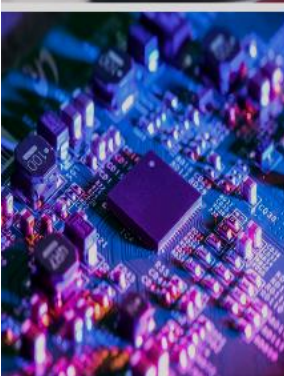
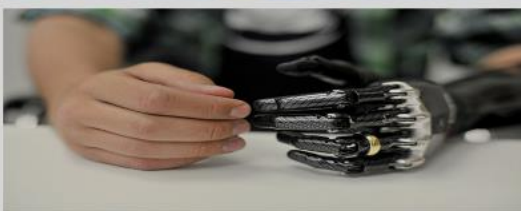
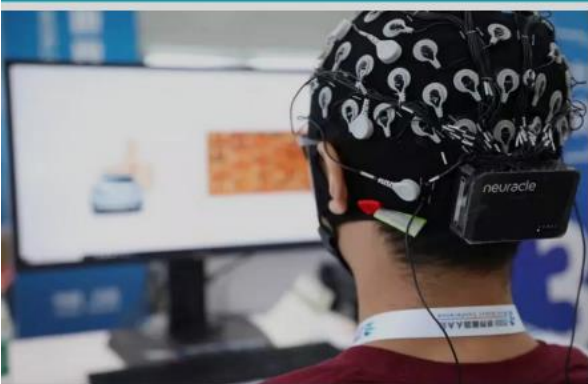




# UZBEKISTAN

## STI Profile of an OIC Member State

### Science, Technology and Innovation Indicators



**COMSTECH**

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# FOREWORD

It gives me great pleasure to share the *Science, Technology and Innovation Profiles of OIC Member States* as prepared by COMSTECH. These profiles of member states are being printed, as well as being shared on the COMSTECH website. A few words are therefore in order to explain the wider aims and purposes of this exercise.

The member countries of the OIC are vigorously engaged with science, technology and innovation, both as a pursuit of knowledge and in harnessing the forces of nature for human betterment. Depending on their circumstances they have advanced to different levels, but much needs to be done, in general, to catch up with the attainments of the more advanced countries. However, there exists a well-defined need to catalogue national efforts in this direction. In particular, to identify respective strengths, achievements and shortcomings, as well as the institutions and policies that are shaping the scientific research and development profiles of OIC member states.

It is with the above goals and purposes that COMSTECH has ventured on this ambitious task viz. preparing a summarized version of the science, technology and innovation landscape of each member state. We have initiated this effort starting with the profiles of countries leading in this area, and will be continuing and sharing as we proceed onwards.

Undoubtedly much more could be said about each country than the summary that we have presented, but our emphasis is on the essentials and on maintaining brevity. COMSTECH welcomes feedback from member states on this effort and will be happy to update the website profiles on the basis of information received officially.

I hope that the scientific community as well as the planners and administrators of member states will find these profiles both useful and inspiring.

Prof. Dr. M. Iqbal Choudhary  
*Coordinator General COMSTECH*  
*UNESCO Chair*

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# UZBEKISTAN

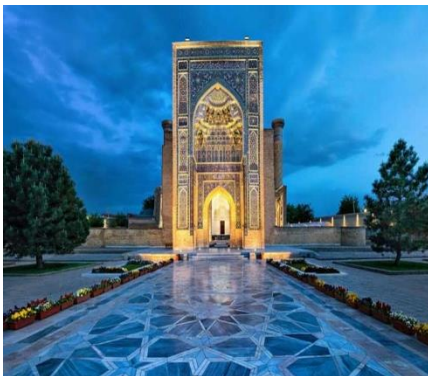
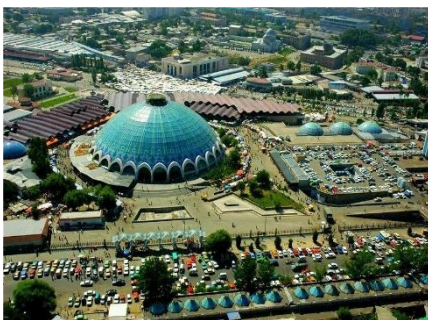
, officially Republic of Uzbekistan is a country in Central Asia. It lies

mainly between two major rivers, the Syr Darya (ancient Jaxartes River) to the northeast and the Amu Darya (ancient Oxus River) to the southwest, though they only partly form its boundaries. Uzbekistan is bordered by Kazakhstan to the northwest and north, Kyrgyzstan and Tajikistan to the east and southeast, Afghanistan to the south, and Turkmenistan to the southwest. The Soviet government established the Uzbek Soviet Socialist Republic as a constituent (union) republic of the U.S.S.R. in 1924. Uzbekistan declared its independence from the Soviet Union on August 31, 1991. Its capital and largest city is Tashkent. Uzbekistan is part of the Turkic languages world. Uzbek language is the majority-spoken language while Islam is the predominant religion. With a population of 34,421,571 (in 2022) it is the most populace nation of Central Asia. Uzbekistan is a secular state, with a presidential constitutional government in place. It comprises 12 regions (vilayats), Tashkent City and one autonomous republic, Karakalpakstan.





It is an ancient land where the first recorded settlers in what is now Uzbekistan were Eastern Iranian nomads, known as Scythians in 8th–6th centuries BC. Subsequent eras saw it as part of the Iranian Achaemenid Empire, a period of Macedonian rule, ruled by the Iranian Parthian Empire and later by the Sasanian Empire. After the Muslim conquest of Persia in the seventh century, cities such as Samarkand, Khiva, and Bukhara began to grow rich from the Silk Road, and witnessed the emergence of leading figures of the Islamic Golden Age. After the Mongol invasion in the 13th century, the region became dominated by Turkic peoples. Timur (Tamerlane) in the 14th century established the Timurid Empire with his capital in Samarkand. Conquests by Emperor Babur towards the east led to the foundation of India's newest invasions as Mughal Empire.



