministry of Industry of Tajikistan²². Also, the "National Development Strategy of the Republic of Tajikistan for the period up to 2030" sets one of its goals innovation or development based on innovations in all areas of the socio-economic life of the country.

In 2022, the Global Innovation Index ranked the country 104th (up from 103rd in 2021). It is worth noting that the Republic has dropped 1 position compared to 2021 in the ranking of the Global Innovation Index, which is assessed by 81 indicators.

According to the United Nations E-Government Survey 2022, Tajikistan is classified as "Middle" in the Online Service Index (OSI) and its components, while it ranks 112 in the Local Online Service Index (LOSI) and its components.

¹⁸ https://www.wipo.int/global_innovation_index/en/2022/

¹⁹ <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

²⁰ According to Ilhomjon Atoev, deputy head of the Communications Service under the Government of the Republic of Tajikistan URL: <https://khover.tj/rus/2022/07/sluzhba-svyazi-kolichestvo-polzovatelej-interneta-v-strane-dostiglo-4-2-mln-chelovek/>

²¹ https://continent-online.com/Document/?doc_id=39315014#pos=4;-36

²² <https://khover.tj/rus/2022/10/sostoyalos-pervoe-zasedanie-soveta-po-iskusstvennomu-intellektu-pri-minprometadzhikistana/>

According to the World Bank index in Tajikistan, the Account ownership (Adults with an account) indicator is 39%, which creates problems for the development of the B2C segment and the expansion of the startup market. Wherein according to the Human Development Index (HDI), the country ranks 122nd.

Startup Ecosystem of Tajikistan

The active development of the startup ecosystem in the country is carried out by the "Business Incubator of Tajikistan", which has its branches in many regions of the country (note that the residence in the incubator provides a workplace with all amenities, a mentoring program, consulting for 3 months and an acceleration program before implementation of the project). The Business Incubator of Tajikistan is actively working with the World Bank to create a long-term support project for the direction of innovation and startups in the country, using the experience of Georgia to implement a similar project.

In Tajikistan the works are going on for the creation of the first IT park in the republic, which will be a joint project of the executive body of state power Dushanbe and SUE "Smart City". Among the active stakeholders in Tajikistan, we note Peak, USAID and FIFTYFIVE GROUP. As for venture capital investment, this process is just beginning in Tajikistan. According to Ravshan Kurbanov, director of FIFTYFIVE GROUP and Tajikistan Venture Capital, they are ready to invest in startups in the following areas: AI, medtech, fintech, adventure and tourism, insurance.

At the moment, the following areas are more developed in the country: Delivery, marketplaces, medtech, fintech, AI. As Ravshan notes: "Angels in the country can be counted on the fingers, there are a lot of people with high income, but you need to do the same as in Kazakhstan, Uzbekistan, Georgia and demonstrate to people with a high level of investment capital that you can invest 5% of your portfolio in startups".

It should be noted that the first School of Venture Capital was opened in Tajikistan on March 29, 2022 by the Business Incubator in cooperation with USAID, the United Nations Development Program (UNDP) and Tajikistan Venture Capital. The school is co-funded by the UNDP Digital Solution and Adaptation project and USAID, which currently involves 11 entrepreneurs and four business coaches. It will promote venture capital investment among private companies to provide financial access for young startups. UNDP will work closely with the State Committee on Investments and State Property Management of Tajikistan and other partners to improve legislation related to venture capital and promote a venture culture in the private sector.

There operates a number of startup competitions in Tajikistan, for example, StartUP-Choikhona are regional and interregional university competitions that allows to identify talented young people with innovative business ideas for their further development from the level of incubation and acceleration up to the implementation of a full-fledged business (the competition is held every quarter, the program operates in 7 cities of Tajikistan). More than 1,056 people took part in the Startup Choikhona program, 32 winning projects were supported by UNDP. Projects are being implemented in the fields of Agriculture, Production, Service, IT. Also, the previously mentioned Peak operates in Tajikistan, which graduates up to 25 students quarterly.

StartUP-Talks is a platform where successful entrepreneurs conduct master classes for young people and aspiring entrepreneurs (held once every 2 weeks). StartUP-Cup is a competition where absolutely everyone on the territory of the Republic of Tajikistan, regardless of age and social significance, has the opportunity to apply for participation in this program with their business idea, going through the stages of incubation, acceleration and implementation of their idea (held once a year).

