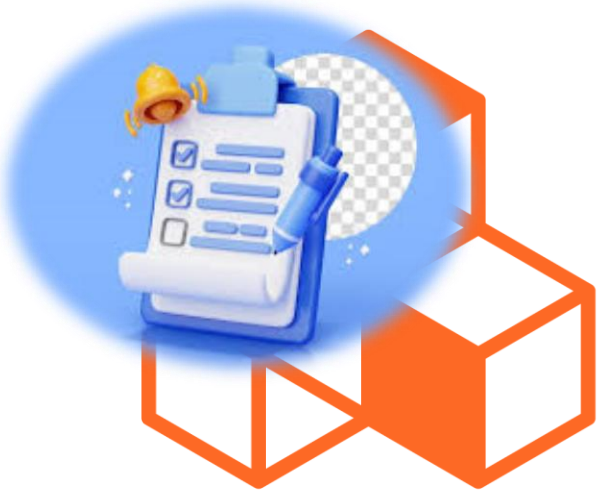
Baku State University

2025 REPORT ON

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



INTRODUCTION

Promoting industry, innovation, and resilient infrastructure is a fundamental pillar of sustainable development and an essential driver of long-term economic growth and social progress. SDG 9 – Industry, Innovation and Infrastructure aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. The goal highlights the importance of technological advancement, research capacity, and modern infrastructure in supporting sustainable economic development, improving productivity, and enhancing the well-being of societies. It also emphasizes the role of institutions, governments, and academic communities in encouraging innovation and strengthening scientific and technological capabilities.

Higher education institutions play a crucial role in achieving this goal by advancing scientific research, supporting technological innovation, and preparing skilled professionals capable of contributing to industrial and technological development. As one of the oldest and most prominent universities in Azerbaijan, Baku State University (BSU) actively contributes to the development of research, innovation, and technological capacity in the country. The university supports the creation of a knowledge-based economy by promoting scientific research, encouraging interdisciplinary collaboration, and strengthening links between academia, industry, and society.

BSU continuously develops its research infrastructure and supports innovation through modern laboratories, scientific centers, and collaborative projects with national and international partners. The university also encourages students and researchers to participate in scientific initiatives, technological development, and innovative research projects that address contemporary economic, environmental, and technological challenges. Through these efforts, BSU contributes to the development of new knowledge, technological solutions, and sustainable industrial practices.

In recent years, BSU has further strengthened its commitment to sustainable development by integrating the Sustainable Development Goals into its academic programs, research priorities, and institutional development strategies. The university's progress has been recognized internationally, including through its participation in the Times Higher Education Impact Rankings, where BSU has demonstrated improvement in areas related to research development, innovation, and collaboration with industry and society. These achievements reflect the university's dedication to fostering innovation, supporting scientific advancement, and contributing to the development of resilient infrastructure and sustainable industrial growth.

For previous year`s report, please see

https://sdg.bsu.edu.az/report-on-sdg-10-reduced-inequalities

BSU ANNOUNCES THE "YOUNG SCİENTİST OF THE YEAR" NOMİNATİON COMPETİTİON

Baku State University announced the "Young Scientist of the Year" competition dedicated to the Day of Azerbaijani Youth (2 February). The initiative aims to recognize and encourage students, master's and doctoral candidates, and young employees under the age of 35 who demonstrate active scientific engagement, publish research in internationally indexed journals, and contribute to the development of innovative ideas and academic knowledge.

The competition evaluates candidates based on their scientific publications, participation in national and international conferences, involvement in research

projects and grants, patents, and other indicators of academic productivity. Winners are awarded the title “Young Scientist of the Year,” along with diplomas and monetary prizes in two categories: Natural, Exact and Technical Sciences, and Humanities and Social Sciences.

Through this initiative, Baku State University promotes scientific research, innovation, and the development of young researchers, contributing to the strengthening of research capacity and the advancement of knowledge in line with the objectives of SDG 9 – Industry, Innovation and Infrastructure.

For more information, please click here

AN İNFO SESSİON ON TEKNOFEST-2025 AT BSU

The head of the “Bilim Bakı” Center and official representative of TEKNOFEST in Azerbaijan, Ahmet Köse, held an informational session for students of Baku State University (BSU) to introduce the upcoming TEKNOFEST-2025, the world’s largest aerospace, aviation, and technology festival. BSU’s Student Scientific and Technical Creativity Center highlighted that since 2022, six BSU teams have achieved significant success in TEKNOFEST, including two first-place victories, and are actively preparing for the 2025 edition in the Turkish Republic of Northern Cyprus.

The session provided detailed guidance on festival participation, including competition categories (51 main and 117 subcategories) and registration procedures. By encouraging student engagement in high-level technological competitions, fostering innovation, and supporting applied scientific projects, BSU strengthens research and technical skills

among young innovators, contributing directly to SDG 9 – Industry, Innovation and Infrastructure through capacity building in science, technology, and innovation.

For more information, please click here

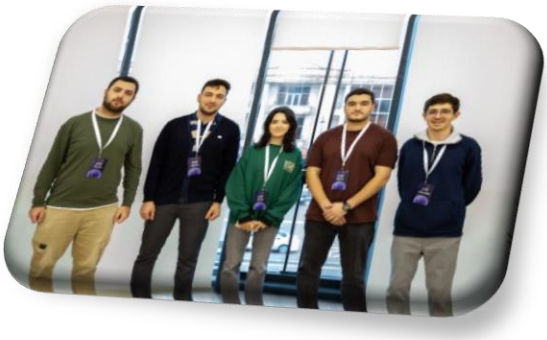
THE İNVOLVEMENT OF BSU STUDENTS AND GRADUATES İN BAKCELL İNTERNSHİP PROGRAMS HAS BEEN DİSCUSSED

Baku State University's Career and Alumni Affairs Center held a meeting with a representative from Bakcell to strengthen student and graduate engagement in internship programs and improve employment opportunities in the technology and telecommunications sectors. As part of the collaboration with the Education Development Fund, BSU students will receive a 5GB internet package, and initiatives to promote internships and support successful candidates in securing employment will be expanded. This partnership enhances students' practical skills, fosters industry-academia collaboration, and contributes to the development of human capital and innovation capacity in line with SDG 9 – Industry, Innovation and Infrastructure.