*Uzbekistan is among the world's leading cotton producers. It is known for its orchards and vineyards and is also important for raising Karakul sheep and silkworms. Uzbekistan's mineral and oil and gas reserves are substantial. The country produces and exports a large volume of natural gas. The country's resources include metallic ores; copper, zinc, lead, tungsten, and molybdenum are extracted. Uzbekistan possesses substantial reserves of natural gas, oil, and coal.* Source: <https://en.wikipedia.org/wiki/Uzbekistan>



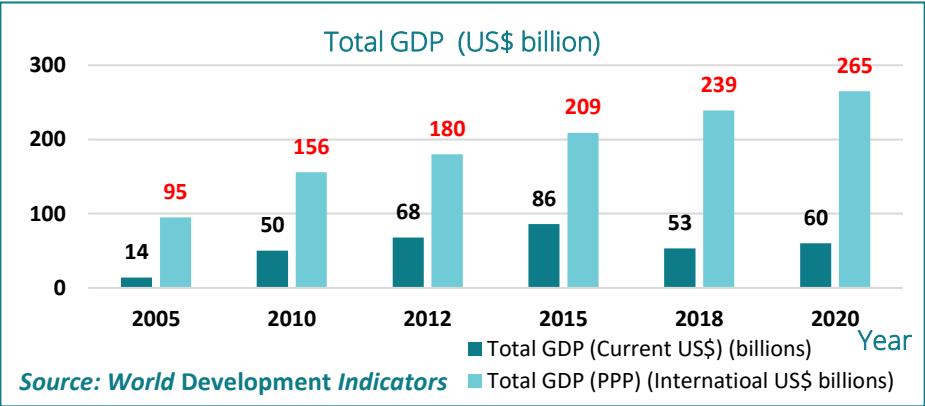
## A. ECONOMIC OVERVIEW

- ❖ Uzbekistan has a workforce of 14.4 million out of its 34.2 million population. Agriculture plays a major role in the economy; it accounts for 25.5% of GDP and employs 25.7% of the total workforce. Main agricultural products include cotton, wheat, barley, rice, maize, potato, vegetables, fruits, and livestock. The country also produces silk and wool and is attempting to diversify its agriculture towards fruits and vegetables. The industry accounts for 33.6% of GDP and employs 23% of the total workforce. Manufactured products included textiles, food processing, machine building, metallurgy, mining, hydrocarbon extraction, and chemicals. The country is also rich in coal, zinc, copper, tungsten, uranium, and silver.
- ❖ The services sector accounted for 36% of GDP and employs 51.3% of the total workforce. Key services include transportation and tourism. Uzbekistan was the fourth fastest growing country for tourism in 2019 (+27.3%), receiving 6.7 million tourists . With large power-generation facilities and an ample supply of natural gas, Uzbekistan has become the largest electricity producer in Central Asia. Uzbekistan mines 80 tons of gold annually, seventh in the world. Uzbekistan's copper deposits rank tenth in the world and its uranium deposits twelfth. The country's uranium production ranks seventh globally. The Uzbek national gas company, Uzbekneftegas, ranks 11th in the world in natural gas production with an annual output of 60 to 70 billion cubic metres (2.1–2.5 trillion cubic feet).

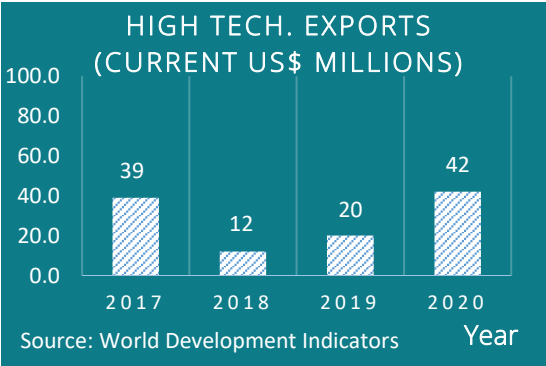


The country has significant untapped reserves of oil and gas: there are 194 deposits of hydrocarbons in Uzbekistan, including 98 condensate and natural gas deposits and 96 gas condensate deposits.

- ❖ Uzbekistan has GNI per capita of US\$2,020 in current dollars in 2018, giving a PPP equivalent of US\$7,230. In 2018, foreign exchange reserves, including gold, totalled around US\$25 billion. Uzbekistan is predicted to be one of the fastest-growing economies



- ❖ Uzbekistan has shown a rise in GDP from US\$14 billion in 2005 to 86 billion in 2015, but displaying a significant decrease in the 2015 to 2018 period as shown in the graph. The GDP in terms of PPP however shows a consistent increase over the entire period shown, averaging an annual growth of 7% in the ten year period (2010-2020).
- ❖ The high technology exports of Uzbekistan have remained between 12 and 42 million dollars in recent years without showing any consistent trend, as would be evident from above graph.





## B. SOCIAL AND HUMAN DEVELOPMENT

**Table A: Uzbekistan's HDI trends based on consistent time series data and new goalposts**

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2017 PPP\$)	HDI value
1990	66.5	11.3		3,312	
1995	66.4	10.7		2,412	
2000	67.2	10.7	9.1	2,614	0.599
2005	68.4	11.5	9.8	3,281	0.633
2010	69.7	11.4	10.7	4,715	0.669
2015	70.9	11.7	11.4	6,186	0.701
2016	71.2	11.8	11.4	6,415	0.705
2017	71.4	12.0	11.7	6,652	0.713
2018	71.6	12.0	11.8	6,894	0.717
2019	71.7	12.1	11.8	7,142	0.720

- ❖ Even though Uzbekistan's HDI (0.71) is still below the average of the high human development group (0.757), as well as the average of the European and Central Asian countries (0.771), it has increased from 0.595 to 0.710, equivalent to a rise of 19.3%, between 2000 and 2017. During this period, life expectancy at birth increased by 4.9 years, years of schooling rose by 2.4 years and expected years of schooling increased by 0.7.
- ❖ Uzbekistan has maintained an average life expectancy of 71.4-71.7 years over the past 4 years with an almost 100% literacy for persons over 15 years of age. The universal literacy is same for both males and females. The infant mortality rate (number of deaths per thousand births) is about 10 for females and 14 for males.

