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Progress by innovation



Development of an innovation system and its support infrastructure in Azerbaijan

UNIDO FINAL PROJECT REPORT



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Vienna, Austria
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EXECUTIVE SUMMARY



In a letter dated 1 August 2019, the Ministry of Transport, Communications and High Technologies of Azerbaijan requested support from the United Nations Industrial Development Organization (UNIDO) in acquiring and sharing knowledge, experience and best practices for promoting the building of an innovation system and supporting infrastructure to enhance the competitiveness of enterprises in Azerbaijan. Following consultations between UNIDO and representatives of the Ministry of Economic Development and Technology of Slovenia, the Ljubljana Technology Park and the Slovenian Institute of Quality and Metrology and the Permanent Mission of Slovenia, on 11 September 2019, at UNIDO headquarters, the Slovenian Government expressed its interest in funding the proposed project.

The project objective is the building of the system of innovations, including fostering an environment propitious to start-ups, the scaling up of enterprises and the upgrading of skills, and also raising awareness of the opportunities offered – and the challenges posed – by

the fourth industrial revolution for pursuing Inclusive and sustainable industrial development in Azerbaijan. The project established a digital education and innovation centre, designed to foster technological learning and innovation for the fourth industrial revolution, through the provision of training and awareness-raising on the opportunities and challenges of the revolution for innovation, entrepreneurship and competitiveness in middle income countries.

The project contributes to attainment of the relevant Sustainable Development Goals, in particular, Goal 9 (Build resilient infrastructure, promote sustainable industrialization and foster innovation) and Goal 8 (Promote inclusive and sustainable economic growth, employment and decent work for all).



PROJECT TITLE

Development of innovation ecosystem and support infrastructure in Azerbaijan



THEMATIC AREA

- HC2 (advancing economic competitiveness)
- HC21 (investment, technology and SME development)



PROJECT DURATION

Three years
(with a one year extension)



PROJECT SITE

Baku



DONOR

- Government of Slovenia



TOTAL BUDGET

199,725.50 EUR



MAIN COUNTERPARTS

- Innovation Agency of Azerbaijan (2020–October 2022)
- Innovation and Digital Development Agency of Azerbaijan (reformed in October 2022)

Background and baseline before the project

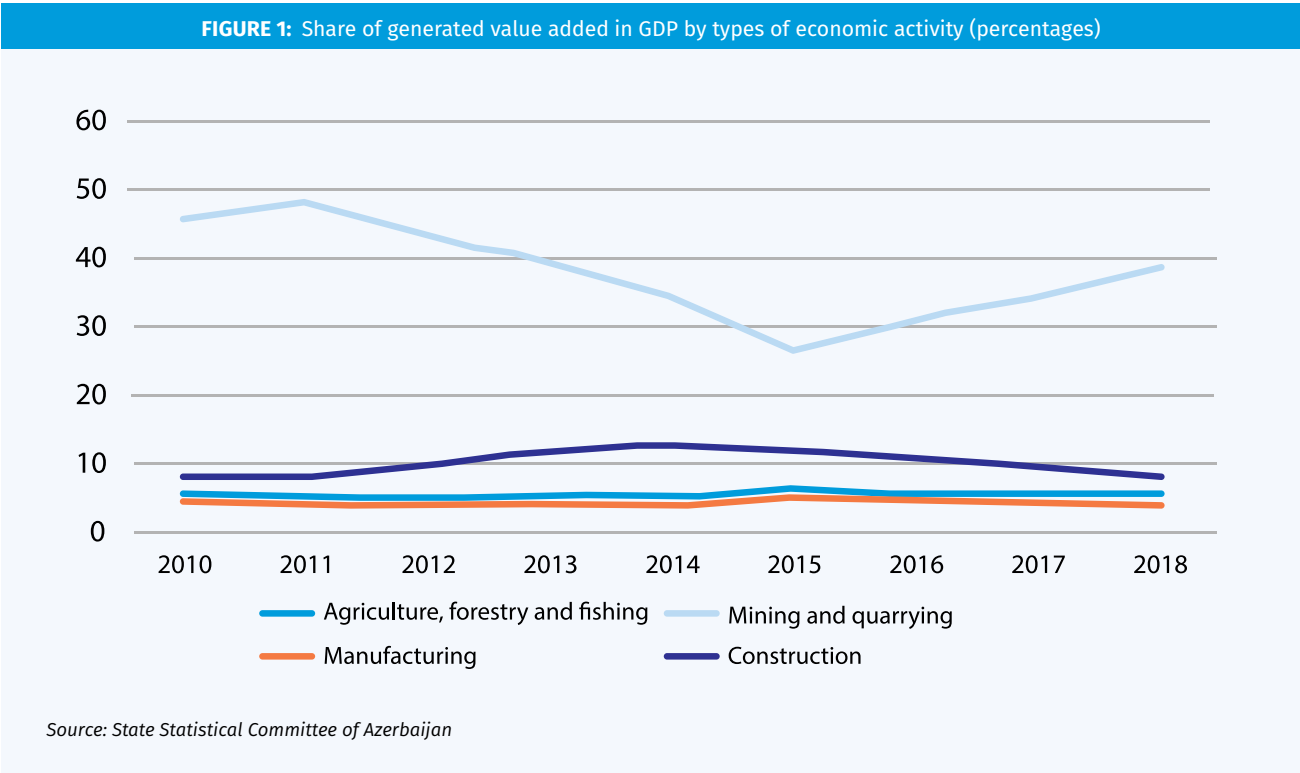
The economic growth of Azerbaijan is dependent on the oil sector, which constituted 43 per cent of its gross domestic product (GDP) in 2017. Growth in the non-oil sector was boosted by manufacturing growth, which strengthened by 7.9 per cent in 2018. In 2017, the information and communications technology (ICT) sector generated revenue of 1.038 million manats, or 1.5 per cent of GDP (2.2 per cent of non-oil GDP).



Azerbaijan is an upper middle income country and a country rich in resources (see table 1). The country has made progress in its socioeconomic development, ever since gaining independence in the early 1990s. The economic growth of Azerbaijan is dependent on the oil sector, which constituted 43 per cent of its gross domestic product (GDP) in 2017 (figure 1). After a recession in 2016 and 2017, real GDP growth recovered in 2018, driven by higher oil prices, and reached 1.4 per cent. Growth in the non-oil sector was boosted by manufacturing growth, which strengthened by 7.9 per cent in 2018. In 2017, the information and communications technology (ICT) sector generated revenue of 1.038 million manats (approximately \$610 million), or 1.5 per cent of GDP (2.2 per cent of non-oil GDP).¹ Medium hi-tech and hi-tech industries make up 13.7 per cent of the manufacturing value added in the Azerbaijani economy. According to official statistics,

real GDP grew by 2.5 per cent year on year in the first half of 2019, accelerating from 0.2 per cent in 2018. This acceleration was supported by the hydrocarbons sector and by non-oil GDP growth, supported by a favourable monetary policy.² Industrial production (dominated by the hydrocarbons sector) grew by 2.2 per cent, compared with 0.7 per cent in 2018.









Azerbaijan is an upper middle income country and a country rich in resources. The country has made progress in its socioeconomic development, ever since gaining independence in the early 1990s.



In 2017, Azerbaijan ranked below Armenia, Belarus, Kazakhstan and the Russian Federation among the countries of the Commonwealth of Independent States

in the UNIDO competitive industrial performance index (table 1).

1) See <https://www.azstat.org/MESearch/details?lang=en&type=2&id=444&departament=20>.
2) Economist Intelligence Unit, available at http://country.eiu.com/FileHandler.ashx?issue_id=708397254&mode=pdf

TABLE 1: UNIDO competitive industrial performance index					
	COUNTRY	Income classification by the World Bank*	UNIDO competitive industrial performance index		
			Rank in 2017	2017 indicator (0–1)	Rank in 2016
	 Azerbaijan	Upper middle income	115	0.009	107
	 Belarus	Upper middle income	46	0.067	47
	 Kazakhstan	Upper middle income	66	0.037	69
	 Kyrgyzstan	Upper middle income	118	0.008	121
	 Armenia	Upper middle income	99	0.013	99
	 Republic of Moldova	Upper middle income	106	0.01	110
	 Russian Federation	Upper middle income	31	0.109	32
	 Tajikistan	Low income	129	0.004	133

Source: World Bank classification, 2020.
Available at <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

