

The Ministry of Science and Education of the Republic of Azerbaijan

AZERBAIJAN TECHNICAL UNIVERSITY

SDG 9: Industry, Innovation and Infrastructure

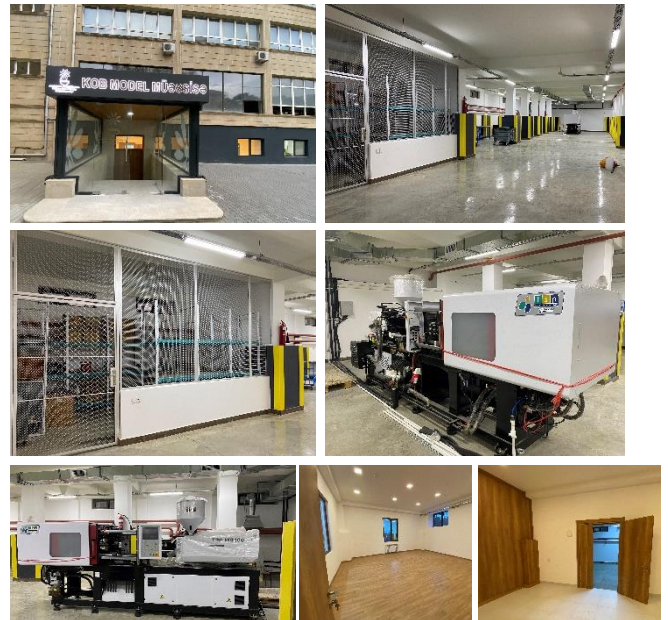
PROGRESS REPORT

9.1. Research and innovation

- ❖ **Azerbaijan Technical University, AzTU** is one of the universities of technical profile with high research potential that provides engineering training in the basic sectors of the economy in Azerbaijan.
- ❖ **In the profile of Azerbaijan Technical University, AzTU** several fields of industry, such as *metallurgy, materials, transport, logistics, mechanics, mechanical engineering, electricity, electronics, energy, computer science, information technology, cyber security*, etc. areas are covered.
- ❖ **Azerbaijan Technical University, AzTU** in its activities, includes increasing the scientific and research potential and supporting innovations as one of the strategic goals determined by the "**Sustainable Development Strategy for 2021-2030**".
- ❖ For this purpose, **Azerbaijan Technical University, AzTU** is working in cooperation with the main players of *Transport and Logistics, Metallurgy and Materials Science, Mechanical Engineering and Robotics, Energy and Automation, Information Communication Technologies and Defense Industry*, transfers research results to industry, conducts joint research, implements internship programs.
- ❖ Thus, on February 15, 2022, **Azerbaijan Technical University, AzTU** became a **full member of the CDIO network**, which is an association of the world's leading technical universities for the

establishment of an ecosystem for supporting innovations (1).