Source: <https://hdr.undp.org/sites/default/files/Country-Profiles/UZB.pdf>

- ❖ The percentage of individuals using the Internet increased from about 47% in 2016 to 70.4% in 2019, while Mobile cellular subscriptions (per 100 people) increased from about 74% in 2016 to almost 100% in 2019.



- ❖ According to the Law 'On Science and Scientific Activities', the high-level policy-making body for STI is the Cabinet of Ministers.
- ❖ The Republican Council on Science and Technology, established by Decree No. 953, is defined as an advisory body for the development of S&T and the improvement of higher education.
- ❖ An important step has been the creation of the Ministry of Innovative Development (MoID) in November 2017 to lead the implementation of the strategy.

- The Centre for Scientific and Technical Information, established in 2019 by order of the Minister of Innovative Development aims at improving the state system of scientific and technical information.
- The Centre for Advanced Technologies (CAT). Established in 2018 under the Ministry of Innovative Development of the Republic of aims to create conditions for enhancing the development of

scientific and innovative activities.

The CAT conducts research and offers R&D and testing services to the public and private sector in a number of scientific and technological fields in its laboratories of biotechnology, geophysics and nanomineralogy, screening and molecular interactions, and physio-chemical research methods.



- The Ministry of Economics and Industry.
- The Ministry for Development of Information Technologies and Communications, leads development in the ICT sector and infrastructure, digital transformation and e-government.
- The Academy of Sciences of Uzbekistan as a key player on the research performance side of the NIS takes the lead for R&D activities. It covers a number of areas, such as fundamental and applied research, innovation projects and training courses for highly skilled staff, and is composed of 32 institutions, including 23 institutes, one interdepartmental research centre and four museums.
- The Ministry of Higher and Secondary Special Education

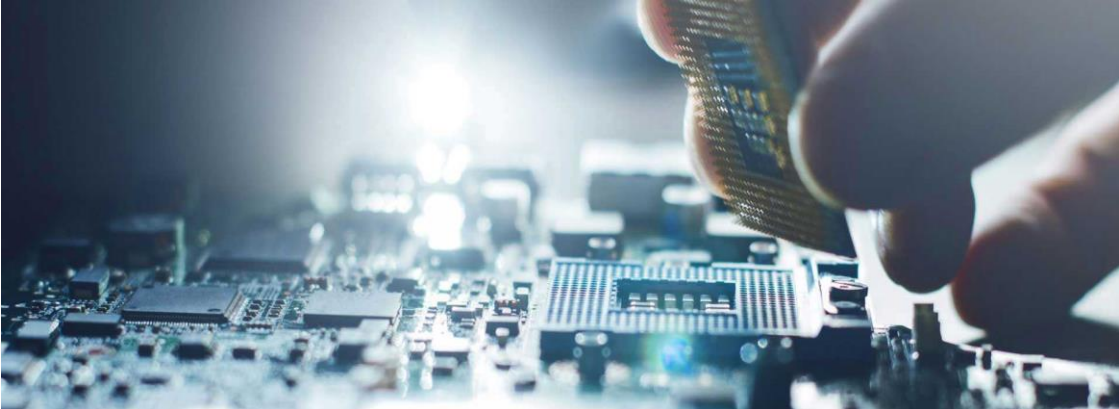
- Other notable research and education bodies in the Uzbek innovation system include the higher education institutes and their research centres, as well as the RIs of the Ministry of Agriculture, the Ministry of Health, the State Committee on Land Resources, the State Forestry Committee and the State Veterinary Committee.

### ❖ **Uzbekistan's most active research organizations, 2014**

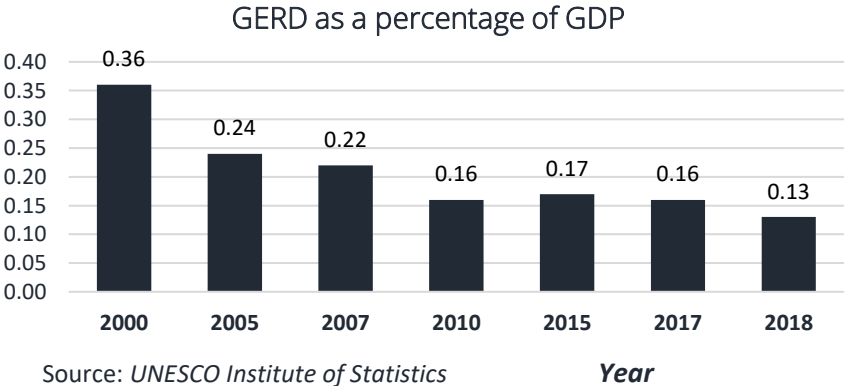
<b>Physics and Astronomy</b>	<b>Energy</b>
Institute of Nuclear Physics	Institute of Energy and Automation
RT-70 Observatory	Tashkent State Technical University
SPU Physical–Technical Institute	Fergana Polytechnic Institute
(Physics–Sun) Institute of Polymers, Chemistry and Physics Institute of Applied Physics, National University of Uzbekistan	Karshi Engineering Economic Institute Biochemistry, genetics and molecular biology
<b>Chemical Sciences</b>	<b>Biochemistry, Genetics and Molecular Biology</b>
Institute of Bio-organic Chemistry (named after Academician Sadykov)	Centre of Genomics and Bioinformatics Institute of Plant and Animal Genofund Institute of Genetics and Plant Experimental Biology Institute of Microbiology
Institute of General and Inorganic Chemistry Institute of Chemistry and Plant Substances	
Institute of Polymers, Chemistry and Physics	