Business-connect is a platform where startups and existing entrepreneurs meet to find business partners, business contacts and increase the circle of contacts (held once every six months). Additional trainings and seminars on business topics are being held to support women's entrepreneurship and all who has desire (held every week).

The startup ecosystem of Tajikistan is at the stage of formation and at the moment at many levels of building blocks there is no understanding in the separation of technological and classical entrepreneurship in terms of support, investment of resources and educational programs. Investment opportunities in Tajikistan are also limited. But despite this, the investment ecosystem of the region begins to gradually integrate into the global venture market and the first active startups appear. Thus, the Zypl.ai startup from Tajikistan, during the Silkway Accelerator program, attracted \$1.1 million in investments from AloqaVentures (Uzbekistan), Activat (Kazakhstan), UzVC National Venture Fund in partnership with other foreign funds²³.

²³<https://digitalbusiness.kz/2022-09-25/startap-iz-tadzhikistana-vo-vremya-programmy-silkway-accelerator-privlek-11-mln-investiczij/>

The main challenges for the development of the Startup Ecosystem of Tajikistan

In this review we want to highlight those challenges that Tajikistan has in the process of developing a startup ecosystem, divided into areas that affect the sustainable development of the building blocks of a startup ecosystem necessary at the initial stage of startup development.

Entrepreneurial Thinking

It is absent separation in the understanding of technological and classical business. Focus on local markets.

There is a lack of understanding among startup founders on how to scale their startup and how to carry out the process of attracting investments (especially when attracting the first investments).

Access to finance

There is a significant problem in financing startups. As USAID experts note: "The culture of business angels is not developed, and in general the venture culture of investment. Group 55 is one of the first business angels to invest in such startups."

As the Director of the Business Incubator for Dushanbe and the head of FIFTYFIVEGROUP Ravshan Kurbanov notes, "There is a priority to develop Tajikistan Venture Capital in order to move the ecosystem to the next level and increase access to financing," and now the School of Venture Investor is being created based on the developments of MOST Venture.

Entrepreneurial support

The lack of special supportive measures for technology startups, as USAID experts note: "Most of our startup incubators or accelerators are not focused on supporting technology startups, but are focused on creating a traditional business." Also, mainly donor organizations are involved in the country.

Sector of Education and Science

There is a lack of staff in the field of IT.

There is Lack of university-based programs for entrepreneurship training.

There is lack of infrastructure and support system for student startup initiatives and their funding.

According to StartUP-Choikhona experts who held competitions for universities: "At the educational level, there are many active students at the Universities, but everyone lacks special knowledge in the field of startups and investments".

Involvement of State Structures and Legislation

There is no legislation for the venture sphere and guarantees for business angels.

There is no unified innovation strategy for the development of startups and digital technologies (presented only in the context of artificial intelligence). Many concerned parties are not aware of the priority areas for the country's development in the field of innovation; therefore, the ecosystem is developing in a fragmented way.

Common problems

Lack of qualified personnel with knowledge of digital transformation applicable to new business models and startups. Lack of appropriate funding and coherence among stakeholders.



Ecosystem Ranking

Uzbekistan / Ranking in Central Asia: 2



Indicators of development maturity	Pre-seed	Seed
Building block 1. Entrepreneurial interest	3,75	3,33
Building block 2. Access to finance	3,00	3,50
Building block 3. Access to infrastructure	3,00	4,33
Building block 4. Performance	3,67	3,67
Building block 5. Education and talent	4,60	3,50
Building block 6. Shared vision and strategy	4,00	3,00

Uzbekistan is a lower middle-income country²⁴ with a transforming economy and great potential for development. GDP as of 2021 is \$69.238.900.000²⁵. GDP is mainly dependent on industry, services and agriculture. In 2021, the average GDP growth was about 5.3% percent. Also, the country is rich in natural resources.

According to the data for 2022 the population of Uzbekistan is 35,271,276 people. About 64% of the population are young people under 35 years old. The largest population in Central Asia. Total population with internet access are 27.2 million people²⁶. Number of mobile subscribers as of 2022: 30.2 million people²⁷. Uzbekistan relied heavily on a state-driven, import-substitution growth model from the early 1990s to 2016. In 2017, it changed course and is now building a more open, modern, and market-oriented economy²⁸.