For more information, please click here

THE STUDENT FROM THE BAKU STATE UNİVERSİTY (BSU) SABAH GROUPS HAS WON THE TURN YOUR IDEA İNTO REALİTY İNDİVİDUAL GRANT COMPETİTİON

Haciaga Musayev, a first-year master's student in the Computer Science and Technology program at Baku State University (BSU), won the "Turn Your Idea into Reality" individual grant competition, organized by ASAN Volunteers with support from the Youth Foundation of Azerbaijan and



TechAcademy. His project aims to raise awareness among young people about front-end programming and promote skills development in this field. This initiative fosters technological education, innovation, and digital skills among youth, contributing to SDG 9 – Industry, Innovation and Infrastructure by strengthening capacities in information technology and applied innovation.

For more information, please click here

BSU HAS BEEN AWARDED 5 STARS İN THE "QS STARS" AUDİT EVALUATİONN

Baku State University (BSU) achieved a prestigious 5-star (“excellent”) rating in the QS Stars audit conducted by QS Quacquarelli Symonds, reflecting its adherence to international standards in education, research, infrastructure, and governance. The university earned the highest rating in seven categories, including Teaching, Academic Development, Facilities, Employability, Environmental Impact, Diversity & Inclusion, and Good Governance, highlighting its modern laboratories, research centers, innovative teaching methods, and strong graduate employability.

This recognition underscores BSU’s commitment to fostering scientific research, innovation, and technology-driven education, providing students and faculty with the resources and environment to develop cutting-edge knowledge and solutions. By integrating advanced infrastructure, promoting sustainable practices, and supporting international collaborations, BSU contributes significantly to SDG 9

– Industry, Innovation and Infrastructure, strengthening its role in research, technological development, and global academic engagement.

For more information, please click here

BAKU STATE UNİVERSİTY'S JOURNAL HAS BEEN İNCLUDED İN THE EBSCO İNTERNATİONAL DATABASE

The journal "Acta Botanica Caucasica," established by Baku State University (BSU), has been included in the international EBSCO scientific database, coordinated by BSU's Scientific Library. Already indexed in AGRIS, Google Scholar, ResearchGate, and Index Copernicus, the journal's inclusion in EBSCO enhances global accessibility, visibility, and citation of its articles. By promoting the international dissemination of high-quality research in biology and agricultural sciences, BSU strengthens scientific knowledge sharing and innovation, contributing to SDG 9 – Industry, Innovation and Infrastructure through the development of research capacity and global academic engagement.

For more information, please click here

NEW JOB EXPERİENCE OPPORTUNİTİES FOR BSU STUDENTS AND ALUMNİ DİSCUSSED

Representatives of Baku State University's (BSU) Career and Alumni Relations Center met with Aydan Hashimova, Director of ATL Academy, and Khanim Huseynzade, Head of Sales, to enhance student and alumni engagement with the labor market. The discussion focused on expanding internship programs, increasing access to job opportunities, developing technical skills, and implementing projects and scholarships to support professional growth. This collaboration fosters a skilled and innovative workforce, strengthens industry-academia links, and contributes to

SDG 9 – Industry, Innovation and Infrastructure by promoting practical experience, technical expertise, and career development.

For more information, please click here

BSU TWO TEAMS ACHİEVED GREAT SUCCESS İN THE IWISE 2025 COMPETİTİON

On March 9, the “International World Innovative Student Expo 2025” (IWISE) was held, featuring student projects in STEM, Itech, and Robotics categories. Baku State University (BSU) was represented by the teams EcoGenX, STAJ, TechTitans, and RoSE. The STAJ team won first place in the Itech category, earning a place in the final stage in Boston, USA (June 15–20), while TechTitans secured second place in Robotics. These achievements highlight BSU students’ innovation, technical skills, and applied research capabilities, contributing to SDG 9 – Industry,

Innovation and Infrastructure by fostering science, technology, and engineering excellence.

For more information, please click here

BSU EMPLOYEES ARE PARTİCİPATİNG İN HUAWEİ 5G TRAİNİNG SESSİONS

Employees of Baku State University (BSU) are participating in 5G training sessions organized by Huawei to enhance expertise in modern telecommunications technologies. The training provides theoretical and practical knowledge on establishing, managing, and applying 5G networks, with participants developing approaches to integrate these technologies into BSU's academic programs. Coordinated by BSU's Quality Assurance and Information Technology Centers, this initiative strengthens the university's technological capacity, fosters innovation in education and research, and contributes to SDG 9 – Industry, Innovation and Infrastructure by promoting advanced digital infrastructure and applied technological development.

For more information, please click here

A ROUNDTABLE DİSCUSSİON TİTLED SCİENTİFİC İNNOVATİON AND BİOTECHNOLOGY: NEW PERSPECTİVES İN ENSURİNG ECOLOGİCAL BALANCE SUSTAİNABİLİTY WAS HELD AT BAKU STATE UNİVERSİTY (BSU)

On March 27, Baku State University (BSU) hosted a roundtable discussion titled "Scientific Innovation and Biotechnology: New Perspectives in Ensuring Ecological Balance Sustainability" as part of Science Day events organized by the Faculty of Biology. The discussion focused on the importance of preserving ecological balance, rational use of natural resources, and protection of water, soil, and air from pollution, highlighting these issues as global challenges.