Source: UNESCO Science Report 2015

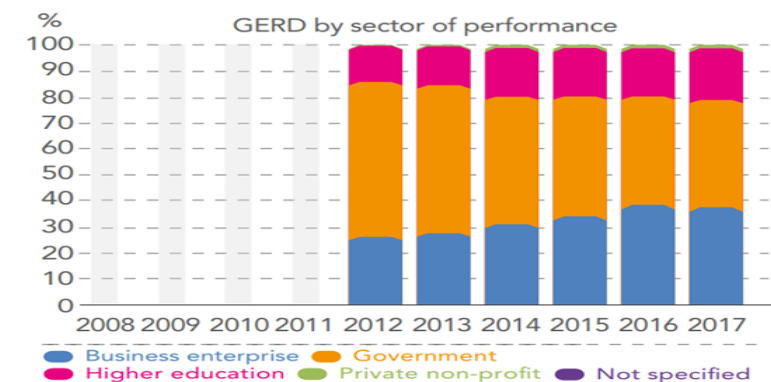




# D. RESEARCH AND DEVELOPMENT



❖ The gross domestic expenditure on research and development (GERD) as a percentage of GDP is quite low and stood at or close to 0.2% between 2008 and 2017, according to the UNESCO Institute of Statistics (UIS). Between 2012 and 2017, the intramural R&D expenditure from higher education and business enterprise sectors increased from 13.95% to 19.15%, and from 26.95% to 38.26% respectively. While the majority of R&D expenditure came from the government in the same period, it sharply decreased from 58.61% in 2012 to 41.23% in 2017. A modest but rising share of R&D expenditure also came from the private non-profit organization sector (from 0.49% in 2012 to 1.36% in 2017).



Source: UIS, <http://uis.unesco.org/en/country/uz?theme=science-technology-and-innovation>

- ❖ Between 2014 and 2017, around two-thirds of R&D funding was allocated to engineering and technology, and natural sciences.
- ❖ The current STI policy of Uzbekistan is defined in the Presidential Decree No. PD-5544 'On Approval of the Strategy for Innovative Development of the Republic of Uzbekistan for 2019–2021', adopted in September 2018.
- ❖ The main target is to place the country among the top 50 economies in the Global Innovation Index by 2030. To achieve this, it is aimed to quadruple the GERD from the current 0.2% of GDP to 0.8% of GDP by 2021, improve scientific excellence, and strengthen the links between education, science and industry.
- ❖ **R & D Highlights:**
  - Breakthrough in the country's cotton industry with the use of gene-knockout technology to obtain the first unique transgenic cotton varieties with a wide range of economically useful characteristics.
  - High-efficiency technology of seed potatoes cultivation, developed on the basis of cell biotechnology.

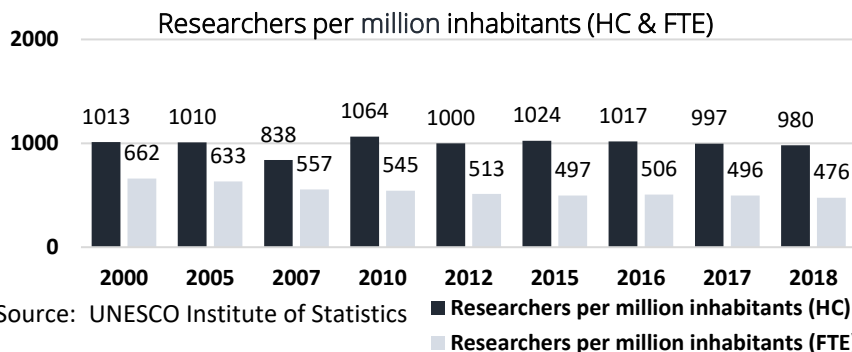
- Breakthrough in the country's cotton industry with the use of gene-knockout technology to obtain the first unique transgenic cotton varieties with a wide range of economically useful characteristics.
- High-efficiency technology of seed potatoes cultivation, developed on the basis of cell biotechnology.
- Development of the original technologies for new types of fertilizers and defoliants that are implemented in production, and are import-substituting.
- More than 30 new original domestic pharmaceuticals were produced based on local plant raw materials that possess antiviral, anti-arrhythmic, analgesic and other medicinal properties.
- Development of import substituting ceramic filtering apparatus, pontoons, membranes for fine cleaning of oil and gas, which were successfully implemented in enterprises.
- Development of the original technology and production of a pilot batch of polysilicon.
- Using the nuclear reactor and cyclotron Institute of Nuclear Physics launched production of several radionuclides, with export worth of millions of US\$.
- New technology was developed for the jewellery industry - technology of radiation coloring the natural crystals of colorless topaz and pale beryl.
- Development of national diagnosticum preparations, and based on them organization of production of ELISA test systems for the determination of a number of infectious diseases (hepatitis A, B, C, AIDS, etc.).

## ❖ Green Energy Development:

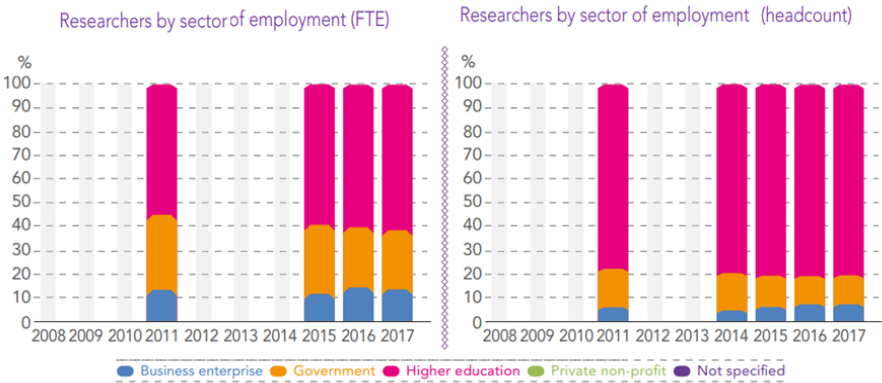
- The Uzbek government plans to attract about US\$ 1 billion in private investment to finance the development of green energy sources. Masdar Clean Energy from the United Arab Emirates was awarded the tender for construction of the first 100 MW solar power plant in the Navoi region in October 2019.
- The government signed an agreement with the International Finance Corporation to develop up to 900 MW of solar power through public-private partnerships.
- With the support of the Asian Development Bank, Uzbekistan has produced a roadmap for the development of solar energy over 2014–2031, and with the World Bank, an Atlas of Wind in the Republic.
- A 750 kW wind power plant was launched in the Bostanlyk district of Tashkent in 2017, at a total cost to the state of US\$ 1.84 million.