The main strategy for the development of startups was approved in the Decree of the President of the Republic of Uzbekistan and is called the "Digital Uzbekistan - 2030" strategy, developed by the Ministry for the Development of Information Technologies and Communications with the participation of interested ministries and departments, representatives of the business community and academia, as well as foreign experts. Within the framework of this strategy, priority goals were identified: organization of teaching the population the basics of computer programming within the framework of the "One Million Programmer project"; Implementation of over 280 information systems and software products to automate management, production and logistics processes at enterprises in the real sector of the economy.

An intermediate strategy in Uzbekistan related to the ICT-oriented innovation ecosystem and startups is called the "Innovative Development Strategy of the Republic of Uzbekistan for 2022-2026", approved by the Decree of the President of the Republic of Uzbekistan, which proclaims that the country is committed to ensuring the network development of the ecosystem, the development of human capital and stimulating demand for new products to increase the potential

²⁴ https://www.wipo.int/global_innovation_index/en/2022/

²⁵ <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

²⁶ <https://mitc.uz/ru/stat/4>

²⁷ <https://mitc.uz/ru/stat/7>

²⁸ <https://drive.google.com/file/d/1oZEDp05a2YCnYRXLuN1ssuZ5zMZju0fK/view>

for commercialization of developments at a new stage in the development of the ecosystem, and for this priority areas are outlined, including support for startup initiatives by forming a network of innovation infrastructure entities (innovation technopark, technology transfer center, innovation cluster, venture organization, innovation center, startup accelerator, incubator), as well as the organization of large-scale production (creation of capital) and the development of creative skills in the framework of creating breakthrough innovations.

The Global Innovation Index placed the country in 82nd place (in 2021 it ranked 86th) in 2022, ahead of Kazakhstan, which came out in 83rd place this year. It is worth noting that the Republic has risen by 4 positions compared to 2021 in the ranking of the Global Innovation Index, which is assessed by 81 indicators. The country, having taken 82nd place among 132 states entered the top 10 countries that have noticeably improved their positions. It should be noted that since 2015 Uzbekistan has risen in the Innovation Index by 40 positions up.

According to the United Nations E-Government Survey 2022, Uzbekistan is classified as "High" in the Online Service Index (OSI) and its components, while it ranks 87th in the Local Online Service Index (LOSI) and its components.

According to the World Bank index in Uzbekistan, the Account ownership (Adults with an account) indicator is 44%, which does not create a favorable situation for the development of the B2C segment. At the same time, according to the Human Development Index (HDI), the country ranks 101st.

Startup Ecosystem of Uzbekistan

Active support of the startup ecosystem of Uzbekistan by the government began in 2019, after the founding of IT-Park Uzbekistan.

IT-Park Uzbekistan is a special economic zone that provides its residents with special conditions. The park was opened in 2019 by the Ministry for the Development of Information Technologies and Communications on the initiative of President Shavkat Mirziyoyev.

IT Park is a governmental organization with a mandate to develop the startup ecosystem of Uzbekistan. It is a complex of facilities, buildings and structures designed to ensure the launch and rollout of promising IT startup projects on the market, an extraterritorial free economic zone for IT companies, including those via integration with scientific and educational organizations. A place where active and gifted people in the IT sector will have a best chance to transform their ideas into real business projects through accounting, legal, marketing and educational support. IT Park Uzbekistan provides an organizational platform with a set of innovative tools and new approaches to accelerate economic transformation, the growth of the IT industry, create new jobs and attract local and foreign investments.

Besides IT-Park of Uzbekistan, the Ministry of Innovative Development of the Republic of Uzbekistan is engaged in the development of the startup ecosystem. The areas of work of the Ministry are: 1) Creation and strengthening of the innovation ecosystem. 2) Development of human capital. 3) Creation of infrastructure for innovations. 4) Support and development of youth programs, competitions for young scientists. Creation of university technoparks on the basis of campuses. Support of scientists' initiatives, young people, in the form of funding their startups. Working towards technology transfer.