Participants included leading Azerbaijani scientists and experts. Professor Afet Mammadova, Dean of the Faculty of Biology, emphasized the role of scientific innovations and biotechnology in promoting sustainable development. Academician Irade Huseynova, Director-General of the Institute of Molecular Biology and Biotechnology, discussed the impact of biotechnology on modern ecosystems and emerging research directions. Penah Muradov, Director-General of the Institute of Microbiology and Corresponding Member of the National Academy of Sciences of Azerbaijan (ANAS), outlined microbiology's role in maintaining ecological balance. Professor Elmixan Jafarov, Head of the Radiobiology Laboratory at the Institute of Radiation Problems, addressed the effects of radioactive contamination on biodiversity and potential innovative solutions. Professor Nariman Ismayilov, Senior Researcher at the Institute, presented recent applications of biotechnological innovations in industry and agriculture.

The roundtable also explored opportunities for future collaboration, answered participants' questions, and emphasized the critical role of scientific research and

innovation in addressing ecological challenges. The event concluded with a consensus on the importance of conducting further studies to develop sustainable solutions in biotechnology and environmental management.

For more information, please click here

DEDİCATED LANES FOR BİCYCLES AND SMALL ELECTRİC VEHİCLES AT THE MAİN ENTRANCE OF BSU

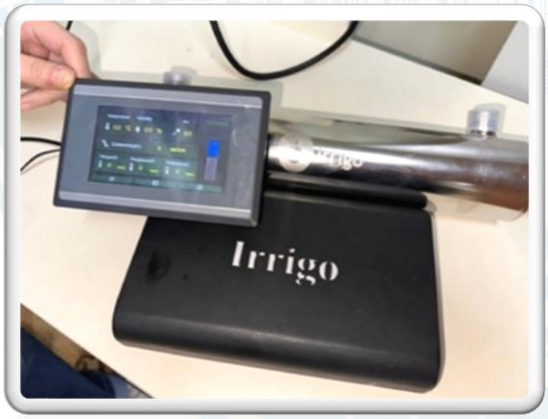
At the main entrance of Baku State University (BSU), dedicated lanes have been established for bicycles and small electric vehicles. This initiative, implemented in line with the Decree of the President of the Republic of Azerbaijan, Ilham Aliyev, dated January 30, 2025, under the “State Program for the Improvement of Transport Infrastructure in Baku and Surrounding Areas for 2025–2030,” aims to improve urban micromobility, provide convenient short-distance transportation options, reduce reliance on private cars, and alleviate traffic congestion.

In addition to the lanes, secure and dedicated bicycle parking spaces have been created along the routes. This development supports sustainable, environmentally friendly urban mobility and reflects BSU’s commitment to modern infrastructure and ecological initiatives.

For more information, please click here

THE PROJECT IRRIGO – SUSTAİNABLE AGRİCULTURAL ECOSYSTEM WHİCH WİLL BE ESTABLİSHED ON THE BBSU CAMPUS, WİLL BE FEATURED İN THE FİNALS OF THE TEKNOFEST 2025 SHC

The world's largest aviation, space, and technology festival, TEKNOFEST, will take place from May 1–4, 2025, in the Turkish Republic of Northern Cyprus (TRNC), with over 15,000 teams and 47,000 participants competing across 7 main and 16 subcategories. The BSU "BDU TETYM" team presented the project "Irrigo – Sustainable Agricultural Ecosystem," which earned high marks in the TEKNOFEST TRNC Research Projects category and qualified for the final stage.



The project provides a system for purifying, recycling, and preparing wastewater for irrigation, incorporating innovative features based on IoT and Smart Village concepts to support farmers and entrepreneurs. The team of BSU students is currently developing the prototype, website, and mobile application for the system.

For more information, please click here

BSU RECTOR SPOKE ON THE ROLE OF SCİENCE İN REGİONAL DEVELOPMENT AT “THE TİMES HİGHER EDUCATİON EURASİAN UNİVERSİTİES SUMMİT”

Within the framework of the Times Higher Education (THE) Eurasian Universities Summit held in Baku, Baku State University (BSU) Rector Elchin Babayev participated as a panelist in the discussion “How Eurasian Universities Can Turn Science into a Driver of Regional Development.” The panel, under the summit theme “Transnational Research: From Knowledge to Global Impact,” examined the role of science and innovation in fostering sustainable, inclusive, and resilient societies.

Rector Babayev highlighted BSU’s efforts to align its scientific research strategy with regional and national development priorities and emphasized translating research outcomes into practical solutions for global challenges such as climate change, public health, technological transformation, and socio-economic inequalities. He also stressed the importance of strengthening regional and international university collaborations to enhance research capacity and innovation, and supporting student-researchers to develop as transnational contributors in Eurasia’s knowledge economy.

The panel included representatives from Nazarbayev University and other leading institutions, who shared successful models of scientific development. BSU’s participation, including the rector’s panel and the university’s exhibition stand, enhances its international reputation, leadership in Eurasian higher education, and the practical impact of science on regional socio-economic development.

For more information, please click here

BSU PARTİCİPATES İN THE 11TH BAKU INTERNATİONAL BOOK FAİR

Baku State University (BSU) is participating in the 11th Baku International Book Fair, organized by the Ministry of Culture and held at the Baku Expo Center from October 1–7, 2025, under the theme "Techno-Human: The Legend of Yesterday, the Phenomenon of Today." At the exhibition, BSU showcases books, textbooks, and teaching materials published over the past two years by its faculty and preserved in the Scientific Library, as well as recent issues of the "News of Baku University" journal, conference proceedings, monographs, and teaching aids.

An informational video highlighting the university's history, activities, and academic achievements is screened at the stand. Visitors receive BSU-branded printed materials, including notebooks, brochures, notepads, and pens, while staff provide detailed information about the publications. On the opening day, the book "Fidan Flowers" by Majid Heydarli (Seyyid Asri), a BSU Scientific Library staff member, was also presented. BSU's participation promotes its scientific and educational potential, encourages public engagement, and fosters interaction with students and young book enthusiasts.