## ❖ R&D Human Capital:

In Uzbekistan, the number of researchers (both full-time equivalents (FTE) and headcount) has slightly changed between 2008 and 2017. The number of researchers (headcount) was 998.41 per million inhabitants in 2017, and the number of researchers (FTE) was 496.34 per million inhabitants in the same year. Female researchers as a share of total researchers remained fairly constant between 2008 and 2017 (both FTE and headcount) at around 40%.

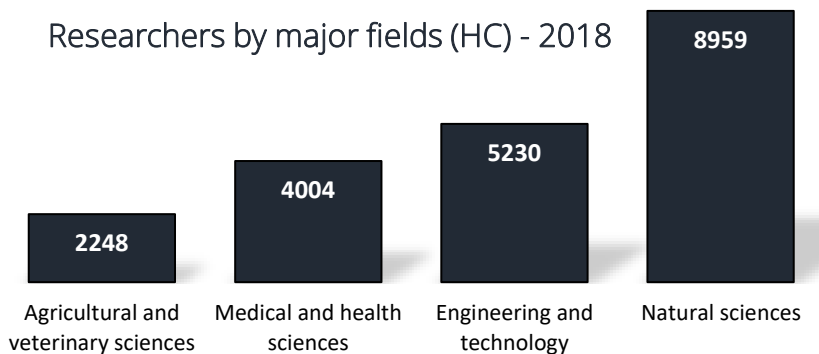


According to UIS data, the majority of researchers were employed in the higher education sector. The share of FTE researchers in the sector grew from 54.01% in 2011 to 59.79% in 2017. There was also an increase in the share of researchers employed by the business enterprise sector in the same period from 12.85% in 2011 to 13.15% in 2017, while the share of those employed by the government gradually decreased from 32.78% in 2011 to 26.34% in 2017. There was no notable change in the share of researchers in different sector headcounts between 2011 and 2017. The share of those employed in the higher education sector and the government was 80% and 13.10%, respectively, in 2017. The proportion of researchers employed by the business enterprise sector remained low at 6.53% in the same year.



Source: UIS, <http://uis.unesco.org/en/country/uz?theme=science-technology-and-innovation>

In order to develop STI human capital, a programme for supporting international internships for researchers from 3 months to 3.5 years has been implemented. In 2018–2019, 300 researchers were sent abroad and another 250 selected for the same scheme in 2020. The MoID also supports bilateral research projects with universities and RIs in China, Germany, Turkey, Belarus, Russia and India.



Source: UNESCO Institute for Statistics (UIS)

#### ❖ **Researchers distribution by major fields (HC)**

There is a total of 20,441 researchers distributed as shown in the graph. As is evident, there is a strong concentration of research workers in the fields of natural sciences, with significantly lesser numbers in engineering and technology, and medical and health sciences, respectively.





# E. HIGHER EDUCATION

- **Following is a list of top 10 universities in Uzbekistan:**

<i>University Name</i>	<i>National Ranking</i>	<i>Global Ranking</i>
<i>National University of Uzbekistan</i>	1	3807
<i>Tashkent Institute of Irrigation and Agriculture Mechanization Engineers</i>	2	4226
<i>Tashkent State Technical University Islam Karimov</i>	3	4651
<i>Tashkent University of Information Technologies Muhammad Al Khwarizmi</i>	4	4780
<i>Karakalpak State University</i>	5	5208
<i>Andijan State Medical Institute</i>	6	5562
<i>Samarkand State University</i>	7	6024
<i>Jizzax State Pedagogika Instituti</i>	8	6080
<i>Bukhara State University</i>	9	6253
<i>Tashkent State University of Economics</i>	10	6456

Source: <https://www.webometrics.info/en/asia/uzbekistan>

Other notable institutions:

- Westminster International University in Tashkent (WIUT)
- Tashkent Pediatric Medical Institute
- Tashkent Informational Technologies University
- INHA University, Tashkent

- ❖ The number of higher education institutions in Uzbekistan has reached 123, including 93 State Higher Education Institutions; 8 Non-state higher education institutions and 22 foreign universities and branches.

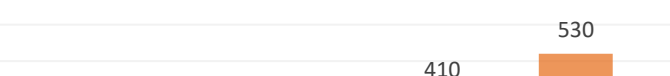


## ❖ Share of Uzbekistan students enrolled in tertiary education by programme, 2018 or closest year (%)



While slightly less than half (46%) of the tertiary students are enrolled in the social sciences and humanities programs, engineering (25%) constitutes the second largest part. Agriculture (8%), health (7%), and natural sciences (6%) have significantly lower enrolments.

Source: UNESCO Science Report 2021



Year	Number of Employees
2016	313
2017	322
2018	323
2019	410
2020	530
2021	664

Years

- ### ❖ Scientific publications by broad field of science, 2017-2019 (%)



Physics and astronomy are the largest category of publications (23%), while cross cutting (multidisciplinary) technologies constitute a close second (22%). ICT, Math and Health sciences related publications are the next most common. Freshwater-related topics and regional output on transboundary water resource management are also significantly more common than the global average.

❖ **Top five foreign partners for Uzbekistan researchers, 2017–2019 (number of papers)**

Uzbekistan	Russian Fed. (326)	China (203)	Germany (154)	USA (137)	Italy/Spain (89)
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- The Russian federation is the most favoured publication partner, followed by China, Germany, USA and Italy/Spain.