Startups in Uzbekistan are mainly oriented on the domestic and regional markets. Most Uzbek startups (62%) are developing their product for the Uzbek market at this time, 21% of the founders plan to scale to the regional market and the other part - to International markets.

The forming startup ecosystem of Uzbekistan is the result of cooperation between the public sector and other market players (including technology parks and a network of youth technology

parcs), venture capital funds, startup founders and representatives of the education system.

Among other things, the startup ecosystem cooperates with foreign incubators and accelerators (based on IT-Park) so that startups can scale and spread. According to the IT Park, the total amount of funding for projects to support the development of the startup ecosystem at all stages is \$14,733,900.

As part of the ICT Week of Uzbekistan, an initiative was presented to start cooperation between the global startup accelerator Plug and Play and IT Park Uzbekistan.

According to representatives of the IT Park, KPI of growth of the startup ecosystem at this stage is the attraction of investments. The goal for this year is to attract investments in the amount of 10 million US dollars.

Currently, the characteristic features of the startup ecosystem of Uzbekistan are: the potential for scaling and the dynamic growth of ecosystem elements, the prospects for a strong human resources potential. As internal reports note: Uzbekistan's young population, diversified economy and centuries-old entrepreneurial mentality play an instrumental role in the next stage of its startup community.

The priority areas for startups in the Republic of Uzbekistan are E-commerce, EdTech, MedTech and FinTech. The most common is the subscription and advertising business model.

According to IT Park Uzbekistan experts, "The country supports startups at the Seed level, which are at the sales level, by building relationships with investors, expanding networking and access to financial and legal advice." At that pre-seed is almost not considered for investment, due to weak interest on the part of business angels. For development at this stage working with incubation centers at universities is underway.

For personnel development, the One Million Uzbek Coders Project²⁹ (OMUC)³⁰ is being implemented, wherein as of June 2022, the number of registered applicants for the program is 2,503,060 people and 47% received a certificate of successful completion of the program³¹.

With the support of the IT Park, the BPO (Business Process Outsourcing) segment is being developed, where an organization passes on nonprofile business processes to another company, including cooperation with Huawei³². As the Minister for the Development of Information

Technologies and Communications of the Republic of Uzbekistan (Sherzod Shermatov) notes, the country is turning into a new outsourcing center, the volume of IT exports at the end of the 3rd quarter of 2022 amounted to \$82 million, \$38 million of which was spent on the export of services of BPO companies³³.

The given direction has perspective in the short term, as it has a high share of migration of such services to countries with lower maintenance costs and corresponding quality. In the process of developing BPO directions, the transition from the provision of remote services to the development of innovative products is important. In the short term, the development of the BPO direction will certainly bring significant economic benefits to Uzbekistan.

²⁹ <https://uzbekcoders.uz/>

³⁰ The One Million Uzbek Coders Project (OMUC) is a free online platform aimed at providing the public with skills related to programming and working with digital technologies.

³¹ <https://it-park.uz/uz/itpark/news/one-million-uzbek-coders-loyihasi-final-bosqichi-g-oliblari-aniqlandi>

³² IT Park together with Huawei will launch BPO-centers in Uzbekistan URL: <https://it-park.uz/ru/itpark/news/it-park-sovmestno-c-huawei-zapustit-bpo-centry-v-uzbekistane>

³³ <https://it-park.uz/ru/itpark/news/ministr-ikt-rasskazal-pro-potencial-bpo-napravleniya-na-ii-ekonomicheskome-forume-uzbekistana>

The country hosts large-scale forums that gather a large number of stakeholders from all over Central Eurasia, such as ICT WEEK UZBEKISTAN 2022, held in Samarkand, with the support of the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan and Avantage Event Agency. Within the framework of the forum, 22 events were held, in which 7,776 participants took part. 10 documents (including investment agreements) worth about \$200 million were signed.

The work of IT Park Uzbekistan is carried out within the legislative part to attract foreign investment. Work is underway to introduce English law in Uzbekistan.