For more information, please click here

BSU PARTİCİPATES İN “SUSTAİNABİLİTY EXHİBİTİON: ART AND INNOVATİON FOR THE PLANET”

Baku State University (BSU) participated in the event titled “Sustainability Exhibition: Art and Innovation for the Planet,” organized within the framework of Baku Climate Action Week, presenting two innovative projects: “Irrigo: Sustainable Agricultural Ecosystem” and “Hydroponics.” The exhibition aimed to highlight innovative solutions that contribute to environmental sustainability and climate action.

The “Irrigo: Sustainable Agricultural Ecosystem” project, developed by Reyhan Mirsultanova, an engineer at the BSU Student Scientific-Technical Creativity Center, introduces a smart agricultural system designed to reduce freshwater consumption in irrigation. The project focuses on treating wastewater contaminated with organic pollutants, salts, and heavy metals and reusing it for irrigation within a self-cleaning and cyclic ecological system. This model promotes sustainable agriculture, efficient water management, and environmental protection through the application of innovative technologies.

The “Hydroponics” project, developed by Gumru Huseynova, Head of the Cell Culture and Genome Editing Research Laboratory at the BSU Research, Development and Innovation Excellence Center, together with Elvira Tahmazli, Research Associate, focuses on promoting soilless cultivation systems for small and medium-sized agricultural enterprises. The project encourages efficient resource use, sustainable agricultural production, and the application of modern technological solutions in farming.

At the exhibition, BSU's "Irrigo: Sustainable Agricultural Ecosystem" project was selected among the top six projects and received a certificate of recognition for its innovative approach and contribution to sustainable development and climate-friendly technological solutions.

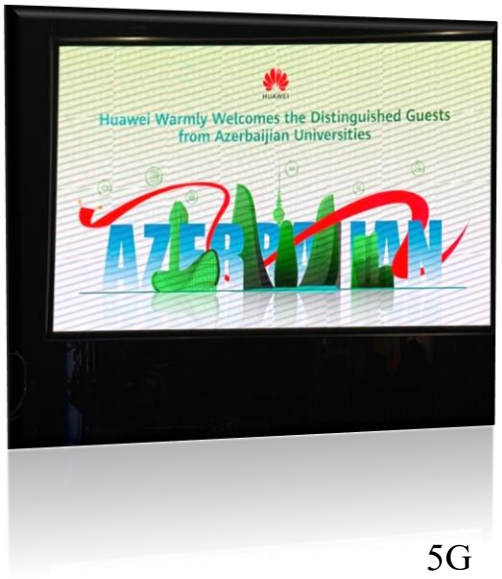
For more information, please click here

BSU AND HUAWEİ SİGN COOPERATİON MEMORANDUM İNTERNATİONALİZATİON

Baku State University (BSU) and Huawei Technologies Co., LTD have signed a Memorandum of Understanding (MoU) to strengthen cooperation in high technologies, artificial intelligence, and innovation in higher education. The agreement was reached during an official visit of a BSU delegation led by the rector to China at the invitation of Huawei, where representatives of several Azerbaijani universities also participated.

During the visit, the delegation toured the Huawei Corporate Business Exhibition Hall and the 5G and Artificial Intelligence Exhibition Hall in Shenzhen, where they were introduced to advanced technologies and applications in artificial intelligence, 5G and 5G-A networks, cloud technologies, and smart city solutions. Discussions focused on the potential use of these technologies in education, research, and technological development at universities.

At the official meeting at Huawei's headquarters, attended by company representatives including David Wang, Vice President for Corporate Communications, and Angela Lin, Vice President for the Middle East and Central



Asia, both sides discussed opportunities for collaboration in artificial intelligence, intelligent education systems, joint research initiatives, and technological innovation.

Within the framework of the signed memorandum, the parties agreed to implement training and internship programs for BSU students and researchers, conduct joint research projects in artificial intelligence and information and communication technologies, expand smart technology and 5G laboratory infrastructure, and explore the establishment of joint innovation centers and support mechanisms for startup initiatives.

As part of the visit, the delegation also held meetings at Huawei's Research and Development Campus in Dongguan, Dongguan University of Technology, and the Global Cybersecurity Transparency Center, discussing further opportunities for academic and technological collaboration.

For more information, please click here

BSU HOSTED THE "R.M 90" PROGRAMMİNG COMPETİTİON

Baku State University (BSU), in cooperation with the Innovation and Digital Development Agency, the Azerbaijan community of the International Collegiate Programming Contest (ICPC), and Caspian Event Organisers, organized the "R.M 90" programming competition. The event was dedicated to the legacy of Ramin Mahmudzade, Azerbaijan's first programmer, recipient of the "Shohrat" Order, and former associate professor of BSU, with the aim of strengthening students' programming skills, promoting innovation in computer science, and discovering new talents among university students.

During the opening ceremony, BSU Vice-Rector for Science and Innovations Huseyn Mammadov emphasized the importance of developing competitive human capital and an innovation-oriented academic environment in line with the "Azerbaijan 2030: National Priorities for Socio-Economic Development." Representatives from various institutions also highlighted Ramin Mahmudzade's contributions to the development of programming education in Azerbaijan and the significance of digital innovation, cybersecurity, and technological development for the country's future.

The competition brought together around 50 students from different universities, who solved programming tasks within a four-hour contest format. The winners of the competition will receive special prizes and certificates during the ICPC 2025 World Finals, which will be held in Baku from August 31 to September 5 at the Baku Convention Center.

For more information, please click here

BDU STUDENTS AT ICESCO'S MODEL SATELLİTE TRAİNİNG AND INTERNATİONAL AEROSPACE SYMPOSİUM İN ALMATY

Students of Baku State University (BSU) are participating in the Model Satellite – CanSat Training Workshop and Aerospace Symposium held in Almaty, Kazakhstan, organized by the Islamic World Educational, Scientific and Cultural Organization (ICESCO) and Al-Farabi Kazakh National University. The event brings together students and experts to enhance knowledge and practical skills in aerospace technologies and satellite engineering.