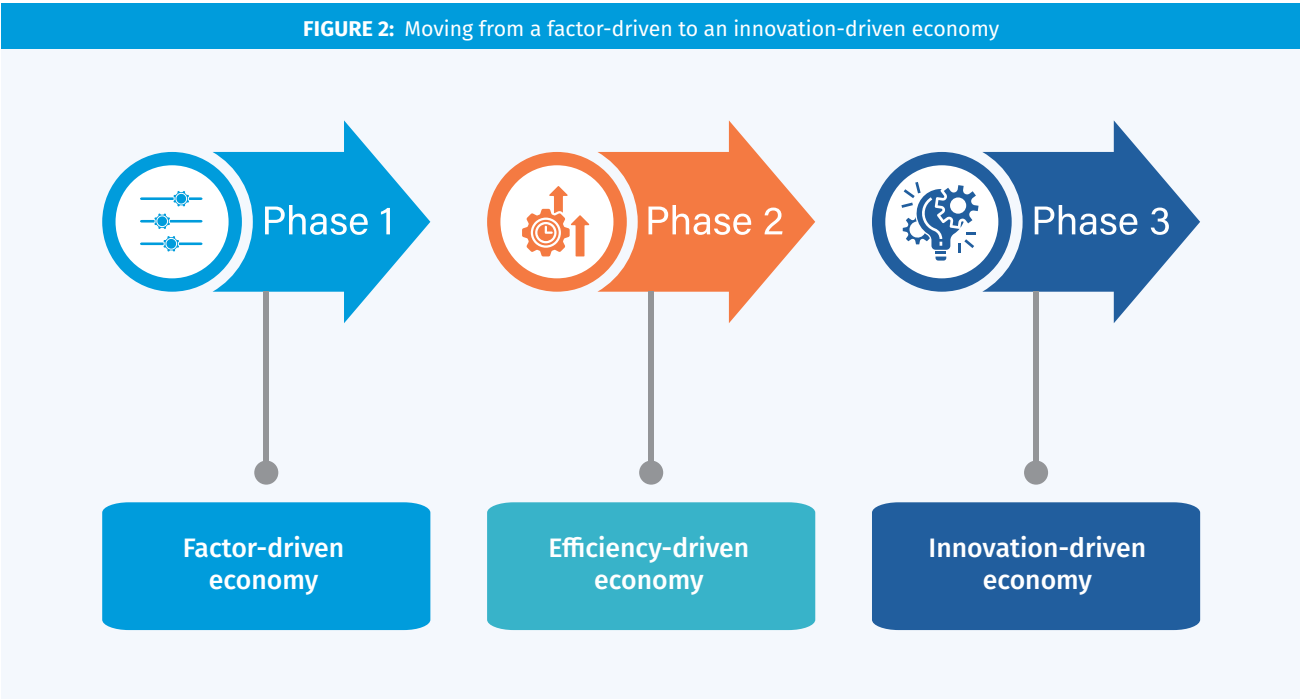
The competitive industrial performance index covers three main dimensions, each consisting of two indicators. These dimensions are: first, the capacity to produce and export manufactured goods; second, technological deepening and upgrading; and third, world impact. The higher the scores in any of the three dimensions, the higher the country's industrial competitiveness and its ranking on the competitive industrial performance index.

According to rankings on the Global Competitiveness Index 4.0,³ which maps the factors and attributes that drive productivity, growth and human development in the era of the fourth industrial revolution, covering 141 economies and accounting for 99 per cent of the world's GDP, the Russian Federation (at 43rd) was the highest ranking of the above-listed countries in the Eurasian competitiveness rankings, followed by Kazakhstan

(55th) and Azerbaijan (58th) both of which improved their performance over 2018. Fostering innovation capability would help Azerbaijan to achieve a higher competitiveness performance and advance its progress towards structural change in the fourth industrial revolution era.

Striving for a future of sustainable growth, the Government of Azerbaijan has prioritized the following thematic areas in the Government's strategic planning: modernization of the oil and gas sector; upgrading of the petrochemical industry; industrial and economic diversification; alternative and renewable energy sources; expansion of trade in goods and services; and transformation towards a knowledge-based and innovation-driven economy (figure 2).⁴

3) World Economic Forum, Global Competitiveness Report, 2019.
4) Economist Intelligence Unit, Country Report, November 2014.



I.A INNOVATION POLICY IN AZERBAIJAN

Innovation and innovative growth constitute vital components of a number of State programmes, and also of legal and regulatory acts of Azerbaijan. The term “innovation” is defined in the State Education Act as “progressive novelties developed based on various institutions, scientific researches”.⁵ The main approaches of the country’s State innovation policy are set out in the Science Act, adopted in 2016.⁶ The Act includes several principles on the direction of State policy in the field of the organization, management and development of scientific and innovation activities. It also envisages the identification of strategic areas for the development and improvement of the State innovation policy.⁷

On 6 December 2016, the President of Azerbaijan approved major strategic road maps for the national economy and for its 11 key sectors. The strategic road map on the country’s national economic prospects comprises an economic development blue print and action plan for 2016–2020, a long-term outlook until 2025, and a broader outlook for the period beyond 2025.⁸ The policy is largely sector-specific and in general includes an innovation component.

The road map for the national economy includes action on promoting an educational, research-based and innovative approach to development in higher education

institutions, to stimulate the effectiveness of the “education-research-innovation” environment through the formation of university clusters.⁹ Furthermore, the road map includes actions to stimulate the development of a knowledge-based society founded on the development of scientific research activities and encourages investments in innovation, along with the improvement

of infrastructure aimed at developing human capital in the country. To this end, the Government is planning the development of an innovation strategy, with the aim of establishing innovative clusters and facilitating the digital transformation and development of an e-government system.¹⁰

Where innovation governance is concerned, the innovation component features in the legal and regulatory instruments listed below:

- State strategy for the development of education in Azerbaijan
- National strategy on the development of the information society for 2014–2020
- “Azerbaijan 2020: Look into the Future” development blueprint
- State programme for the development of industry in Azerbaijan for 2015–2020
- National strategy on high technology (2020–2025)

In addition, the Innovation Agency of Azerbaijan has been established under the Ministry of Transport, Communications and High Technologies of Azerbaijan, based on the State Fund for Development of Information Technologies and the enterprise High-Tech Park, in accordance with Presidential Decree No. 325 of 6 November 2018. The Agency assists local businesses in acquiring modern technologies, organizes their transfer, supports innovation-oriented scientific research and encourages innovative projects, including start-ups, by funding them through grants, concessional loans and venture capital funds.

The goal pursued by the Innovation Agency has been the promotion of the production of innovative and high-tech products and the provision of services under the “Made in Azerbaijan” brand; creating conditions for existing local brands to enter the international markets; identifying products and services for digital transformation;

supporting advanced digital technologies, such as robotics, cyberphysical systems, big data analytics and artificial intelligence (AI). The Agency also has a Business Incubation and Acceleration Centre to support the ideas of young people, to provide a base of innovative ideas, and to develop and improve innovative products and high technologies. The Centre operates 24 hours a day, 7 days a week.¹¹

There are continuing international and national initiatives aimed at strengthening and broadening the innovation system in Azerbaijan, in which all stakeholders involved embrace new technologies and business models. These initiatives include the Centre for Sustainable and Operational Social Security; accelerator labs; the “InnoLand” innovation and incubation centre; the Social Innovation Laboratory; the Cleantech Ideation Bootcamp; and the first robotics laboratory for children in Baku.¹²

5) See <http://edu.gov.az/az/page/72/302>.

6) See http://science.gov.az/uploads/PDF/Elm_haqqinda_Azərbaycan_Respublikasının_Qanunu.pdf.

7) Article 4 of the Act provides that the State policy on scientific innovation shall be implemented in the following areas: identification of the strategic directions for the development and improvement of the State innovation policy; creation of favourable terms for financing innovation projects, and attracting and promoting investments; establishment of scientific innovation entities, such as integrated science, education and entrepreneurship centres, technology parks, scientific and technology parks, technological incubators, innovation funds and information databases on innovations; establishment of high-tech-based production areas, the provision of markets and access to foreign markets; the study of innovative development practice and its use in the preparation of development strategy.

8) See http://ereforms.org/store/media/ekspert_yazilari/islahat%20icmali/mart/strateji%20yol%20x%C9%99rit%C9%99si%20-eng1.pdf.

9) As stated in the road map: “The establishment of university clusters will stimulate the implementation of researches and improvements and the application of the scientific results to the production, and hence the efficiency of the ‘education-science-production’ relations will be improved.”

10) See <https://menafn.com/1098703867/Minister-talks-on-plans-to-create-ICT-innovation-clusters-in-Azerbaijan>.

11) See <http://www.mincom.gov.az/en/view/organization/16/>.

12) See <http://www.az.undp.org/content/azerbaijan/en/home.html>.

I.B DEVELOPMENT OF THE ICT SECTOR IN AZERBAIJAN¹³

The Ministry of Transport, Communications and High Technologies is responsible for both ICT policy and regulation. Its remit is broad, covering telecommunications, information technology and postal services, along with transport and oversight over several telecommunication operators.