Startups in Uzbekistan are actively attracting investments, both inside the country and from foreign funds, so the BILLZ startup from Uzbekistan received \$150,000 from the Sturgeon Capital foreign fund. Sturgeon Capital is a London-based fund that specializes in markets of developing countries. Previously, the fund was investing in Uzbek companies such as Universal Sug'urta and Alliance Leasing. Startup IMAN³⁴ raised \$1 million³⁵ from investment funds³⁶. A startup community is being formed, focused on the exchange of experience and the creation of joint startups in the distribution of qualifications and competencies, for example, WinX 5³⁷.

It should be noted that the contribution of the Uzbekistan Venture Investment Association (UzVCA), which was established in January 2020 as a non-state non-profit association. The mission of the Association is to promote the formation and development of the venture ecosystem in Uzbekistan, attracting foreign venture capital to the startup ecosystem by building a "bridge" with international systems to facilitate the movement of knowledge, technology and capital. Representatives of the Uzbekistan Venture Capital Association, speaking about the development potential of the country, emphasize that the Uzbek market is very attractive for potential investors (in addition to bank deposits and real estate, there appears an opportunity to invest in startups).

In Uzbekistan, in addition to the main building of the IT Park of Uzbekistan, Regional IT Park Branches, youth technology parks and many IT Centers are also opening, demonstrating a high level of infrastructure development in the country across the regions as a whole. The process is

mostly carried out with a strong involvement of the public sector and little activity of the private sector, which in the future may affect the asymmetric development of the ecosystem due to competition and the risks of creating structures that compete with the private sector.

There is also a tendency in Uzbekistan to duplicate actions on the part of state institutions in the direction of developing the startup ecosystem and some elements of its support.

³⁴ IMAN is an Islamic banking payment and investment service.

³⁵ <https://startupcentraleurasia.com/en/news/details/138>

³⁶ <https://imaninvest.com>

³⁷ <https://startupcentraleurasia.com/en/news/details/197>

The main challenges for the development of the Startup Ecosystem of Uzbekistan

In this review, we also want to highlight the challenges that Uzbekistan has in the process of developing a startup ecosystem, divided into areas that affect the sustainable development of the building blocks necessary at the initial stage of startup development.

Entrepreneurial Thinking

Local thinking of startups and focusing only on the domestic market.
Absence of success stories with the entry of startups in the region to the global markets MENA, Turkey, SEA and others.

Knowledge and Competence of Startups

According to experts from UZCARD Ventures, the problems in this direction are the lack of knowledge among startup founders in the field of commercialization and marketing. At the moment, throughout the country, emphasis is being placed on the development of such programs to increase the competence of startups in this direction.

Access to finance

Venture Funds are not active enough at this stage and do not tend to finance startups. Also, startups and ecosystem players have a lack of opportunities and competence to attract investments (including foreign ones).

According to market players, the state should become a facilitator for creating a venture culture of investing and attracting investments (it is necessary to bridge the gap between potential investors and developing startups).

It is important to secure conditions for the investment for business angels (for example, the state can provide a refund of half of the funds to the investor). Since venture investment is a high-risk segment, there should be guarantees of protection for investors.

Grants should have the format of micro-grants of \$5,000-10,000 so that more startups have the opportunity at the Pre-Seed stage to receive funding.

As Dilshod Zufarov, Managing Partner at UZCARD Ventures, notes, “it is important to understand that for state funds KPI should be not the number of invested projects, but the number of attracted private investors, no matter local or foreign”.

Sector of Education and Science

Universities are not sufficiently involved in the creation of startups.

Young people in the country are being trained in modern skills and programming, but nevertheless they are not quite focused on business and commercialization of their ideas. IT Park is working on the creation of accelerator programs at Universities, also on the process where the creation of a startup will be counted as part of the academic education process, but the processes need to be scaled up.

Most universities do not have the opportunity to allocate financial resources for supporting student startup initiatives and do not have the opportunity to participate in startups.

Lack of entrepreneurial culture among scientists. Lack of trust among scientists towards the startup ecosystem (even taking into account the large potential for commercialization of developments and funding opportunities).

Low involvement of the Research Institute of the Academy of Sciences in the development of startups (including in the scientific field).

Lack of understanding on the part of the Research Institute of the Academy of Sciences of new opportunities and development trends, which leads to outdated approaches in the field of scientific development, which is why young scientists have barriers to the development of their science-intensive startups.

