
UZBEKISTAN

Building the right conditions and skills for artificial intelligence

Dr. Abduvaliev Abdulaziz Abduvalievich,
Deputy Director for Science, Innovation and International Relations of the Institute for Advanced Training and Statistical Research, Statistics Agency of the President of the Republic of Uzbekistan

Key takeaways:

- Presidential resolution enabling policy frameworks and strategies for AI in Uzbekistan have been put in place since 2020. Among the country's strategic goals is training the young generation, it has therefore set a goal to train one million Uzbeks through an online training platform.
- A new agency for AI development has been founded to monitor and implement AI technologies across all sectors.
- The recruitment of the newly trained generation in coding and the infrastructure to support AI work are next steps for the country.

Uzbekistan's activity in recent years in the structural development of AI and the creation of the necessary conditions for its formation has been identified as one of the country's priority areas. Its reforms are based on the adoption of regulatory documents that structure the system to create the necessary conditions for the accelerated implementation of AI in the economy (Ministry of Digital Technologies, no date).

Policy foundations

Three documents in particular serve as a solid basis for AI development in Uzbekistan. The first is the 2020 Decree of the President of the Republic of Uzbekistan 'On approval of the strategy "Digital Uzbekistan – 2030" and measures for its effective implementation' (Government of Uzbekistan, 2020). This document defines tasks for the development of teacher technological competences.

This was followed in 2021 by the Presidential Resolution 'On measures to create conditions for the accelerated introduction of artificial intelligence technologies' (Government of Uzbekistan, 2021a). Under this resolution, a program of measures for the study and introduction of AI technologies in 2021–2022 was approved, which provides for the main priority areas of development for the State Program including an AI Development Strategy, a regulatory framework, the widespread use of AI technologies, domestic innovative ecosystem for AI and international cooperation.

Lastly, 2021 also brought the Presidential Resolution ‘On measures to create a special regime for the use of artificial intelligence technologies’ (Government of Uzbekistan, 2021b). Within the framework underneath this resolution, the introduction of a special regime for the use of AI technologies within the framework of experimental and innovative research was approved.

Strategic tasks

As described above, the 2020 Decree of the President led to the adoption of the strategy Digital Uzbekistan – 2030. One of the main achievements under this strategy so far has been the organization of training 587,000 people in the basics of computer programming, including by attracting 500,000 young people within the framework of the project One Million Uzbek Coders. This large-scale project is a result of a partnership with the Dubai Future Foundation in the United Arab Emirates and was launched at the end of 2019 (Inha University in Tashkent, 2019). One Million Uzbek Coders is a free distance-learning platform for the general public, especially targeted at young people with students starting from age 13. This training program is currently running, and in 2021 had already reached around 500,000 students (ITPARK, 2021).

Digital Uzbekistan – 2030 has also achieved the implementation of over 280 information systems and software products for automation of management, production and logistics processes in enterprises of the economic sector. The country has meanwhile consolidated relevant higher educational institutions in its regions to improve the digital literacy and skills of khokims (heads of regions) and employees of state bodies and organizations, training 12,000 employees in information technology and information security.

One Million Uzbek Coders is a free distance-learning platform for the general public, especially targeted at young people with students starting from age 13. This training program is currently running, and in 2021 had already reached around 500,000 students



Infrastructure for development

Particular attention is being paid to the creation of the necessary integrated infrastructure for the development of AI. In the Joint Alliance for the Development of AI, the Ministry for Development of Information Technologies and Communications acts as a working body in partnership with the Ministry of Innovative Development, other government agencies, commercial banks and the private sector. The Alliance, in partnership with the Tashkent University of Information Technologies, will direct a doctoral program as well as organize training and teaching programs for students.

Comprehensive infrastructure for artificial intelligence development in Uzbekistan

Comprehensive infrastructure for AI development

- Creation of a Department for the Introduction and Development of AI technologies on the basis of the Ministry for the Development of Information Technologies and Communications.
- Creation of an AI Development Alliance in cooperation with the Ministry for the Development of Information Technologies and Communications, the Ministry of Innovative Development, government agencies, commercial banks and large industrial enterprises.
- Creation of the Research Institute for the Development of Digital Technologies and Artificial Intelligence under the Ministry for the Development of Information Technologies and Communications.
- Creation of a doctoral program in the specialty 'Digital technologies and artificial intelligence' in the systems of higher educational institutions.

The complexity of the infrastructure being created should make it possible to cover all areas of AI development in the country. Thus, state policy in the field of AI will be coordinated by the Department for the Introduction and Development of AI Technologies under the Ministry for Development of Information Technologies and Communication. The Alliance will promote the joint implementation of priority projects for the introduction of AI technologies in the economic and social sectors and the public administration system, the optimization of costs for their development, and dissemination of best practices in this area among government agencies and organizations. The doctoral program will produce highly qualified specialists in the field of AI.