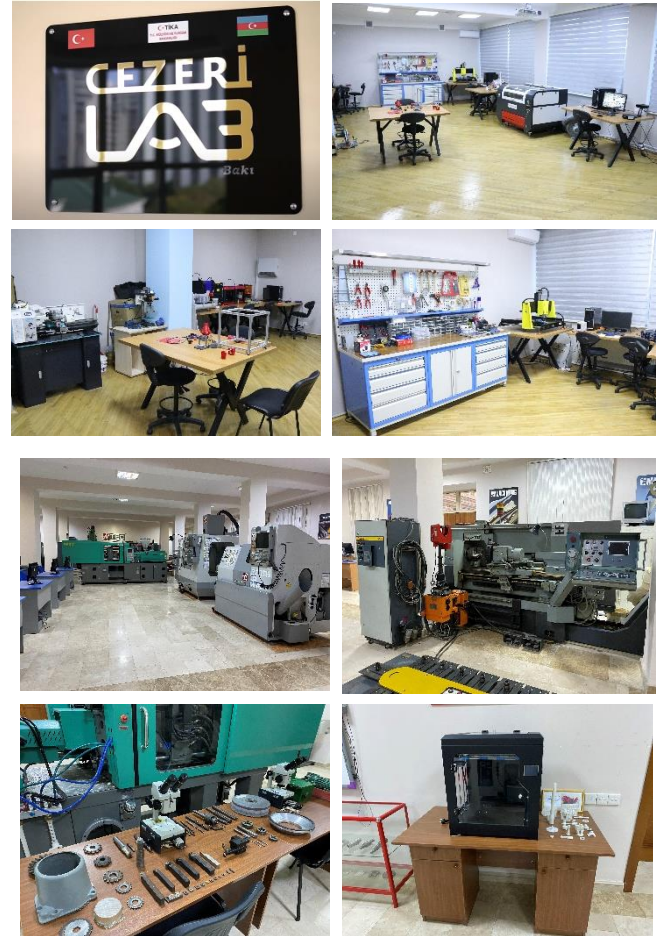
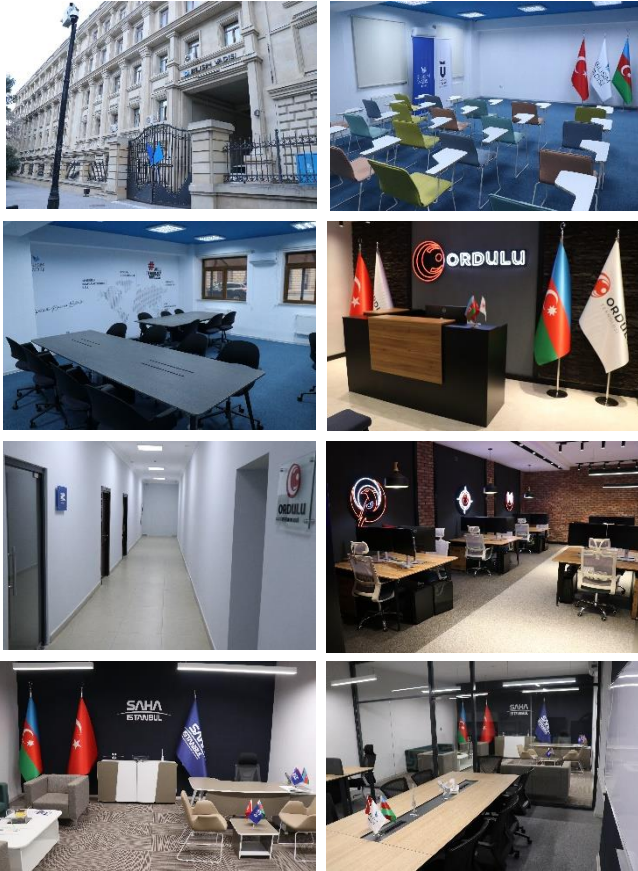
- ❖ **The Small and Medium Business Development Agency of the Republic of Azerbaijan (KOBIA)** is working together and the "**SME Model Enterprise**" (700 m² area) has been established at AzTU and 3 classrooms have been allocated for conducting relevant trainings.



- ❖ In order to support students, faculties and graduates in the preparation and implementation of innovative projects, thereby forming and developing the start-up ecosystem, "**Baki Technopark**" was created together with **Azerbaijan Technical University, AzTU** and **Turkey's Bilisim Vadisi (Knowledge Valley)**, and

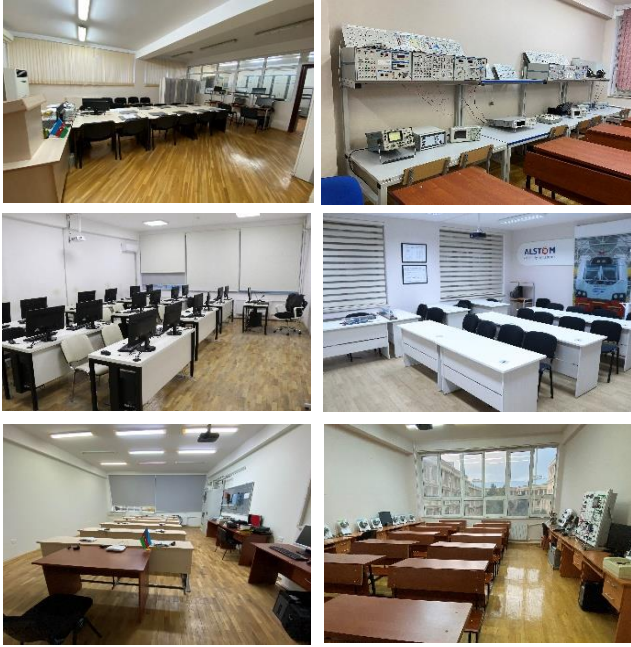
Incubation and Co-Working Centers were established in it.

Also, up to **12 large companies** are represented in the "**Baki Texnopark**", in which AzTU participates as a shareholder, and provides substantial support to the transfer of the university's research potential to industry (2-5).