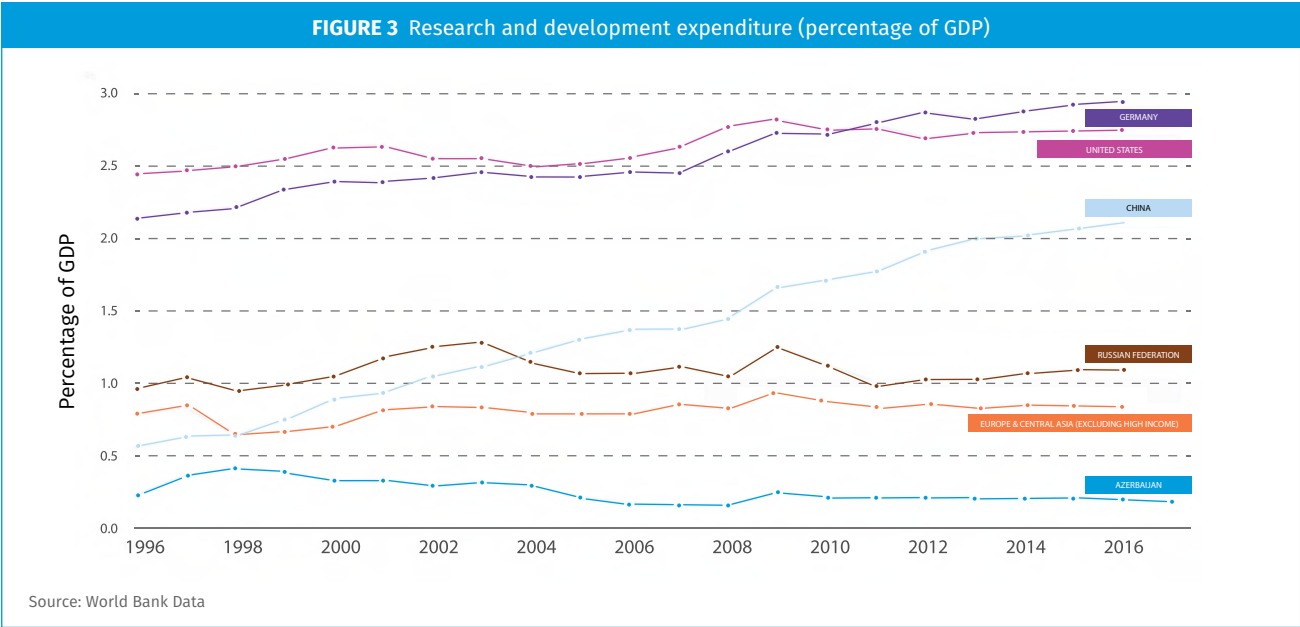
In terms of policy, the President has approved a strategic ICT road map that outlines 3 key strategies and 10 priorities, with its achievement targeted for 2020. Implementation will be critical to addressing shortcomings in the sector that are constraining development of the digital economy. The implementing cost of the road map has been budgeted at 585 million manats, with funding provided through partnerships between the Government, the private sector (including foreign investment) and bilateral and multilateral partners.

The value added by the ICT sector, which includes publishing, broadcasting, telecommunications and computer and information services, accounted for 2.2 per cent of non-oil GDP in 2017. The ICT sector of Azerbaijan generated revenue of \$610 million in 2017, or 1.5 per cent of total GDP.

Employment in the ICT sector totalled 61,700 persons and accounts for 1.3 per cent of employment. Telecommunications accounted for 88 per cent of total sector revenue, suggesting that Azerbaijan has yet to exploit its existing hard infrastructure through a vibrant computer and information service industry.

Although the sector has grown since 2010, the growth rate has been slower than that of the overall economy; consequently, its share of GDP has declined. The ICT sector, which is dominated by the telecommunications services and low growth rates, presents a challenge to the Government’s aspirations for the sector revenues to surpass those of oil.

Most of the funding for research and development in Azerbaijan (around 80 per cent in 2011) originates in the public sector, whereas the business sector (even given the strength of its foreign direct investment-dominated oil and gas sector) provides only about 20 per cent of the funding (figure 3).

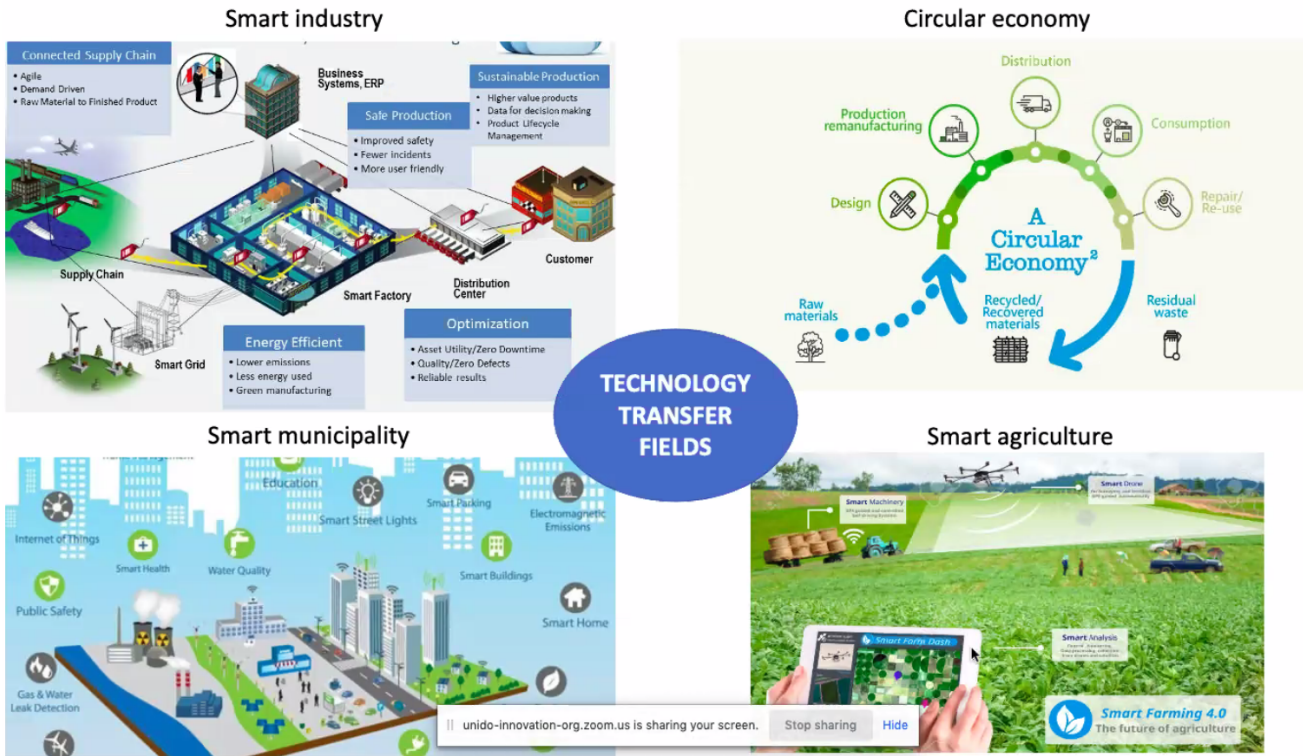


13) See <https://www.adb.org/sites/default/files/institutional-document/484586/aze-digital-development-overview.pdf>.

The score registered by Azerbaijan on the Global Innovation Index, which is the simple average of the input and output sub-index scores, was quite low when compared to other countries in the region. In 2019, Azerbaijan scored a mere 30.2 on this index, ranking it as low as 84th out of 129 countries.¹⁴

In recent years, major steps have been taken by the Government to improve innovation activity and the commercialization of science and research in the country,

including through the establishment of a number of techno-parks and agencies, including the Innovation Agency and the State Agency for Public Service and Social Innovations, known as the Azerbaijan Service and Assessment Network (ASAN). ASAN (appropriately, “asan” means “easy” in Azeri) is the country’s one-stop-shop solution for effective and transparent public service delivery, which received a United Nations Public Service Award in 2015.



14) See https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf.

I.C DOING BUSINESS IN AZERBAIJAN

The World Bank placed Azerbaijan among the 10 most improved economies worldwide in terms of their performance against the “Doing Business” indicators in 2017–2018. The country implemented eight business regulatory reforms designed to make it easier to do business. Among other things, Azerbaijan facilitated dealing with construction permits and improved electricity availability by facilitating more reliable power supply, reducing connection costs and enhancing process efficiency. In addition, the country made it easier to register property, provided strengthened access to

credit, strengthened protection of the legal rights of borrowers and lenders and facilitated the trade across borders. In this way, Azerbaijan widened its business environment and addressed pressing development needs by strengthening legal and economic institutions.¹⁵ In this endeavour, Azerbaijan is tackling its key economic challenge of developing a diversified economy to secure sustainable growth in the long term, embrace opportunities and overcome challenges sparked off by developments initiated by the fourth industrial revolution.



15) See https://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf.





Project information

Target beneficiaries of the project are representatives of governments at various levels; industry associations; and intermediary organizations and institutions, such as extension service providers, industrial research and development centres, research centres, cluster organizations and academic and other educational institutions from Azerbaijan.

The project has also reached beyond its initially targeted organizations and managed to work with start-ups and institutions supporting small and medium-sized enterprises and the broader innovation landscape in Azerbaijan.