A new research institute

An important part of this infrastructure is the Research Institute for the Development of Digital Technologies and Artificial Intelligence under the Ministry for the Development of Information Technologies and Communications. Among its main tasks is the organization of scientific research aimed at the widespread implementation of the strategy Digital Uzbekistan – 2030 and the introduction of AI technologies in different sectors of the economy, the social sphere and the public administration system. The Research Institute will also conduct fundamental and applied scientific research in the field of AI, forming a scientific ecosystem for the development of digital technologies. It will further develop innovative products for automation of management and production processes based on AI technologies, as well as their models, algorithms and software. Lastly, it is tasked with

the establishment of cooperation and implementation of joint projects with leading foreign innovative and scientific institutions for the development of AI technologies.

One project, currently in its initiation phase, in the field of scientific activity at the Research Institute is the creation of an electronic platform containing a national citation index of scientific articles and a bibliographic database of scientific publications. This project is notable as one of the first to create AI in research activities in Uzbekistan. In this regard, as part of the ongoing reforms, it is important to step up the implementation of AI in the entire scientific field.

Putting a million coders to work

Thanks to the active efforts of the government over the past few years, the institutional framework of AI in Uzbekistan is being strengthened. In particular, favourable conditions are being created for scientific research in the field of AI. But in parallel with the conditions created, it is important to accelerate the number of scientific projects in the field of AI, which, in our opinion, is not enough today.

In this regard, it is important to take into account the recommendation from the *Innovation for Sustainable Development Review of Uzbekistan* conducted by the United Nations, where it is noted that ‘the creation of a large pool of programmers will require a significant restructuring of the higher education system and closer integration of IT with local and foreign IT companies’ (UNECE, 2022). This recommendation serves as an important signal for the activation of targeted measures to attract foreign investment projects for the development of AI in all spheres of socio-economic life and especially in the scientific sphere.

At the initial stage of the formation of AI in the scientific sphere of Uzbekistan, it is important that the government’s efforts are aimed at creating conditions for attracting foreign scientific and applied projects in the field of AI. These actions will strengthen the practical skills of trained specialists in the field of AI. On the other hand, these measures will help to stop an outflow of specialists in this field to more attractive projects carried out in foreign countries.

The government continues to develop and approve mechanisms to increase the attractiveness of the research field of AI. This is important, since the fastest possible transition of the scientific sphere to AI will accelerate this transition in other industries and spheres of the economy.

References

Government of Uzbekistan. 2020. Decree of the President of the Republic of Uzbekistan ‘On approval of the Strategy “Digital Uzbekistan – 2030” and measures for its effective implementation’ dated October 5, 2020 No. UP-6079.
<https://old.gov.uz/en/news/view/31479>

Government of Uzbekistan. 2021a. Resolution of the President of the Republic of Uzbekistan ‘On measures to create conditions for the accelerated introduction of Artificial intelligence technologies’ dated February 17, 2021 No. PP-4996.
<https://data.egov.uz/eng/news/suniy-intellekt-texnologiyalaridan-foydalanishga-b>

Government of Uzbekistan. 2021b. Resolution of the President of the Republic of Uzbekistan ‘On measures to create a special regime for the use of Artificial intelligence technologies’ dated August 26, 2021 No. PP-5234. <https://uzspace.uz/en/documents/index/1> (In Uzbek.)

Inha University in Tashkent. 2019. ‘The large-scale project “One Million Uzbek Coders” has been launched in Uzbekistan’. *News*, 21 November. Tashkent, Inha University in Tashkent. <https://inha.uz/events/the-large-scale-project-one-million-uzbek-coders-has-been-launched-in-uzbekistan/>.

ITPARK. 2021. ‘There are already 500 thousand participants on the “One Million Uzbek Coders” project!’. *ITPARK*, 13 August. <https://it-park.uz/en/itpark/news/there-are-already-500-thousand-participants-on-the-one-million-uzbek-coders-project>.

Ministry of Digital Technologies. No date. *O‘zbekiston Respublikasi Raqamli Texnologiyalar Vazirligi* [Ministry of Digital Technologies of the Republic of Uzbekistan]. <https://gov.uz/digital/>. (In Uzbek.)

UNECE. 2022. *UNECE Innovation for Sustainable Development Review of Uzbekistan*. Geneva, United Nations Economic Commission for Europe. <https://unece.org/economic-cooperation-and-integration/publications/unece-innovation-sustainable-development-review>.