- ❖ Substantial work has been done to create innovation centers that provide resources and opportunities for prototype development. **Starting from 2022, "CezeriLAB", Industrial Workshop, Virtual Designing Laboratory (CNC machines), Engineering Development Training Program (MGP)** were established in order to increase students' innovation abilities.
- ❖ By using "**CezeriLAB**", which was established with the support of the **Turkish Cooperation and Coordination Agency (TIKA) Baku representative office**, our students succeeded in creating **3D printers programmed in the Azerbaijani language** (6-8).

- ❖ Another part of the research laboratories in the direction of the formation of innovation subjects was organized by **NOKIA, "Sumgayit Data Technology" LLC (cyber security), "Alstom Transport" Company (railways), AzerFon Company (mobile communications), FONEC Company (industrial automation)**, etc. laboratories were established. In the mentioned laboratories, various trainings are held for the use and development of students.



- ❖ The center was opened with the initiative of **the Embassy of France in the Republic of Azerbaijan** and the support of "**Alstom Transport**" Company, "Azerbaijan Railways" AfChamber for the purpose of training highly qualified railway specialists (9-11).

9.2. New innovative curricula

- ❖ **Azerbaijan Technical University, AzTU** is considered a university with serious determination in updating curricula. Currently, the curricula of some specialties have been updated as a pilot for the improvement (adaptation) of some specialties according to the **CDIO concept and the organization of research-oriented teaching, and the process is continuing.**
- ❖ **In 2022**, the curricula of 35 majors have been updated to match the requirements of the industry at the graduate level. "**GRENC Lab**" was established here, especially with funding from the European Union, within the framework of ERASMUS+ projects, and "**Crisis and risk engineering for transport services**" (12), **strategic quality management in health care, specializations in risk management**, as well as specialist training for the development of innovations - especially for engineering personnel **MBA (Business Management)** (13) programs were

opened (14-16) with the aim of applying training technologies for integration into the entrepreneurship and innovation ecosystem.

- ❖ So, as a result of the reforms and the works done, the number of students admitted to the master's level increased from approximately **300 to 1500 people.**
- ❖ **In 2022-2023**, within the framework of cooperation with the **Turkish Aviation and Space Industry (TUSAS)**, Azerbaijan Technical University, AzTU is implementing the **Engineer Development Training Program (MGP)** together with the other university of the country - the National Aviation Academy.
- ❖ The basic education of students in the **MGP Program** are aerospace *engineering, information technology, mechatronics, mechanical engineering, electrical - electronics, communication (radioelectronics), metallurgy, etc.* Currently, **44 highly qualified engineers** are being trained in the Program (17-23).
- ❖ **In 2022-2023, up to 500 undergraduate** students received training in programming and information technologies in accordance with the requirements of the industry. It was carried out for AzTU students in cooperation with Azerbaijan Technical University, AzTU and "**CODE Academy**" (24).

9.3. Steps taken towards the development of the research ecosystem

- ❖ **In 2022-2023, Azerbaijan Technical University, AzTU** implemented a number of reforms in the direction of the development of the research ecosystem. In this framework, the Institute of *Higher Education, University-Industry Cooperation and Lifelong Learning Center, Institute of Logistics and Transport, Institute of New Materials and Nanotechnologies, Institute of Industrial Design and Technology, Institute of Cyber Security and Artificial Intelligence, Institute of Energy Research, Institute of Sustainable Development* were established.

❖ In 2023, the Consulting Service - Project on **"Preparation of the Intra-City Movement (Mobility) Plan"** performed at the Institute of Logistics and Transport and the project scope covers **16 medium and small-sized cities/districts of Azerbaijan**. The cost of the service is 320,000 manats (25-35).



❖ Azerbaijan Technical University, AzTU in cooperation with the **"Azeraluminium" LLC** is conducting research on the solution of the problem of purchasing and simultaneously disposing of 20 million tons of aluminum industry - protection industry from bauxite and alunite waste in **Ganja city**, etc.

❖ **The Consulting Service - Project** is carried out accordingly to the implementation of the "7.4.6 "Movement (mobility) plans" of the **"State Program on road traffic safety in the Republic of Azerbaijan for 2019-2023"** approved by the Decree of the President of the Republic of Azerbaijan dated 27.12.2018 No. 852 preparation" subsection is carried out in accordance with the **"Rule for preparation of the intra-city movement (mobility) plan"** approved by the decision of the Cabinet of Ministers of the Republic of Azerbaijan dated 22.01.2022 No. 25.