II.A ALIGNMENT AND CONTEXT OF THE PROJECT

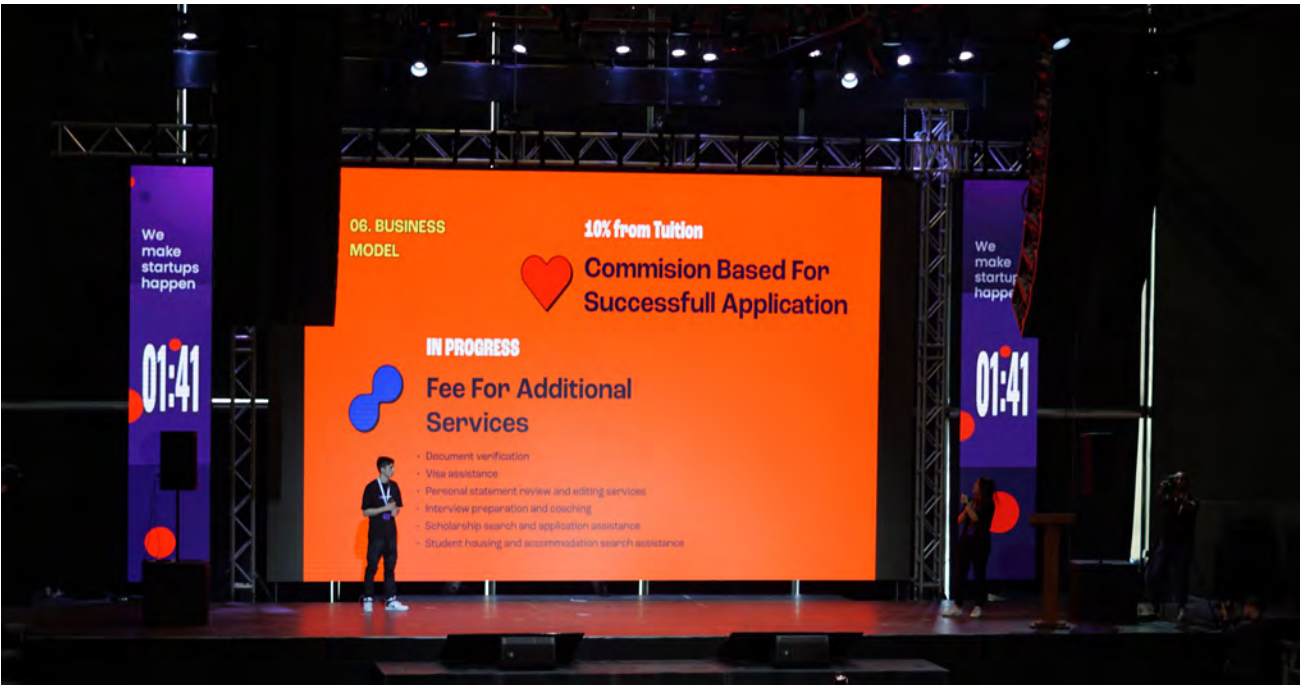
In a letter dated 1 August 2019, the Ministry of Transport, Communications and High Technologies of Azerbaijan requested support from UNIDO in acquiring and sharing knowledge and experience, and also best practices in promoting the building of an innovation system and enhancing the competitiveness of innovative enterprises in Azerbaijan in the era of the fourth industrial revolution (see annex II).

Following consultations by UNIDO with the representatives of the Ministry of Economic Development and Technology of Slovenia; Technology Park and the Slovenian Institute of Quality and Metrology; and the Permanent Mission of Slovenia, on 11 September 2019, at UNIDO headquarters, the Slovenian Government expressed its interest in funding the proposed project.

II.B OBJECTIVE

The objective of the project is to promote the building of an interrelated system of innovation, with a focus on start-ups, the scaling up of businesses, the upgrading of skills and leveraging the opportunities – and addressing the challenges – offered by the fourth industrial revolution to enhance the competitiveness and market

access of small and medium-sized enterprises in Azerbaijan. The project has contributed to inclusive and sustainable industrial development and the realization of certain Sustainable Development Goals, in particular Goal 9.



II.C COUNTERPARTS

The project’s main counterpart was the Innovation Agency of Azerbaijan, which after restructuring in the government changed to Innovation and Digital Development Agency of Azerbaijan. Support was provided by the Ministry

of Transport, Communication and High Technologies, later reformed to Ministry of Digital Development and Transportation.

II.D TARGET BENEFICIARIES

Target beneficiaries of the project are representatives of governments at various levels; industry associations; and intermediary organizations and institutions, such as extension service providers, industrial research and development centres, research centres, cluster organizations and academic and other educational institutions from Azerbaijan.

The project has also reached beyond its initially targeted organizations and managed to work with start-ups and institutions supporting small and medium-sized enterprises and the broader innovation landscape in Azerbaijan.



II.E PROJECT FUNDING AND BUDGET

The Government of Slovenia agreed to fund the project value in its entirety, at a cost of 199,725.50 euros. After consultations with the Ministry of High Technologies and Communication, potential partners were identified as examples of good international practice in innovation management.

The donor subsequently agreed to increase the budget by 11,000 euros, to cover the cost of additional activities related to the final high-level conference and technology exhibition.

The conference and the exhibition included some potentially disruptive start-ups from Slovenia, and a workshop on CE markings delivered to an audience of start-ups, standards institutions, small and medium-sized enterprise agencies and other public institutions active in the Azerbaijani economy.

II.F PROJECT STEERING

An inter-institutional cooperation approach has been used among project stakeholders, including national agencies, to complement the capacity of the public sector in Azerbaijan to meet the growing demand in the local market, investment and the development of other technical capacities.

This enabled the project to align itself with national development strategies and other related national programmes; and also with UNIDO commitments within the United Nations development agenda.

Reporting, monitoring and evaluation has been conducted in accordance with the provisions of the UNIDO technical cooperation guidelines and applicable UNIDO policies. Monitoring, reporting and evaluation have been carried out in accordance with the agreement with the Government of Slovenia. A quantitative and qualitative performance report has been developed. The donor has taken a proactive approach to guiding the monitoring, reporting and evaluation of the project. The final report reflects all aspects of the implementation of the project over the reporting period.





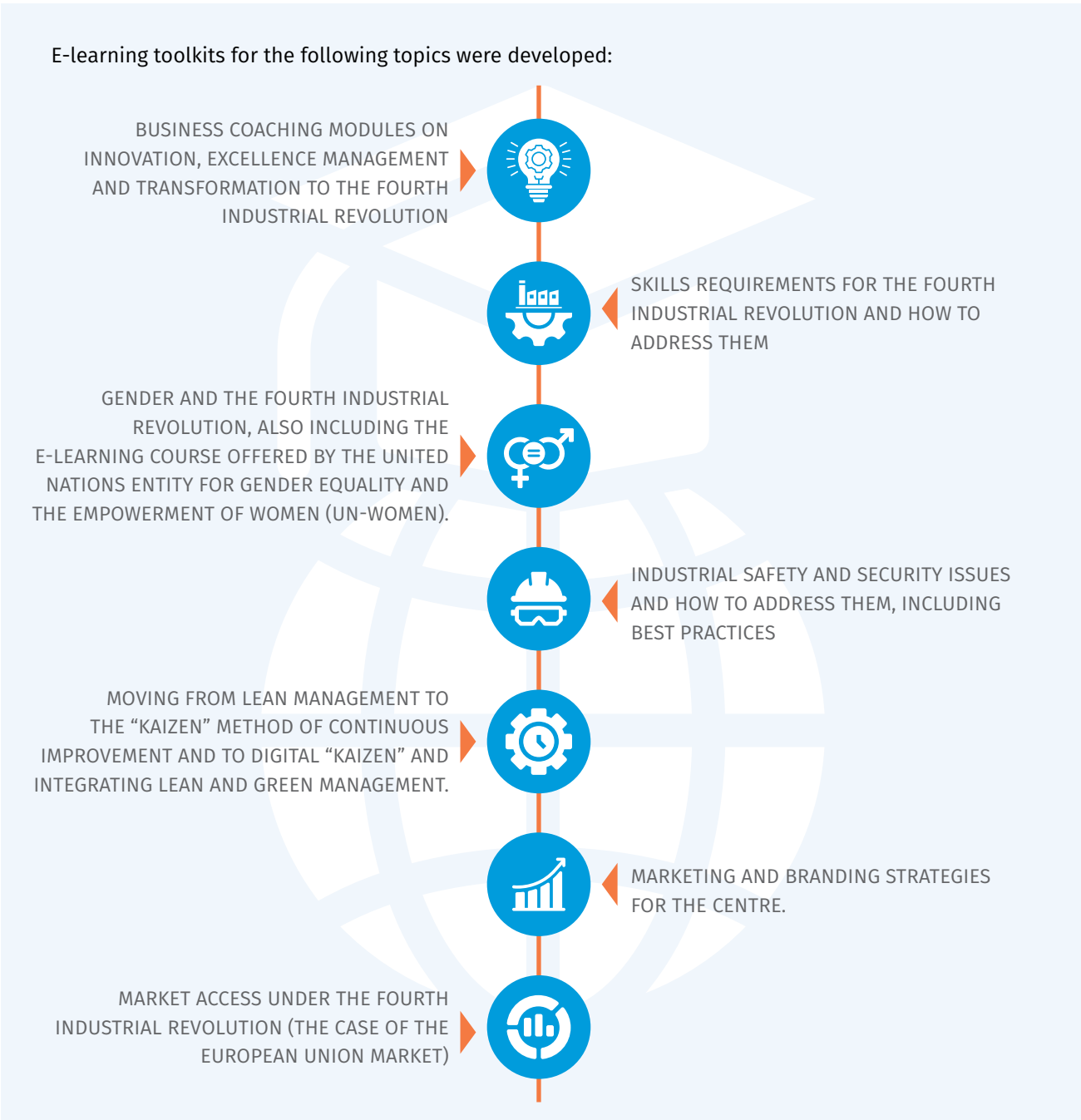
Theory of change

To build the requisite capacity in Azerbaijan to enhance competitiveness in the era of the fourth industrial revolution, the project has created and operationalized the Digital Education and Innovation Centre in cooperation with its counterpart institution, the Innovation Agency.



To build the requisite capacity in Azerbaijan to enhance competitiveness in the era of the fourth industrial revolution, the project has created and operationalized the Digital Education and Innovation Centre in cooperation with its counterpart institution, the Innovation Agency. The purpose of the Digital Education and Innovation Centre is to build awareness on the challenges and opportunities presented by the fourth industrial revolution for innovation and competitiveness,

and to provide guidance and capacity-building activities to strengthen the start-up and scaling-up system, using a digital learning platform. Drawing on the pool of national and international experts, the Digital Education and Innovation Centre has established a digital platform for e-learning, webinars and live streaming and accompanying advocacy material.