During the workshop, BSU students representing Azerbaijan are working on the design and development of a CanSat model satellite, capable of measuring atmospheric parameters, capturing aerial images, and transmitting collected data in real time to the Ground Control Station (GCS) during its descent. Participants are receiving specialized training from aerospace engineers and experts on the design, assembly, and testing of satellite systems, while also exploring opportunities for international collaboration in research and technological development.

The symposium also highlights the importance of aerospace technologies for research in areas such as solar physics, the study of solar system objects, Sun–Earth interactions, space weather monitoring, Earth observation, and space data processing. The event aims to strengthen scientific cooperation and practical research skills in space science and will continue until September 11.

For more information, please click here

THE 2ND EURASİAN FORUM ON ARTİFİCİAL İNTELLİGENCE AND DATA SCİENCE HELD İN BAKU

The 2nd Eurasian Forum on Artificial Intelligence and Data Science has begun at the Baku Congress Center, organized jointly by Baku State University (BSU), Codelandia LLC, and Ben-Gurion University of the Negev (Israel). The three-day forum brings together international researchers, specialists, and innovators to discuss recent advancements in artificial intelligence and data science and to promote scientific collaboration and knowledge exchange.

The event provides a platform for exploring developments in AI theory, new methodological approaches, and practical applications of data science in various sectors, including medicine, cybersecurity, sports, and agriculture. During the opening session, BSU Rector Elchin Babayev highlighted the importance of the forum in strengthening international scientific cooperation and advancing research in artificial intelligence. He also announced the establishment of a new Department of AI Ethics at BSU, aimed at promoting ethical principles, transparency, and social responsibility in AI research and development.

The opening ceremony also featured speeches by representatives of leading institutions, including Farid Osmanov, Chairman of the Innovation and Digital Development Agency; Fariz Jafarov, Executive Director of the Center for Analysis and Coordination of the Fourth Industrial Revolution (4SIM); Dan Blumberg, Vice President of Ben-Gurion University; and Gunel Jannatova, CEO of Codelandia. The forum's scientific program includes presentations by internationally recognized scholars on topics such as global AI markets, ethical and technological challenges in healthcare applications, and the role of higher education in the digital era. Participants will also take part in panel discussions and interactive sessions aimed at generating new ideas and strengthening the development of AI and data science in the region.

For more information, please click here

THE NEXT SPECİALİZED CAREER FAİR ENTİTLED “A BRİDGE TOWARD A PROFESSİONAL FUTURE” WAS HELD AT BSU

The specialized Career Fair titled “A Bridge Toward a Professional Future” was held at Baku State University (BSU), organized by the Career and Alumni Relations Center and dedicated to the 5th anniversary of Azerbaijan’s historic Victory. The event aimed to strengthen the connection between students, graduates, and employers while supporting career development and increasing employment opportunities.

During the opening ceremony, BSU Vice-Rector for Social Affairs, Student Relations, and Public Relations Alish Agamirzayev emphasized that the success of a university is largely measured by the achievements and employability of its graduates. He noted that BSU has recently transitioned from large-scale career fairs to specialized career fairs focused on specific sectors to better meet labor market demands and provide more targeted opportunities for students.

At the fair, 10 leading companies from the IT and innovation sectors presented job vacancies, internship opportunities, and scholarship programs to more than 2,000 students and graduates. The event also featured workshops, seminars, and interactive training sessions aimed at enhancing students’ professional skills, supporting personal development, and preparing them for successful careers in the technology and innovation sectors.

For more information, please click here

BSU TEAM QUALİFİES FOR THE SEMİFİNALS OF THE 50TH ICPC

The team of Baku State University (BSU) achieved a significant success by winning the Azerbaijan regional round of the 50th ICPC – International Collegiate Programming Contest. The competition was organized by the ICPC Azerbaijan Community, Azerbaijan Technical University, and ADA University, with support from the Innovation and Digital Development Agency.

The contest took place at Azerbaijan Technical University and gathered 52 teams from 20 higher education institutions across the country. Each team consisted of three students and one coach, and in addition, three high-school teams participated in the competition outside the official ranking. During the contest, participants were given five hours to solve 12 complex algorithmic problems using programming languages such as C++, Java, or Python. All solutions were submitted through an

automated judging system, which evaluated the correctness and efficiency of the programs.

According to the final results, the BSU team secured third place, demonstrating strong programming and problem-solving skills. With this achievement, the team gained the right to participate in the North Eurasia Finals of the 50th International Collegiate Programming Contest, which represents the global semifinal stage of the competition. In addition, they will compete in the South Caucasus Open Championship, both in team and individual categories.


Certificate of Achievement

The 2025 ICPC Azerbaijan Regional Contest
15 November 2025

Third Award

Baku State University

Miraga Aliyev
Nihat Garibli
Vugar Guliyev
Ismayil Zeynalov, Coach
Emil Huseynov, Co-coach

William B. Poucher, Ph. D.
ICPC Executive Director

Overall, 21 teams from Azerbaijan qualified to represent the country at the upcoming semifinal stage of the 50th ICPC – International Collegiate Programming Contest and the South Caucasus Open Championship, which will take place on 15–17 December 2025 in Tbilisi, Georgia. The participation of BSU students in these prestigious competitions highlights the growing level of programming education and competitive coding skills among university students in Azerbaijan.

For more information, please click here

BSU AND “REGİONAL DEVELOPMENT” PUBLİC UNİON SİGN MEMORANDUM OF UNDERSTANDİNG

Baku State University (BSU) and the Regional Development Public Union (RDPU) have signed a Memorandum of Understanding to strengthen cooperation and implement joint initiatives in various fields. The document was signed by BSU Rector Elchin Babayev and RDPU Chairperson Mammad Abdullayev. The main aim of the memorandum is to expand collaboration between the university and the public organization, support youth development, and promote joint projects that contribute to society.