❖ **Links:**

1. <https://www.aztu.edu.az/az/page/cdio-110>
2. <https://www.aztu.edu.az/az/news/turkiyenin-senaye-ve-texnologiyalar-naziri-bilisim-vadisi-baki-da-yeni-rezidentlerin-acilisini-edib-8366>
3. <https://www.aztu.edu.az/az/news/turkiye-mudafie-senayesi-basqanliginin-musaviri-aztu-da-olub-8354>
4. <https://www.aztu.edu.az/az/news/aztu-da-bilisim-vadisi-baki-nin-rezident-sirketlerinin-teqdimati-olub-8314>
5. <https://www.aztu.edu.az/az/news/turkiyenin-senaye-ve-texnologiya-naziri-aztu-da-gorulen-islerle-tanis-olub-8149>
6. <https://www.aztu.edu.az/az/news/tika-koordinatu-dunya-robot-olimpiadasinin-qalibleri-ile-gorusub-7957>
7. <https://www.aztu.edu.az/az/news/aztu-telebeleri-azerbaycanda-ilke-imza-atiblar-8077>
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10. <https://www.aztu.edu.az/az/news/aztu-da-yeni-tedris-merkezinin-acilisi-olub-7839>
11. <https://www.aztu.edu.az/az/news/alstom-sirketinin-telimerini-bitiren-aztu-telebelerine-sertifikat-teqdim-olunub-8303>
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13. https://www.aztu.edu.az/sub_site/az/yukse-tehsil-institutu-83/page/mba-prorami-779
14. <https://azertag.az/xeber/Sehiyyede-strateji-keyfiyyet-menecmenti-uzre-mu-texesis-hazirligina-dair-gorusler-kechirilir-2093876>
15. <https://www.aztu.edu.az/az/news/sehiyye-xidmetlerinde-keyfiyyetin-idare-olunmasi-uzre-avropa-tecrubesi-oyrenilir-7966>
16. <https://www.aztu.edu.az/az/news/aztu-da-sehiyyede-keyfiyyet-menecmenti-uzre-yeni-ixtisaslasma-acilacaq-7974>
17. <https://www.aztu.edu.az/az/news/aztu-maa-ve-tusas-yeni-nesil-muhandis-hazirligi-uzre-xususi-programin-icrasina-start-verdi-8352>
18. <https://www.aztu.edu.az/az/news/aztu-yeni-nesil-muhandis-hazirligi-uzre-xususi-proqramin-icrasina-baslayir-8348>
19. <https://www.aztu.edu.az/az/news/aztu-ve-maa-numayende-heyetleri-turkiyede-seferde-olub-8336>
20. <https://www.aztu.edu.az/az/news/aztu-nun-muhandislik-ixtisaslari-uzre-magistratura-seviyyesine-qebul-olunanlarin-nezerine-8322>
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23. <https://www.aztu.edu.az/az/news/aztu-nun-elmi-surasinin-novbeti-iclas-kecirilib-7919>
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25. <https://www.aztu.edu.az/az/news/aztu-dayaniqli-mobillik-proqraminin-cografiyasini-genislendirir-8219>
26. <https://www.aztu.edu.az/az/news/seki-ve-mingecevir-seherlerinde-ictimai-muzakireler-kecirilib-8302>
27. <https://www.aztu.edu.az/az/news/seherdaxili-hereket-mobillik-planinin-hazirlanmasi-layihesi-cercivesinde-ictimai-muzakireler-kecirilir-8293>
28. <https://www.aztu.edu.az/az/news/sahevi-sorgu-ve-monitorinqlerin-ilkin-merhelesi-basa-catib-8258>
29. <https://www.aztu.edu.az/az/news/aztu-telebelerinin-sahevi-tedqiqatlarda-istiraki-genislendirilir-8250>
30. <https://www.aztu.edu.az/az/news/aztu-ile-16-seher-ve-rayon-icra-hakimiyetleri-arasinda-muqavile-imzalanib-8240>
31. <https://www.aztu.edu.az/az/news/aztu-yol-hereketinin-tehlikesizliyi-uzre-dovlet-proqraminin-icrasina-tohfe-verir-8227>
32. <https://www.aztu.edu.az/az/news/aztu-dayaniqli-mobillik-proqraminin-cografiyasini-genislendirir-8219>
33. <https://www.aztu.edu.az/az/news/aztu-regionlarda-seherdaxili-mobillik-planinin-icrasini-heyata-kecirir-8217>
34. <https://www.aztu.edu.az/az/news/aztu-dovlet-universitet-senaye-tandemində-yeni-layihenin-icrasina-baslayir-8209>
35. <https://www.aztu.edu.az/az/news/mobillik-planinin-hazirlanmasi-cercivesinde-sorgu-ve-monitorinqler-kecirilib-7989>