In tandem with the development of the Digital Education and Innovation Centre, a training workshop and study visit to Slovenia were organized, on the theme of building an innovation system of start-ups and scaling-up and to showcase international best practices and lessons learned in the building of such a system. During the final project conference in Baku, a technological exhibition entitled “Top N’ Tech” was hosted by Technology Park Ljubljana, which gave local start-ups an opportunity to pitch to international partners and Slovenian start-ups to test the market in Azerbaijan. The event also provided information on the project results and recommendations on how to support business environment reforms to meet the requirements of the fourth industrial revolution for innovation and entrepreneurship.

It is expected that target beneficiaries will gain increased awareness of all aspects of building the start-up and scaling-up system in the era of the fourth industrial revolution. It is also expected that business environment conditions fostering technological learning, innovation and entrepreneurship in the era of the fourth industrial revolution will be significantly improved in the country.

UNIDO uses the theory of change approach in the delivery of its services, underpinned by a stakeholder-based, behavioural change results chain logic, which identifies the key institutions and stakeholders targeted by UNIDO interventions, and also their reactions, knowledge, capacities and changes in practice and behaviour influenced by the Organization.



IV

Project activities

The project's first output is the establishment of the Digital Education and Innovation Centre.



The project's first output is the establishment of the Digital Education and Innovation Centre. This output comprises the following steps:

- ▶ Organization of an inception expert group meeting in Azerbaijan for project stakeholders with balanced participation by gender, to set up a steering committee and discuss a possible partner institution for hosting the Digital Education and Innovation Centre.
- ▶ Development of terms of reference for the identified partner institution that hosts the Digital Education and Innovation Centre.
- ▶ Establishment of a digital platform for e-learning, webinars and live streaming, to promote the building of a start-up and scaling-up system and the development of accompanying advocacy materials.
- ▶ Conduct training workshops for stakeholders on building the start-up and scaling-up system.
- ▶ Organize a study exposure visit (for example, to Slovenia) to showcase international best practices in innovation system building.
- ▶ Organize an international (supra-national or regional) conference on innovation system building.
- ▶ Produce a project report including recommendations on how to support institutional reforms to meet the requirements of advancement in fourth industrial revolution technologies.



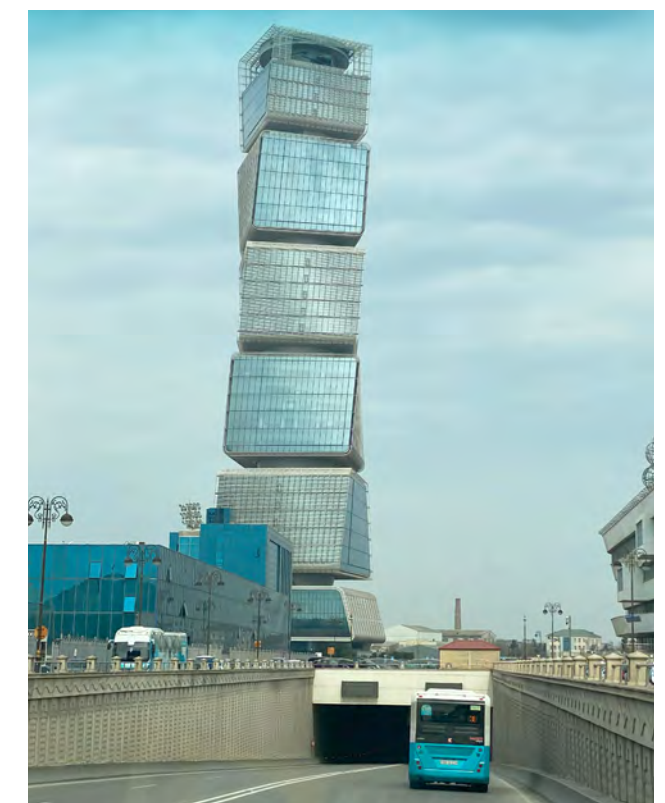
IV.A INCEPTION PHASE

The project started in February 2020 and planned on-site visits and the inception workshop in early April. Following the outbreak of the coronavirus disease (COVID-19) pandemic, all those plans had to be changed. Despite this setback, the project team quickly transitioned to online formats and convened experts in online education and learning. This enabled the project to reach audiences previously not under consideration, because the tools available for online training could be made available to many more people than would have been possible with physical on-site training. In May 2020, the first week of online training was successfully concluded and further training plans were made for the second and third quarters of 2020.

Meanwhile, the Digital Education and Innovation Centre platform started early prototyping, and processes were put in place to start planning for the eventual development and roll-out of the platform. During the project, the main counterpart – the Innovation Agency – underwent significant structural changes, which meant that certain activities were delayed. The new agency – the Innovation and Digital Development Agency – had a much broader mandate than before, but required some adaptation to the remaining activities of the project, including the final conference and the plans for the platform. Those changes were incorporated into the project before the eventual handover and subsequent final conference.

IV.B TECHNICAL UPGRADING ACTIVITIES

Development of the platform commenced in September 2020, with a first prototype available in November that year. The prototype included all main elements of the platform, but as yet with no content. To ensure a useful and up-to-date platform, an educational designer reconfigured the previous training sessions into e-learning modules for self-learning. Tests and self-checks were included, so that users of the platform could constantly test their own learning progress.



IV.C TRAINING EVENTS AND WORKSHOPS

The training sessions delivered during the project covered a range of topics designed to strengthen the innovation system and associated activities in Azerbaijan. Because of the pandemic, the project immediately held basic online training sessions, run by Klemen Žibret of the Slovenian Institute of Quality and Metrology, to facilitate the exchange of knowledge between tutors and students. This important element helped trainers at the Innovation Agency to prepare for their own teaching work and interaction with the wider system.

After the first successful rounds of training in May 2020, and the summer break, new rounds of training resumed in September 2020, and a final round of training was conducted in May 2021.

Based on the requests by the Innovation Agency, a two-day training workshop was conducted on building trust in management practices, by Janez Furlan, an expert at

the Slovenian Institute of Quality and Metrology. The workshop dealt with such topics as how to create an atmosphere of trust, accountability and transparency in management, which would also encourage employees to deliver their best and perform at the highest level. Much of the innovation process is dependent on strong leadership characters and needs the strategic vision of management to ensure that innovations can come to markets. Without that trust a great deal of innovation-related work would be lost.

To ensure that innovations are reaching the market, representatives of small and medium-sized enterprises, start-ups and prospective new businesses attended the workshop on innovation management conducted by Roman Pavlovic from the Slovenian Institute of Quality and Metrology, who stressed the importance of perseverance, endurance and good leadership for successful innovations. Companies need innovation, yet

some face the difficulties of inadequate structures that hamper their innovation processes. The workshop, which was designed to raise awareness of the pitfalls in the innovation process, took the form of a two-day online training course. On the second day, a more detailed examination was made of the innovation process, demonstrating the need, even when a prototype was available and the markets were known, for procedures to ensure that the business could be sustained. A class on processing innovation was also delivered by Roman Pavlovič.

The need for trust and transparency was also the main topic of the second workshop delivered by Janez Furlan, on CE marking – a prerequisite for entry into European markets. The road to receipt of the CE marking is anything but straight and easy, however. Interested start-ups and small and medium-sized enterprises in Azerbaijan took careful heed of the circuitous process that they had to follow to secure the CE marking for their products. Compliance with several European Union regulations and directives is mandatory, as are stringent tests by accreditation bodies to ensure that the product is safe, secure and does not harm its consumers.

A series of workshops was provided on the innovation system in Slovenia, delivered by Aleš Pevc, Mateja Prinčič and Peter Medica of Technology Park Ljubljana. Participants at the workshop also learned about the experience of Janez Rogelj, representative of the donor, the Government of Slovenia, in building a thriving set-up and support system which would help start-ups to grow, gain international scope and eventually scale up. The Slovenian experience is particularly relevant for Azerbaijan, given that country’s size and position close to major markets. Slovenia started, at an early stage, to cater to European Union markets, and also to other international markets, although its choice of markets was clearly influenced by geographical proximity. The Slovenian example could inspire a similar experience in Azerbaijan, which is close to European Union markets, but also strategically well placed, being close also to major economies such as the Russian Federation, China, the Islamic Republic of Iran and those of the Middle East.

From the standpoint of Technology Park Ljubljana, Gregor Cuzak outlined how the Slovenian Government’s support for start-ups helped the country to gain the experience described above. Strategic decisions and positioning are necessary steps in ensuring that markets can develop. At the same time, it is important to avoid trying to “pick winners”, so to speak, as efforts of that kind are a dangerous path to follow, leading eventually to less – rather than more – innovation.