During the signing ceremony, Elchin Babayev emphasized that the Regional Development Public Union, established on the initiative of the Heydar Aliyev Foundation, carries out important projects in the socio-economic, public, and cultural life of the country. He noted that BSU and RDPU have already been cooperating successfully for several years and expressed confidence that the newly signed memorandum will further strengthen this partnership. The rector also highlighted that the involvement of young people in public organizations provides valuable experience, increases their motivation, and helps them develop practical skills. He added that many youth organizations operating at BSU actively participate in projects implemented by RDPU.

In his remarks, Mammad Abdullayev stated that the memorandum will help effectively combine the scientific and intellectual potential of BSU with the development of both the capital and the regions of the country. According to him, bringing together the university's modern scientific capabilities and RDPU's extensive experience in various areas will produce significant benefits for Azerbaijan. He also described the memorandum as an example of cooperation built on mutual trust and partnership.

The memorandum envisages the implementation of joint projects and initiatives in social, economic, environmental, scientific, cultural, educational, and information technology fields. It also aims to support youth development, raise public awareness, and contribute to sustainable development.

Within the framework of the agreement, the two sides will organize projects, competitions, academic conferences, and contests that correspond to modern challenges and labor market requirements. The cooperation will also include engaging BSU students as RDPU volunteers, encouraging social responsibility and volunteerism, providing opportunities for students to participate in different projects and events, and creating internship opportunities for them within the Public Union.

For more information, please click here

A SPECİAL CLASSROOM OF AZERBAİJAN INTERNATİONAL MİNİNG COMPANY LİMİTED OPENED AT BSU

Baku State University (BSU) continues to implement significant initiatives that expand collaboration between education, science, and industry. One such project is the opening of a specialized classroom at the Faculty of Geology, established with the support of Azerbaijan International Mining Company Limited.

The inauguration ceremony was attended by BSU Rector Elchin Babayev, Reza Vaziri, President of Azerbaijan International Mining Company Limited, university leadership, faculty members, students, and industry representatives.

In his speech, Rector Babayev emphasized the strategic importance of modern infrastructure for education and highlighted the role of specialized classrooms in providing practical, experience-based learning. He noted that cooperation with industrial partners is a key priority in BSU's strategic development plan. The Rector underlined that the training of skilled professionals in strategically important fields, such as mining, must combine theoretical knowledge with practice-oriented learning environments. He added that this initiative will enhance students' professional skills, provide access to international expertise, and prepare graduates to enter the labor market as competitive and flexible professionals.

Reza Vaziri, President of Azerbaijan International Mining Company Limited, highlighted the education sector as a core element of the company's corporate social responsibility strategy. He stressed that sustainable development in geology and mining relies on well-trained, highly qualified specialists. Vaziri emphasized that

the new classroom aims to increase Azerbaijani youth's interest in the sector, familiarize them with modern technologies, and support joint educational and research initiatives between BSU and the company.

During the event, attendees toured the new classroom, learning about its technical capabilities, educational equipment, modern presentation tools, and infrastructure designed to deliver specialized courses effectively.

The establishment of this specialized classroom represents a successful model of university–industry cooperation, enhancing the quality of education at BSU's Faculty of Geology, strengthening students' theoretical knowledge with practical skills, and contributing to the training of highly qualified professionals for the mining sector. This initiative also opens broad opportunities for future collaborative projects, research activities, and practical training programs.

For more information, please click here

CONCLUSION

Baku State University (BSU) has taken significant steps to foster an inclusive and innovation-driven academic environment that aligns with the objectives of SDG 9 – Industry, Innovation and Infrastructure. The university recognizes that sustainable technological and industrial development depends not only on high-quality research and infrastructure but also on ensuring that all members of the academic community have equitable access to opportunities and resources. To this end, BSU has implemented a range of initiatives aimed at supporting students from diverse socio-economic, cultural, and physical ability backgrounds, ensuring that every student has the chance to contribute to research, innovation, and applied technological development.

One of the core areas of BSU's efforts is enhancing accessibility for individuals with disabilities. The university has upgraded physical infrastructure, introduced assistive technologies, and ensured that laboratories, libraries, and research centers are accessible to all students. These measures allow students with disabilities to participate fully in scientific projects, laboratory experiments, and technology-based learning activities, thereby fostering a truly inclusive innovation ecosystem. In parallel, the university provides scholarship programs, financial support, and mentoring services targeted at students from underrepresented or disadvantaged groups, helping to remove barriers to participation in science, engineering, and technology education.

BSU also actively promotes social awareness and engagement among its students, emphasizing the importance of equality, human rights, and ethical responsibility in scientific and technological development. Through seminars, workshops, and community projects, students are encouraged to consider the social and environmental implications of technological innovation and to design solutions that address real-world challenges, from sustainable urban infrastructure to environmentally safe industrial processes. This holistic approach ensures that innovation is not limited to technological advancement alone but is also informed by social inclusivity and responsibility.

Integration of modern infrastructure and research facilities is another key pillar of BSU's contribution to SDG 9. The university has invested in state-of-the-art laboratories, high-tech classrooms, and research centers, providing students and faculty with access to modern tools and technologies. These resources enable hands-on learning, experimentation, and innovation in fields such as biotechnology, information technology, environmental engineering, and industrial sciences. Moreover, BSU encourages students to participate in applied research projects, technology competitions, and international collaborative programs, thereby bridging the gap between academic knowledge and practical industrial applications.

The university's commitment to fostering innovation and industrial capacity is complemented by its support for entrepreneurial initiatives and technology-driven student projects. By providing funding, mentorship, and access to digital and technical infrastructure, BSU empowers students to transform their research ideas into practical solutions and prototypes. These efforts help cultivate a generation of future engineers, technologists, and researchers who can contribute to sustainable industrial development and infrastructure improvement at the regional and national levels.

Additionally, BSU's focus on international collaboration strengthens its capacity to integrate global best practices in science, technology, and innovation. Through partnerships with leading universities and research institutions, students and faculty have opportunities to engage in joint projects, access advanced technological platforms, and exchange knowledge on industrial innovations. This global engagement ensures that BSU's infrastructure and innovation programs are not only locally relevant but also aligned with international standards and emerging global trends.