## G. INTERNATIONAL COOPERATION AND SUPPORT INITIATIVES

### ❖ International Cooperation:

- Uzbekistan is one of the four Central Asian republics that have been involved in a project launched by the European Union in September 2013, IncoNet CA. The aim of this project is to encourage Central Asian countries to participate in research projects within Horizon 2020, the European Union's eighth research and innovation funding programme. The focus of this research projects is on three societal challenges considered as being of mutual interest to both the European Union and Central Asia, namely: climate change, energy and health. It involves a consortium of partner institutions from Austria, the Czech Republic, Estonia, Germany, Hungary, Kazakhstan, Kyrgyzstan, Poland, Portugal, Tajikistan, Turkey and Uzbekistan.
- The Chinese Academy of Agricultural Sciences (CAAS) and the Uzbek Ministry of Innovation and Development agreed to cooperate on issues such as: strengthening cooperation in the areas of cotton, rice, fruit trees, sericulture and veterinary science, the establishment of joint cotton laboratories to support the cooperation between CAAS, counterpart institutes in Uzbekistan and enterprises in the test and demonstration of new varieties.

- Agreement between the Government of the Russian Federation and Government of the Republic of Uzbekistan on sci-tech cooperation dated July 27, 1995 under which both the parties will help sci-tech cooperation.
- Agreement Between the United States of America and Uzbekistan Signed at Tashkent December 2, 2010, guided by a willingness to develop long-term cooperation in science and technology for the mutual benefit of the Parties;

#### ❖ **Cooperation with International Scientific Institutions:**

- The European Organization for Nuclear Research (CERN)
- The JINR-Uzbekistan collaboration has a long history. At present, JINR (Joint Institute for Nuclear Research, Russia) cooperates with nine Uzbek research institutes and universities on 14 themes of the JINR Topical Plan. National scientific centres of Uzbekistan collaboratively with JINR take part in large-scale international projects.





INNOVATION

## H. INNOVATION, ENTREPRENEURSHIP & TECHNOLOGY PARKS

### ❖ **Science Governance: Key policy initiatives**

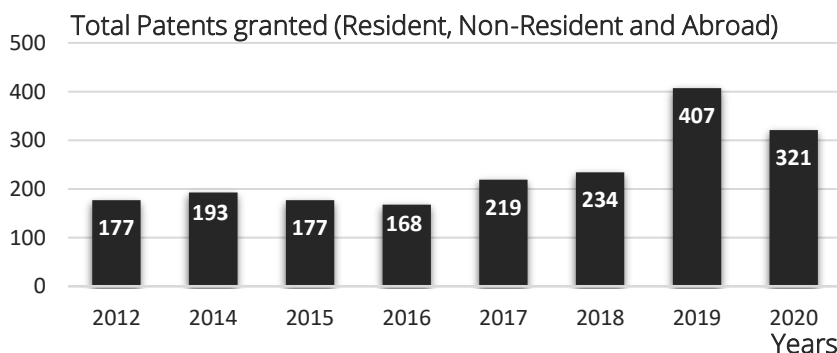
- **The National Development Strategy 2017–2021** articulates the science development agenda. It identifies as priority areas for reform the commercialization of research results and the creation of new research laboratories and advanced technology centres.
- **New National Science, Technology and Innovation Policy of Uzbekistan (2022-2030):** UNESCO, the Islamic Development Bank (IsDB) and the Government of Uzbekistan presented the new National Science, Technology and Innovation Policy of Uzbekistan (2022-2030) on 19 April 2022. The policy was developed as part of the IsDB-UNESCO project on Strengthening the inclusive Science, Technology and Innovation (STI) system in Uzbekistan.



Participants at the STI Policy Launch Ceremony, Tashkent, Uzbekistan

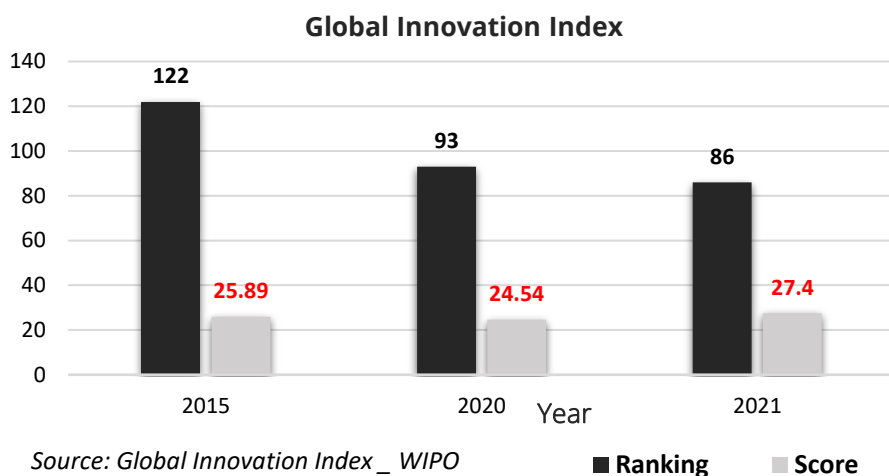
- The Ministry of Innovative Development MoID is managing two funds to support STI: the 'Fund for Supporting Innovative Development and Innovative Ideas' and the 'Presidential Fund for the Commercialisation of the Results of Scientific and Scientific-Technical Activities'. There is also an international internship scheme, launched two years ago for young researchers. Indirect measures include the fiscal incentives offered in technology parks and other innovation infrastructures.
- The Centre for Advanced technologies also implements an acceleration programme for science-based start-ups (the so-called CAT Science Accelerator), where potential entrepreneurs undergo a six-month training course as well as having free access to its laboratories. By mid-2019, the CAT received 130 applications and selected 28 teams for the acceleration services. At the end of the process, ten teams applied for project financing.
- Uzbekistan adopted the Strategy "Digital Uzbekistan-2030", which provides for the launch of more than 280 IT projects in all the sectors of economy, including public administration in all the structures of the vertical.
- 12 venture funds have been launched in the country to finance startup projects, more than 40 startups were able to raise more than \$80 million from foreign investors and funds.
- The number of enterprises with foreign capital has reached 11,000, and includes such companies as Coca Cola, General Motors, Nestle, etc.
- IT companies in Uzbekistan are provided with significant tax benefits and preferences at least until 2028.