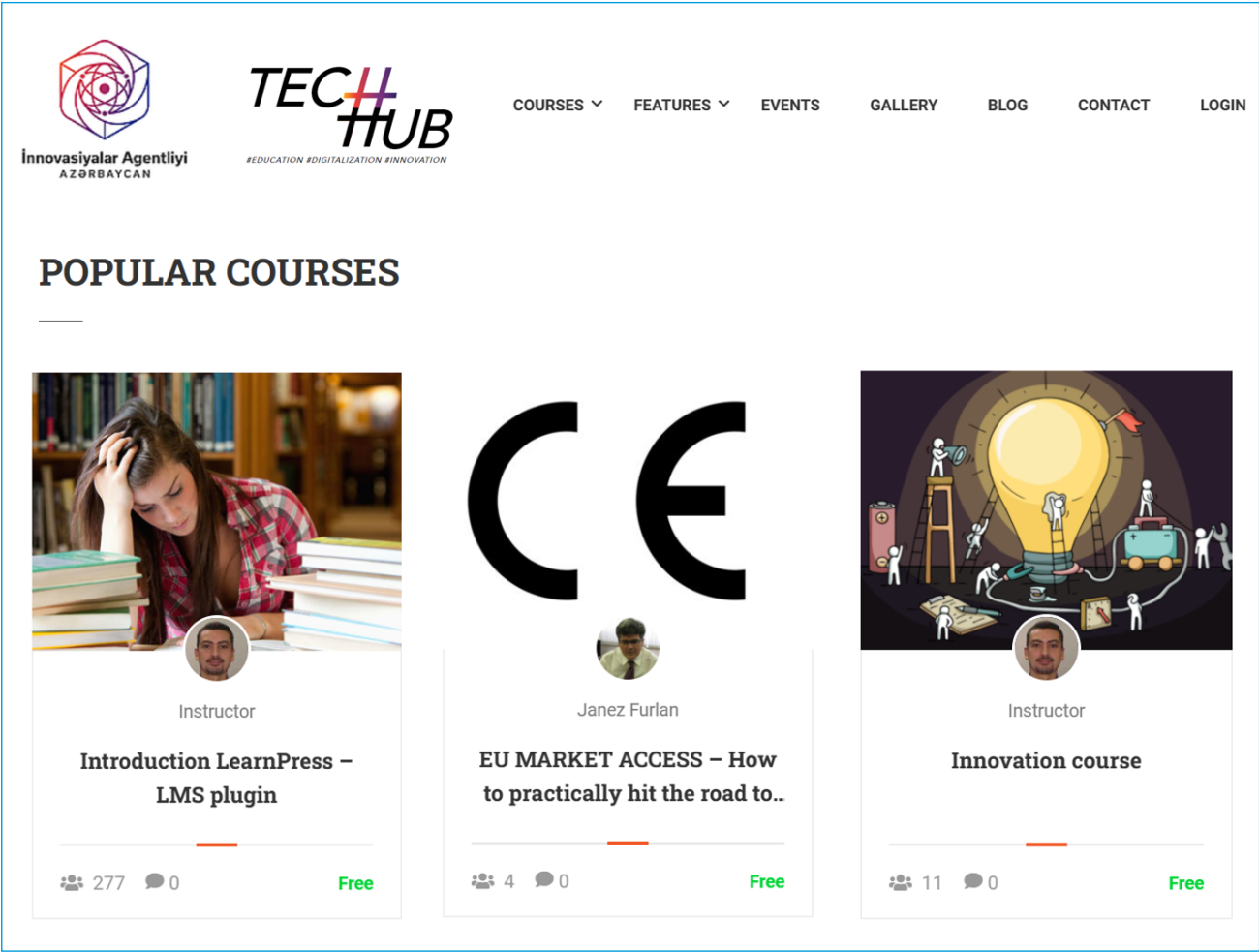
The three-day workshop was concluded with a session on building a start-up community from scratch, delivered by Jernej Pintar, Chief Executive Officer of Technology Park Ljubljana, who wrapped up the series. The experience gathered by Technology Park Ljubljana made it clear that building such a community comes with a vast amount of work, connections and extensive networking. Yet, efforts must be made to find common ground, by seeking solutions together, even across competitors. The strength of the Slovenian start-up community derived from the fact that so much of its population resides in small valleys with specific problems that no established company addressed. United to address the common cause, they managed to establish a supportive and innovative community, from which the Slovenian economy benefits to this day.



IV.D TECHNOLOGY TRANSFER

The transfer of technology and equipment consisted primarily in the handover of the learning platform and its integration into the system of the Innovation and Digital Development Agency. The platform is based on the LearnPress user interface, which means that it is flexible and can be tailored to the specific needs of the agency, and can even accommodate future changes. Thanks to the use of quasi-standards in the process, the adaptations can be made without calling on the specialised skills of IT administrators in the agency.

Content can also be continuously uploaded to the platform, as it was established to accommodate different tutors, teaching styles and materials. The platform allows for audiovisual learning and text-based modules, and can also be integrated with Zoom. Moreover, the platform allows teachers to give learning and reading exercises that could complement in-person teaching. As such, the platform’s flexibility and dynamic can help the agency in its future endeavours and respond to changing strategic priorities.



IV.E BRANDING

To support the implementation of the platform and to give it a simpler and more memorable name than the rather ponderous “Digital Education and Innovation Centre”, the Project developed the “Tech Hub”. This rebranding would help in the adoption, promotion and use of the platform in the long-term.

In view of the limitations of the agency website architecture and its colour palette, it was clear that any branding must be in harmony with the existing design. Accordingly, the final touches to the platform included applying the right colour scheme and design language.



V.F PROMOTIONAL ACTIVITIES

The project was continuously supported by public communication activities on all channels, including social media – predominantly Twitter and Facebook. Press releases were issued to mark project milestones,

and social media campaigns, primarily on Twitter and Facebook, were carried out to announce events, training workshops and, lastly, the final conference and Top N’ Tech event.

V

Monitoring

Monitoring activities were carried out on the basis of the periodic reports. In addition to monitoring the quantitative results, the project manager monitored the progress of the project.

Furthermore, project reports were submitted under the UNIDO integrated results and performance framework and the annually updated key performance indicators. Financial monitoring was exercised by UNIDO in accordance with the Organization's standard financial regulations and other applicable regulations, rules, directives and administrative instructions. Financial statements were submitted to the Project Donor, according to the schedule specified in the funding agreement between the parties.

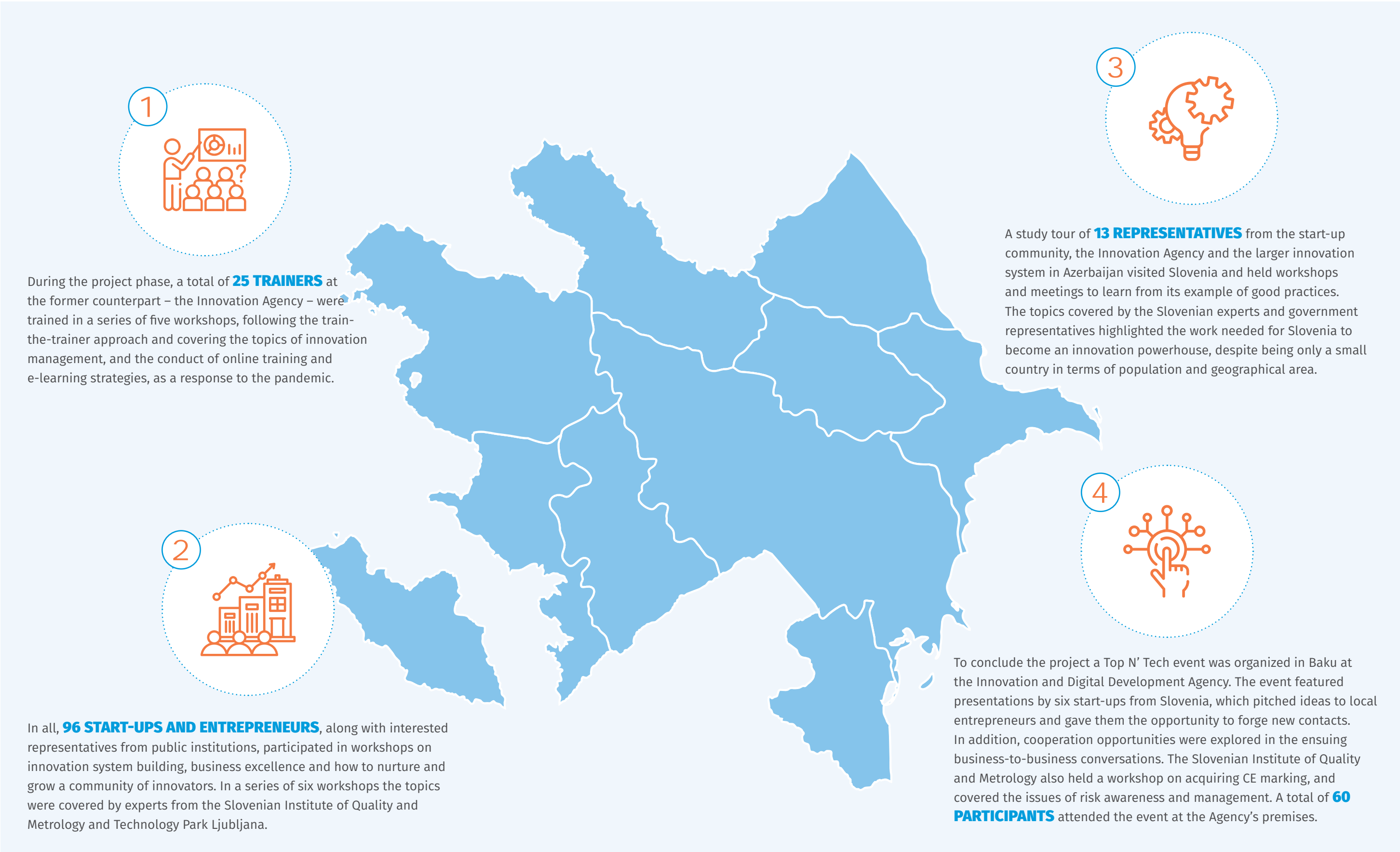
Throughout the programme, continuous communications were maintained between the host Government, UNIDO Headquarters, local counterparts and the Project Donor, which ensured smooth and successful implementation. In addition, progress in project activities was regularly reviewed, jointly by the Donor and UNIDO, according to specific review criteria.