Involvement of State Structures and Legislation

Insufficient legal regulation of all processes of creating innovations in the startup ecosystem.

There is no clear system of state support for startups at the pre-seed stage, which hinders the development of the startup ecosystem in the country. Basically, the country is providing support in the form of loans.

There are no regulatory mechanisms for crowdfunding.

Common problems

The lack of a distinct separation in understanding the creation of a technology business and a traditional business. Which, accordingly, affects the support of technological startups at the state level, which should be completely different, taking into account the specifics.

Lack of synchronicity between players in the startup ecosystem. The players in the ecosystem are not fully interconnected in terms of a common vision of the ecosystem development.

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Recommendations

Startup ecosystem - consists of building blocks, efficiency and interconnected use of which serve as a condition for the creation of full-fledged technology companies with the potential to enter global markets and increase the productivity of local industries.

The main task of state structures in the process of developing a startup ecosystem should be to ensure the uniform development of all its elements. It is mandatory to monitor processes and analyze how much it is necessary for the state to continue to actively participate in the development of a particular element of the startup ecosystem and whether there is already an appropriate critical mass of stakeholders in the private sector capable of taking on the development of this direction. In this case, the government can already act as a partner in the innovation process, providing both partial financial and consulting assistance.

Government agencies need to continue active work to improve the quality of entrepreneurship education in universities by updating educational programs, improving the qualifications of teaching staff, promoting the creation of University acceleration programs integrated into the educational process (including appropriate incentives for teaching staff to increase involvement), improving legislation that creates an opportunity to finance startups.

In terms of developing infrastructure for innovation, it is necessary to create technology parks and innovation centers not only in large cities, but also in the regions. When developing a regional infrastructure for innovation, it is necessary to take into account the specifics of the region and the direction of development of traditional business, to carry out maximal integration of startup projects into the process of increasing the productivity of these forms of business, industry sectors developed in the region.

Recommendations

In terms of accessing to finance, it is necessary to continue work on the creation and improvement of legislation in the field of venture financing, initiation by states creation and operation of the Fund - Funds promoting venture financing.

It is important to raise the competence of venture investors themselves and potential partners of venture funds who are ready to transfer their investment resources to the Venture Fund for management.

In the field of entrepreneurial interest, it is important to create conditions for globally scalable startups, taking into account trends in the expansion of the use of computing technologies, artificial intelligence, process optimization and a new wave of innovation driven by "deep science" (using R&D) based on breakthroughs in biotechnology, nanotechnology, the creation of new materials.

Accordingly, in order to fully exploit the potential and innovative transformation, it is necessary to increase the productivity of the economy using innovations and start-up projects, as well as increase the amount of resources allocated to R.&D with the subsequent commercialization of these projects.

To increase the competitiveness of the region as a whole, it is important cooperation between ecosystems, implementing joint projects to bring startups from the region to international markets, develop the venture capital market, including raising capital to invest in local startups from the world's leading ecosystems.

About Startup Central Eurasia

Startup Central Eurasia is an International Institution for analysis, coordination and development of the startup ecosystems in the Central Eurasia initiated by Future Laboratory and supported by ITU.

Our main goals as an international institution are:

- Determine the strengths of the countries of the region in the development of start-up ecosystems and create a format and structure for cooperation among them for shared usage of it's elements that increase the competitiveness of each of the ecosystems and will avoid their duplication.
- Identify the main challenges of the countries and help in their solving, by attracting donor organizations and leading world experts.
- Help ecosystems increase the competitiveness of their startups in the world's leading markets.

Startup Central Eurasia partnering with leading International Organization, National Administrations, Agencies and Techparks responsible for the Innovation and Startup Ecosystem development, Leading Venture Funds and private accelerators.



Our products are:

Ecosystem Analysis:

Startup Central Eurasia Ecosystem Ranking
Startup Map of Central Eurasia

Market growth in Central Eurasia:

Startup Central Eurasia Ecosystem Guidebook

Cooperation and Development:

Regional News Feed and Event
Regional Startup KPIs training
Regional Meetups and Meetings
Venture KPIs Days
Startup Central Eurasia Forum
Startup Central Eurasia Networking Event
Connecting startups with Silicon Valley investors and partners
Connecting with UC Berkeley and Berkeley SkyDeck

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