- The country is actively engaged in producing IT specialists. 205 IT Centers have been set up across all regions of the country, with more than 85,000 students that have already been trained in them. The project "One Million Uzbek Coders" launched in the country, enrolled more than 1 million students.
- Global companies like Microsoft, IBM, Oracle, HP, SAP, Cisco, EPAM, Exadel, iTechArt, HW, ZTE, Telegram, WhatsApp and others are present in Uzbekistan. More than 500 IT companies are registered as residents of IT Park.
- Over the years, a number of startup platforms have been established, including the Tech Central Asia Tashkent Startup Project Competition in partnership with the Turkish Council for Scientific and Technological Research (TUBITAK) and the US Embassy in Uzbekistan; the Startup initiatives in partnership with the Chamber of Commerce and Industry, as well as the United Nations Development Program.
- According to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to organize the activities of the National Venture Fund" UzVS" dated November 3, 2020 No 684, the first venture fund with a charter capital of 15 billion soums was established in the country.



Source: WIPO: [https://www.wipo.int/ipstats/en/statistics/country\\_profile/](https://www.wipo.int/ipstats/en/statistics/country_profile/)

- ❖ According to the World Intellectual Property Organisation's (WIPO) data, the number of granted patents have increased from 177 in 2012 to 407 in 2019 before declining to 321 in the Covid-19 era. Meanwhile the number of patents filed rose from 239 in 2009 to 480 in 2018; that of trademarks increased from 3,291 to 7,993 and industrial design filings increased from 56 to 309 in the same period. A closer look at the patent data indicates that resident patent applications rose from 238 to 470 between 2009 and 2018, while non-resident applications changed slightly from 174 to 180 in the same period.



- ❖ The Global Innovation Index ranking of Uzbekistan has improved very significantly from year 2015 to 2021 from 122 to 86, while the innovation index itself has also shown a small improvement. Both these factors clearly indicate a positive development of the innovation ecosystem.

### ❖ **Technology Parks/Incubators:**

The two technology parks of Uzbekistan, the Technopark 'Yashnabad' and the IT Park are located in Tashkent.

#### • **Yashnabad Technology Park (Tashkent):**

The territory of Tashkent is conditionally equated to the innovation zone. According to the decree, any enterprise intending to produce innovative products in Tashkent can apply for the status of resident of the Yashnabad Technology Park. The tenants are provided with benefits in the form of tax exemption for up to ten years, and preferential loan rates of 7%, among other advantages. The priority focus areas for the technopark are chemical technology, biotechnology, pharmaceuticals and medical biotechnology and plant protection products; materials science, metal processing technologies, earthquake resistance and building materials; food industry, energy conservation, production of alternative and renewable energy sources; and electronic measuring instruments, robotics, mechanical engineering and electrical engineering. As of January 2020, there are 21 tenant companies.



- **The IT Park (Tashkent):**

Created in July 2019, the IT Park focuses on software products and information technologies. It was established by the Ministry for Development of Information Technologies and Communications, together with the Software Technology Parks of India (STPI). The park is located at the Al-Khwarizmi school in the Mirzo-Ulugbek district, near Tashkent Inha University, and includes business incubation, acceleration and venture fund programmes. The main goal of the IT Park is defined as creating a start-up ecosystem to support the development of the export-oriented sector. To this end, partnerships are established with local and international organizations, such as Tech Nation in the UK, IT start-up tech park Astana in Kazakhstan, IT parks of Moscow in Russia, Inha University in Tashkent, and Tashkent University of Information Technologies. There are plans to open new blocks of the park in the future. In addition, the ministry plans to create branches of the IT Park in other regions of Uzbekistan to develop IT start-ups.





- **Digital City Technology Park (Andijan):**

A new Digital City Technology Park has opened its doors in Uzbekistan's Andijan city (May 21, 2020). Digital City has a wide range of opportunities for local youth, entrepreneurs and citizens. The technopark is designed to accommodate more than 50 enterprises providing services in the field of new information technologies. It will provide companies with the necessary infrastructure, office space for their activities, as well as financial, marketing, legal and other consulting services. Digital City plans to introduce digital technologies in agriculture and water management, education, healthcare, banking and other areas. As a result of close cooperation of Digital City with Technology Parks of India, Belarus and Russia, and the representative office of a US IT Park, the total volume of services is expected to reach about US\$4.9 million by 2022, according to the Ministry for Development of Information Technologies and Communications of Uzbekistan.



- Recently, Zhenghe Technology announced that it will build the first new energy project **"Zhenghe (UZB) Digital Energy Technology Park"** in Namangan State of Uzbekistan. The project scale is about 1,280 hectares and it is expected to invest more than 2 billion US dollars in the next five years. The park will plan to build a large-scale photovoltaic power station, natural gas power station, data center, photovoltaic equipment and data server manufacturing and assembly industrial chain. In the future, it will produce products including data servers, photovoltaic equipment, new material batteries, smart appliances and other products, which are expected to be exported to countries and regions around Uzbekistan, Russia, Europe and other countries and regions. After the project is fully operational, the total production value in the park is expected to exceed 500 million U.S. dollars. After the completion of the project, the installed capacity of the photovoltaic power station in the park will reach 1.5GW
- There are **20 technology and innovation support centres (TISCs)**, established in universities and research institutes under a project implemented with the WIPO between November 2017 and December 2019. The TISCs aim to stimulate innovation and economic growth by facilitating access to technological information and by strengthening the country's capacity to effectively exploit this information.
- **National Agency for Project Management (NAPM):** The NAPM also implements pilot projects to test the feasibility of the application of emerging technologies in different sectors. The NAPM was also tasked with creating an innovation area, the so-called 'International High-Tech Innovation Centre' ('Delta city') in Tashkent, in accordance with the Presidential Decree (dated 4 July 2018). The 'Delta city', which is estimated to cost USD 1.5 billion, will be provided with special fiscal incentives for investors until July 2021, and will include a research institute and a student campus, as well as multifamily and free-standing residential buildings.