VI

Results and achievements





VII

Outcomes and recommendations

The project has managed to work with 15 trainers over the course of two years. Owing to the high turnover of staff at the Agency, a number of extra trainers benefited from the train-the-trainers approach and ensured that institutional knowledge was increased.

Start-ups and small and medium-sized enterprises have participated in many of the activities the project offered. One of the training series was aimed at start-ups, founders and small and medium-sized enterprises and, across all three of its sessions, was followed by over 60 participants in total. The Top N' Tech event during the final conference attracted particular attention from over 30 start-ups in Azerbaijan. The opportunity to connect with innovators from Slovenia was enthusiastically received. Ad hoc plans for continued cooperation between local start-ups and those from Slovenia have been drawn and this cooperation is likely to continue beyond the project phase.

During the project phase, there was a continuous succession of trainers, which significantly widened the scope of the activities, but placed pressure on the sustainability of the project interventions. The people

involved in the project at the newly formed Innovation and Digital Development Agency are highly capable of further adapting and adjusting the content and structure of the platform to ensure its continued use in the foreseeable future.

A participatory development approach is a good way for the platform to adapt its functions and features to the needs of all stakeholders. Flexibility was a key consideration at the conceptualization phase and this enabled the platform to be brought over to the new Agency, despite the original design idea, based on the somewhat different scope of the former Innovation Agency.


One of the areas that could be expanded in the future is for the Agency to reach beyond the Baku area. The economic activity of Azerbaijan is highly concentrated in the Baku area, but rural regions are the Government's development priorities. The role of ICT and digital transformation in their development and, in particular, plans for the remote acquisition of new skills, could be of particular importance.



Annex and appendices

ADVOCACY ACTIVITIES

Bringing Azerbaijan's innovation ecosystem to a new level



Bringing Azerbaijan's innovation ecosystem to a new level

VIENNA - Increasing national capacities in the application of Fourth Industrial Revolution (4IR) technologies and accelerating the digital transformation are priorities for Azerbaijan.

Over the past two years, the Government of Azerbaijan and the United Nations Industrial Development Organization (UNIDO) have been working together to strengthen the innovation ecosystem and unlock the country's potential for digital transformation.

Funded by the Government of Slovenia, a project on the [development of an innovation ecosystem and support infrastructure](#) has already facilitated the delivery of forward-looking capacity-building activities in Azerbaijan. UNIDO has organized thematic workshops and training on such topics as innovation management, building start-up communities, and obtaining the necessary [CE markings to access the European Union market](#), as well as on strengthening business management and leadership.

Within the framework of the project, in November 2021 UNIDO organized a [study tour to Slovenia for a delegation](#)

[from the Innovation and Digital Development Agency of Azerbaijan](#). The delegation's visits to the Slovenian Institute of Quality and Metrology and the Ljubljana Technology Park provided insights into international best practices in innovation ecosystem-building and various aspects of innovation-driven entrepreneurship. The study tour participants had the opportunity to exchange with leading experts in industry, academia and the start-up community, deepening their understanding of the country's start-up ecosystem and government support policies.

To further improve technological learning in digital and innovation capacity-building for national stakeholders, UNIDO has developed four thematic modules on innovation management, business coaching, skills for managing digital transformation for the Digital Education and Learning Centre (DEIC).

The DEIC is a digital knowledge hub established by the UNIDO project in cooperation with the [Innovation and Digital Development Agency of Azerbaijan](#). It provides specialized courses on innovative technologies, business excellence and accessing EU markets. Within the framework of the ongoing project, a regional conference to be held in Baku next year is being planned, serving as a platform for stakeholders from the countries of Eastern Europe and Central Asia to exchange experiences and best practices on innovation ecosystem building. The conference will present the project results and provide

recommendations on how to support business environment reforms to meet the requirements of innovation and entrepreneurship.

To explore opportunities to cooperate on the digital economy and 4IR, including the smartification of industry in Azerbaijan, discussions between UNIDO and the Centre for Analysis and Coordination of the Fourth Industrial Revolution (C4IR) under the Ministry of Economy of Azerbaijan will continue. UNIDO expressed its readiness to support the implementation of the initiatives and projects with a priority on application of 4IR technologies in the national economy.

In the long run, the UNIDO projects have the potential to have an impact across different sectors of the country's economy. By harnessing national innovation potential and boosting the application of cutting-edge 4IR technologies, UNIDO is helping Azerbaijan to ensure a smooth structural transition to the 4IR to achieve greater progress by innovation.

Bilateral cooperation between UNIDO and Azerbaijan on digital transformation and innovation, investment and technology transfer, and other development priority areas, will be further reinforced within a new Cooperation Framework. Signed on 14 November by Gerd Müller, Director General of UNIDO, and Mikayil Jabbarov, Minister of Economy of Azerbaijan, the new Cooperation Framework builds on the results of the long-standing

cooperation between the Government of Azerbaijan and UNIDO and will guide joint efforts for a strengthened partnership in the next five years.

For more information, please contact:
Solomiya Omelyan
UNIDO Regional Coordination Division for Europe and Central Asia

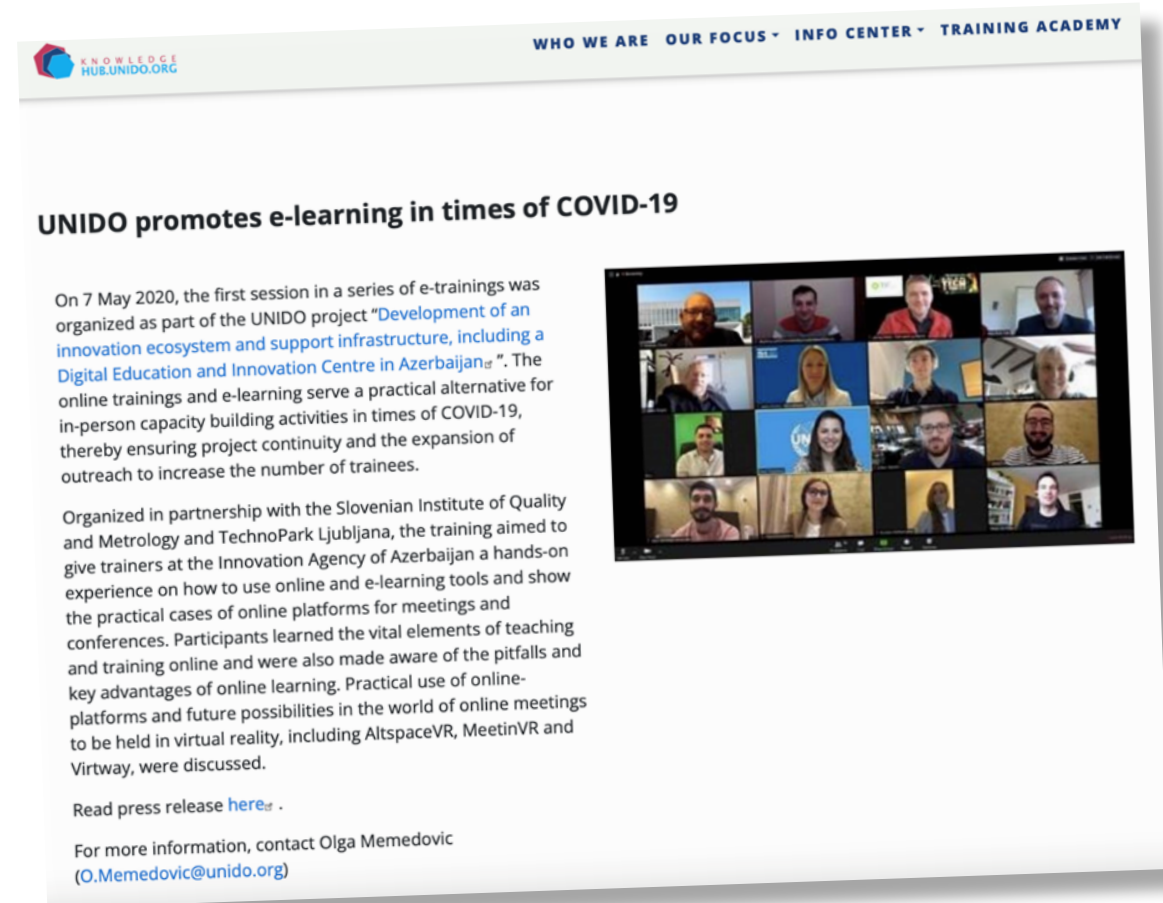
[E-Mail](#)

See more about innovation in [Azerbaijan in the Global Innovation Index \(GII\)](#) published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.

Read this article from the UN Economic Commission for Europe (UNECE): [Spurring innovation will be central to diversifying Azerbaijan's economy, according to UNECE study](#).