In summary, Baku State University demonstrates a comprehensive approach to supporting SDG 9 by combining inclusive education policies, accessibility measures, financial and mentoring support, modern research infrastructure, and active engagement in applied innovation. These initiatives ensure that all students, regardless of background or ability, can participate in technological development, scientific research, and innovation-driven projects. By fostering a diverse, inclusive, and well-equipped academic environment, BSU contributes to strengthening industrial capacity, enhancing technological innovation, and promoting sustainable development in Azerbaijan and beyond.

SDG FOCUSED MEMBERSHIPS

aashe member
The Association for the Advancement of Sustainability in Higher Education

ISCN
International Sustainable Campus Network

CANIE
climate action network

WAITRO

GUNI
GLOBAL UNIVERSITY NETWORK FOR INNOVATION

SDG FOCUSED RANKING RESULTS

Rated for Excellence

Baku State University

Through rigorous and independent data collection and analysis of performance metrics as set out in the QS Stars™ methodology Baku State University has been awarded 5 Stars.

★★★★★ TEACHING	★★★★★ FACILITIES
★★★★★ EMPLOYABILITY	★★★★★ GOOD GOVERNANCE
★★★★★ ENVIRONMENTAL IMPACT	★★★★★ ACADEMIC DEVELOPMENT
★★★★ GLOBAL ENGAGEMENT	★★★★ CHEMISTRY
★★★★★ DIVERSITY, EQUITY & INCLUSION	

QS Stars

The QS Stars™ rating system evaluates universities across a wide spectrum of important performance indicators as set against pre-established international standards. By assessing a broader scope of criteria than any world ranking exercise, QS Stars™ illuminates the unique strengths and diversity of the rated institution with both precision and clarity.

Leigh Kamolins, Head of Evaluation


UI GreenMetric
UNIVERSITAS INDONESIA
UI GreenMetric World University Rankings 2025
CERTIFICATE
This certificate is awarded to
Baku State University
as The 493rd World's Most Sustainable University
in 2025 UI GreenMetric World University Rankings
5 December 2025
UI GREENMETRIC WORLD UNIVERSITY RANKINGS
Dr. Vishnu Juwono, S.E., MIA
Chairperson of UI GreenMetric

4. RANKING IN AZERBAIJAN

Country Ranking	SI Ranking	EC Ranking	WS Ranking
1	2	11	3

WR Ranking	TR Ranking	ED Ranking
5	1	2

2. RESULTS SUMMARY

World Ranking	SI Ranking	EC Ranking	WS Ranking
493	660	1102	654

WR Ranking	TR Ranking	ED Ranking
607	98	239

3. WORLD RANKINGS HISTORY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

UNIVERSITY PROFILE

NAME : BAKU STATE UNIVERSITY
EST. : 1919
COUNTRY : AZERBAIJAN

1. VERIFIED DATA

Campus Sustainability Scores

Overall Performance
68.75 %

Total Score
6875 / 10000

68.75%

SI Setting & Infrastructure
Current: **950** Maximum: 1500
63.33%

WR Water
Current: **662.5** Maximum: 1000
66.25%

EC Energy & Climate Change
Current: **1000** Maximum: 2100
47.62%

TR Transportation
Current: **1625** Maximum: 1800
90.28%

WS Waste
Current: **1075** Maximum: 1800
59.72%

ED Education & Research
Current: **1562.5** Maximum: 1800
86.81%

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

THE IMPACT RANKINGS

THE Impact Rankings 2025

Download

OVERALL SCORE	OVERALL RANK	SDG PARTICIPATED
71.8 out of 100	401–600 out of 2318 institutions	15 out of 17 Sustainable Development Goals

in overall performance

December 2024
Date

Ben Sowter
Senior Vice-President
QS Quacquarelli Symonds

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

QS RATED EXCELLENT

OVERALL RANK

401–600

out of **2318** institutions

SUSTAINABLE DEVELOPMENT GOALS

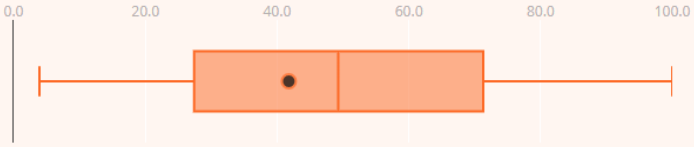
Baku State University

http://sdg.bsu.edu.az/

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

SCORE 41.8

RANK 601–800 out of 1156 institutions



SCORE 19.2

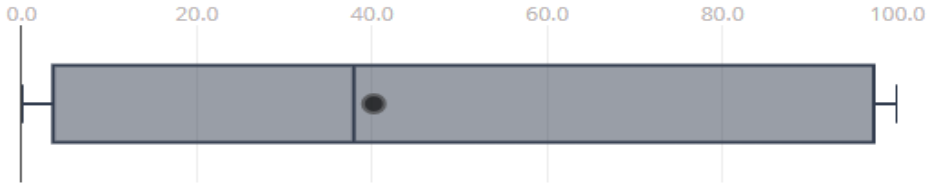
Research on industry, innovation and infrastructure