## I. COMBATING THE COVID-19 PANDEMIC

### ❖ **Construction of new 10,000-bed infectious diseases facility:**

As part of an on-going nationwide effort to tackle the global coronavirus pandemic, Enter Engineering, the largest EPC contractor in Uzbekistan, has completed the first unit of what is planned as a 10,000-bed medical facility just outside Tashkent, in just five days. The state-commissioned project is being undertaken in collaboration with Uzbekistan Railways.

To prevent the further spread of the virus, two new hospital complexes are being built in the Zangiota district of Tashkent. The facility is designed both to treat virus-infected residents and to house Uzbekistan citizens returning home from abroad who require quarantine. Each complex will be able to accommodate 5,000 patients. Construction is taking place on a campus with a total area of 68 hectares. Each complex consists of five separate buildings, designed for 1,000 people each. The Tashkent facility is intended to be a permanent infectious diseases hospital. It is being designed for a service life of at least 25 years.

Source: <https://www.prnewswire.com/news-releases/enter-engineering-helps-uzbekistan-combat-the-covid-19-virus-301044533.html>



Two new hospital complexes are being built in the Zangiota district of Tashkent (PRNewsfoto/Enter Engineering)

### ❖ **Uzbekistan has produced the first Ventilator:**

In June 2020, Uzbekistan released the first ventilator. Hi-tech medical equipment produced by the resident company of the special economic zone "Technopolis Moscow"- "Hirana+ ".

The construction of a large-scale complex for the production of ventilators and anesthesia-breathing devices in Uzbekistan is supported and co-operated with the Ministry of innovative development, as well as with the Association of manufacturers of medical equipment.

In August 2020, the plant was scheduled to open and launch production with the goal of becoming strategically important for the entire Central Asian region. According to officials more than \$ 8 million will be invested in this production and the presence of the company will create about 100 jobs. The plant is expected to produce 100 ventilators by the end of the year. In the future, it is planned to increase the volume of production to 500 ventilators and 500 anesthesia and breathing devices per year.

Source: <http://orasam.manas.edu.kg/index.php/en/ozbekistan-2/3446-uzbekistan-has-produced-the-first-ventilator>



### ❖ **Telemedicine:**

Video conference communication has been quickly established between the "103" ER command center, the epidemic prevention center, the Uzbekistan research center, the Ministry of Health, and 16 hospitals. This enables remote collaboration between the government and hospitals, improving diagnosis and treatment efficiency, and reducing infection risks.

## ❖ **Uzbekistan using Huawei cloud platform to fight COVID-19:**

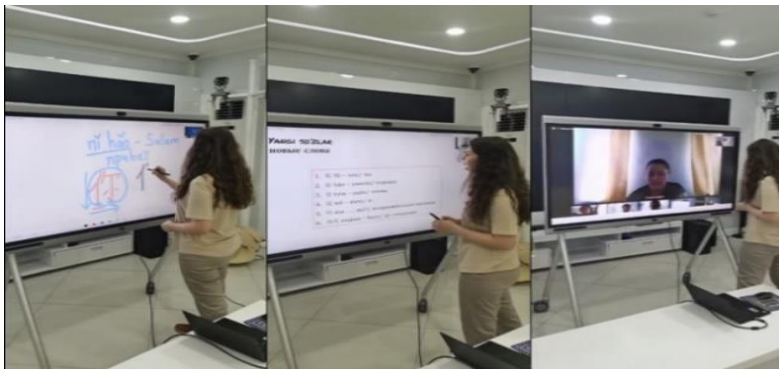
Huawei and Uzbektelecom, JSC deployed a video cloud platform for remote collaboration and education. Huawei recently worked with Uzbekistan Telecom, using the latter's existing bandwidth and data center resources, to quickly deploy the Huawei video cloud platform. The platform supports remote access across the country in diverse sectors, including Uzbekistan's government, its hospitals, as well as schools and enterprises.

The cloud videoconferencing platform can support more than 1000 concurrent video conferences, with further capacity expansion possible through simply adding more Virtual Machines (VMs). The platform also provides 10 Gbit/s ultra-large access bandwidth, to ensure that users across the country can have fast remote access to the resources they need. The video services have been implemented nationwide, helping to protect the country from the new coronavirus pandemic.

## ❖ **Remote education:**

Huawei collaborated with the Ministry of School and Professional Education of Uzbekistan and was supported by TIAME (Tashkent Institute of Irrigation and Agricultural Mechanization Engineers) in order to carry out distance education test runs and training, deploying the CloudLink Board solution in classrooms.

**Source:** <https://e.huawei.com/en-sa/news/ebg/2020/huawei-cloud-platform-help-uzbekistan>



## ❖ **Uzbekistan to develop mobile app to trace contacts of confirmed Covid-19 cases:**

Uzbekistan and South Korea have agreed on development of mobile app to trace contacts of people infected with COVID-19. In future, it will be possible to trace where the patients were before hospitalization.

The Ministers also agreed to test vaccine against COVID-19. In April, the company Project Managers with support of the Ministry of Innovative Development developed the mobile app Birga Yengamiz (United We Overcome) to automatize the process of tracing patients' contacts. The app is able to identify individuals who contacted infected person during previous 14 days. Experts from Oxford University note that such apps will be effective only if 60% of population use them.

**Source:** <https://www.for.kg/news-652894-en.html>



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