Source: <https://hub.unido.org/news/unido-promotes-e-learning-times-covid-19>

ADVOCACY ACTIVITIES

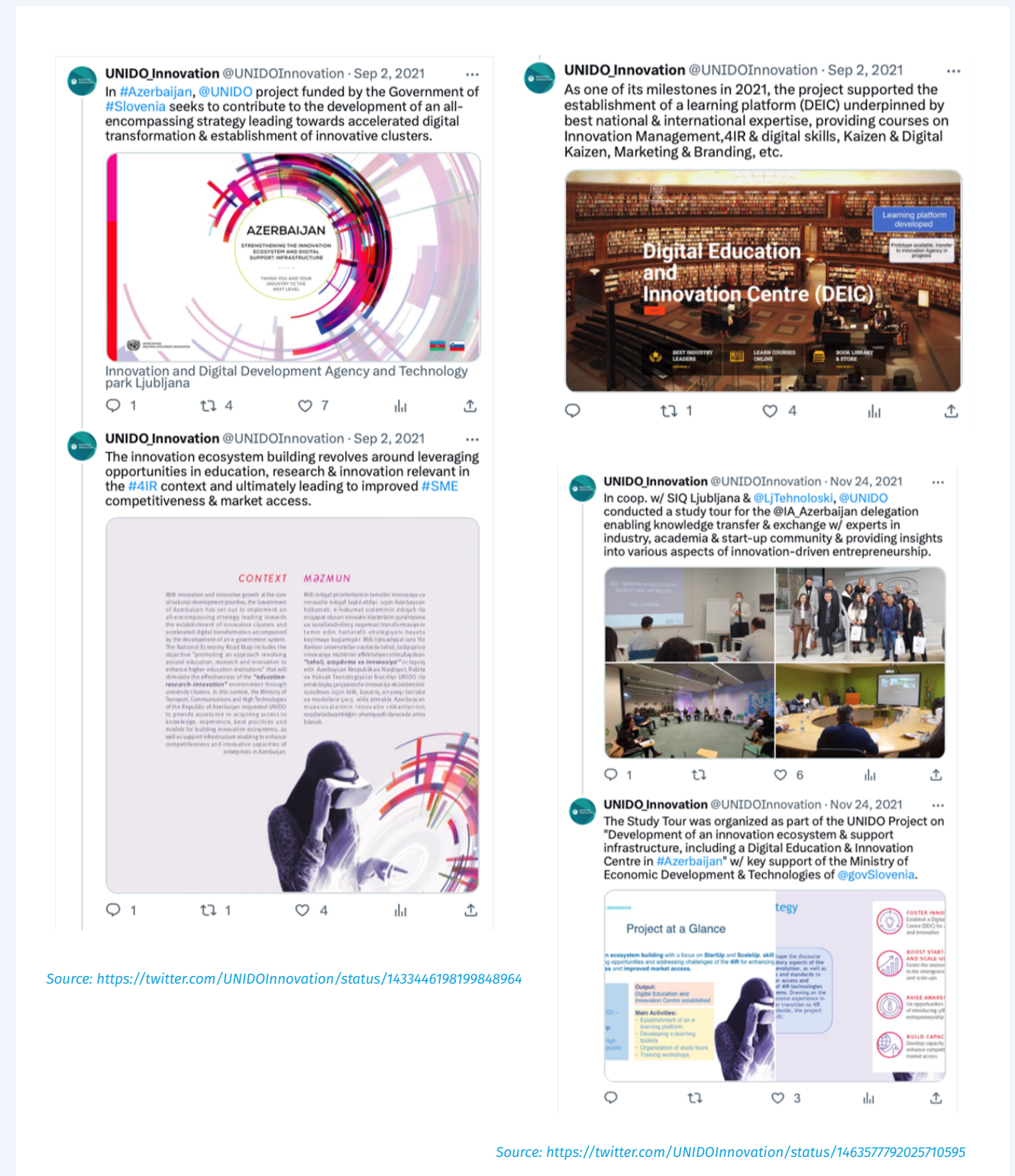
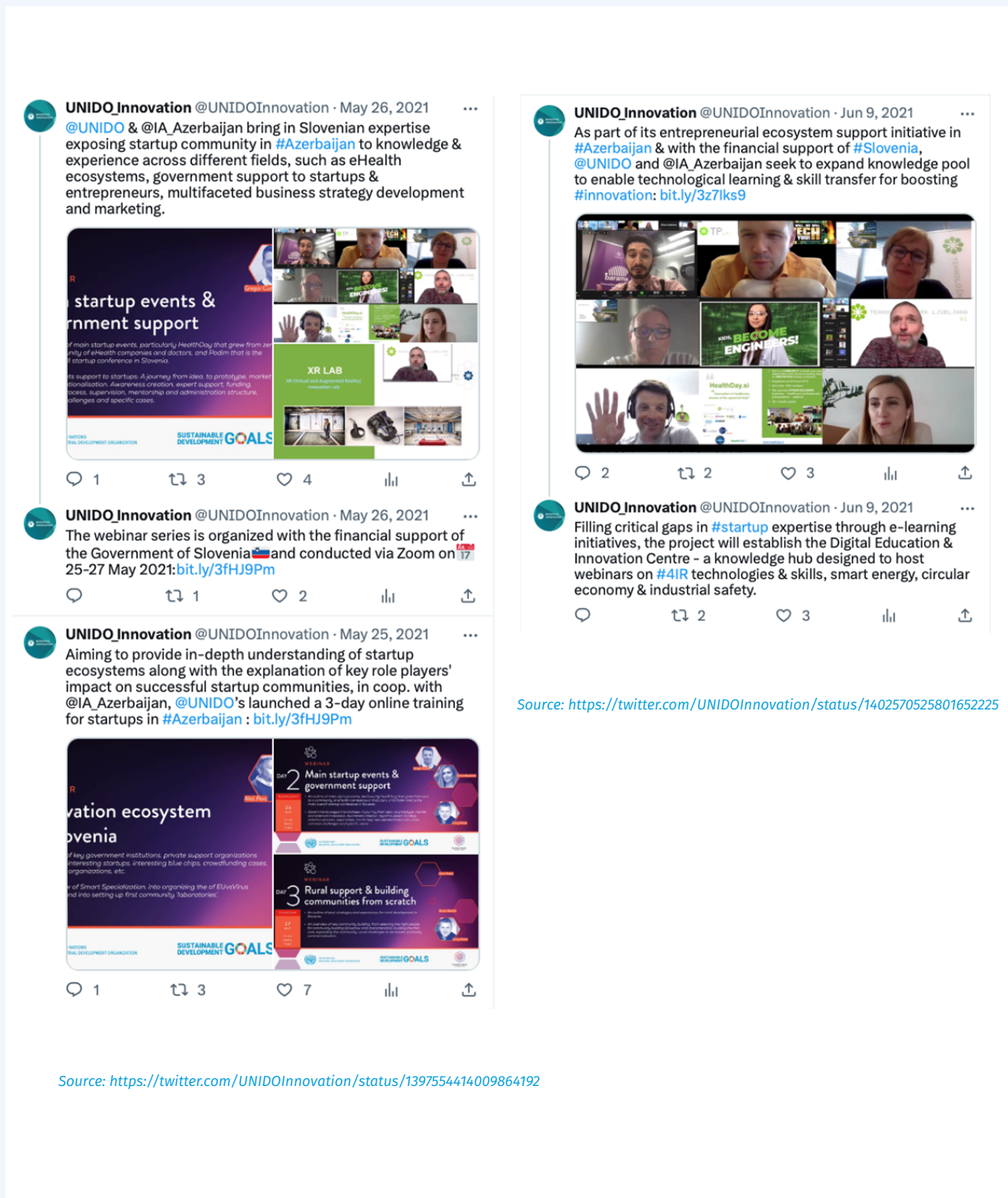
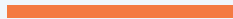


Source: <https://hub.unido.org/news/unido-promotes-e-learning-times-covid-19>



Source: <https://hub.unido.org/news/unido-supports-innovation-ecosystem-and-entrepreneurial-support-infrastructure-azerbaijan>

ADVOCACY ACTIVITIES



ADVOCACY ACTIVITIES

UNIDO_Innovation @UNIDOInnovation · Sep 21, 2021

...

As part of its entrepreneurial ecosystem support initiative in [#Azerbaijan](#), @UNIDO with its partners @IA_Azerbaijan & SIQ Ljubljana provided guidelines to Azeri business & startup community representatives on how to practically hit the road to CE marking for technical products.

1

1

UNIDO_Innovation @UNIDOInnovation · Sep 21, 2021

...

The webinar is one in the series of [#UNIDO](#) project's e-learning initiatives aimed at filling gaps in specialized knowledge & practical skills, providing expertise in international standards and methods to build up competitive advantages of SMEs & start-ups in Azerbaijan.

2

Source: <https://twitter.com/UNIDOInnovation/status/1440343321944080387>

UNIDO_Innovation @UNIDOInnovation · Oct 1, 2021

...

@UNIDO & its partners @IA_Azerbaijan & SIQ Ljubljana continue webinar series for Azeri business & startup community w/ a new episode on how to effectively manage a start-up on its path to sustainable success sharing some practical examples of proven management tools & techniques.

2

1

2

UNIDO_Innovation @UNIDOInnovation · Oct 1, 2021

...

To ensure trust among key stakeholders, such as trading partners and investors & to make the most of limited resources, effective start-up management has to be build upon a detailed business environment outlook & associated risks/opportunities addressed by handpicked measures.

1

UNIDO_Innovation @UNIDOInnovation · Oct 1, 2021

...

The webinar provided insights into how to:

- map business context, identify risks/opportunities & customer needs;
- formulate company vision w/ goals & objectives;
- introduce mechanisms for continuous improvements (Deming model), etc.

Source: <https://twitter.com/UNIDOInnovation/status/1443879758031474693>

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