11.6% OF THIS SDG

SCORE 40.2

Patents citing university research

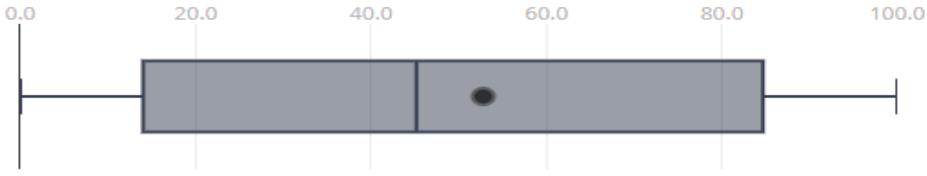
15.4% OF THIS SDG



SCORE 52.8

University spin offs

34.6% OF THIS SDG

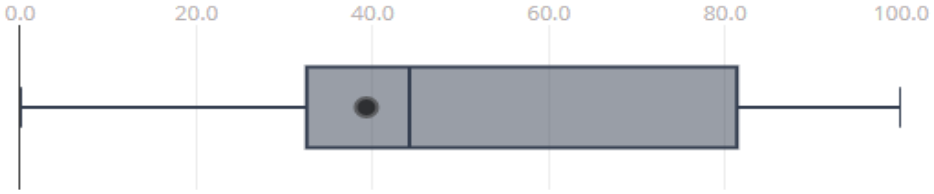


SCORE

39.3

Research income from industry and commerce

38.4% OF THIS SDG



Introduction

Baku State University (BSU) is actively contributing to Sustainable Development Goal 9: Industry, Innovation and Infrastructure by promoting research and initiatives that strengthen technological capacity, industrial competitiveness, and sustainable infrastructure development. The university's scholars are engaged in studies that explore renewable energy systems, smart diversification strategies, mechatronics, and climate-resilient infrastructure, all of which reflect BSU's commitment to fostering innovation-driven growth in Azerbaijan and beyond.

Research on renewable and alternative energy solutions—such as solar-hydrogen technologies and advanced materials for energy-efficient systems—demonstrates BSU's role in developing eco-friendly approaches that reduce reliance on fossil fuels and align with global energy transition goals. At the same time, projects in mechatronics, automation, and digital technologies highlight the university's support for cutting-edge industries and the training of skilled professionals essential for modern economies.

BSU researchers also address infrastructure development with a focus on sustainability and resilience, ensuring alignment with COP-29 objectives and broader climate commitments. By integrating environmental considerations into economic and industrial strategies, these efforts help balance competitiveness with long-term ecological responsibility.

Through international collaboration, multidisciplinary projects, and strong links with industry partners, BSU is positioning itself as a hub for innovation and sustainable industrial development in the region. Its research under SDG 9 not only advances knowledge but also contributes to building a more resilient and diversified economy for Azerbaijan.

For all SDGs related articles please visit:

https://www.scopus.com/pages/organization/60071969#tab=sdgs

SDG contributions

Goal 1: No poverty	9 documents	Goal 10: Reduced inequalities	37 documents
Goal 2: Zero hunger	63 documents	Goal 11: Sustainable cities and communities	34 documents
Goal 3: Good health and well-being	221 documents	Goal 12: Responsible consumption and productior	37 documents
Goal 4: Quality education	24 documents	Goal 13: Climate action	45 documents
Goal 5: Gender equality	12 documents	Goal 14: Life below water	43 documents
Goal 6: Clean water and sanitation	75 documents	Goal 15: Life on land	27 documents
Goal 7: Affordable and clean energy	306 documents	Goal 16: Peace, justice and strong institutions	36 documents
Goal 8: Decent work and economic growth	59 documents	Goal 17: Partnership for the goals	40 documents
Goal 9: Industry, innovation and infrastructure	97 documents		

1. Authors: Imran A., Imanova G., Agayev T., Aliyev A., Abdulaziz B., Agustiono K., Xavier Y.
Focus: Hydrogen production via water splitting using nano-beryllium oxide (nano-BeO) photocatalyst.
Methods: Thermal and radiation–thermal processes at 673 K; electron paramagnetic resonance.
Findings: Hydrogen yield up to 8.5 × 10^17 molecules per gram; 90–96% of carriers interacted with adsorbed water; minimal surface defects enhanced efficiency.
Recommendation: Promising mechanism for large-scale green hydrogen generation.
Full text

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2. Authors: Aliyev, A.A., Nurubeyli, T.K., Haziyev, Y.H., Najafov, E., Mammadov, F.I.
Focus: Reducing environmental and health impacts of transport noise.
Methods: Acoustic modeling; case studies from Germany, Japan, and the U.S.
Findings: Low-noise surfaces (3–7 dB), barriers (10–20 dB), and EVs combined can reduce urban noise by 15–25 dB.
Recommendation: Use integrated solutions balancing cost, maintenance, and sustainability.
Full text

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3. Authors: Muradov M., Huseynov E., Marjetka C., Matjaz M., Tina S., Baghirov M.
Focus: Effect of gamma irradiation on GO/PVA/AgNWs nanocomposites.
Methods: Low-dose gamma irradiation; structural analysis.
Findings: Irradiation created defects without altering overall shape; gravity caused uneven filler distribution.
Recommendation: Need to optimize fabrication to counter gravitational settling.
Full text

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4. Authors: Asgarov, T.K., Ragimova, N.A., Gadirova, E.M.
Focus: Intelligent energy management systems for buildings and factories.
Methods: Analysis of smart grids, SCADA, communication systems.
Findings: Classified sensors, actuators, processors; reviewed ML and DL for real-time energy control.
Recommendation: Integrate automation and AI for optimized energy use.
Full text

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5. Authors: Rahimli, A.M., Huseynova, A.S., Alekberov, R.I., Jafarov, M.A.
Focus: TiO_2/Polystyrene (PS) nanocomposites and their structural/thermal properties.
Methods: Addition of rutile-phase TiO_2 nanoparticles.
Findings: Improved crystallite size, melting/glass transition temperatures, decomposition resistance; uniform nanoparticle dispersion confirmed.
Recommendation: Suitable for coatings, packaging, and optoelectronics.
Full text

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6. Authors: Abbasov G.Z., Mustafayev A.G., Mustafayev A.G., Mammadova G.N., Umudov I.I., Nurubeyli T.K.
Focus: AI-driven digital twin for stress prediction in transport components.
Methods: Simulations and Bayesian inference.
Findings: Reduced stress uncertainty by 30%, extended lifespan by 25%.
Recommendation: Enables proactive, cost-effective, and sustainable maintenance.
Full text

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7. Authors: Mustafayeva, G.A., Mammadova, S.Y., Balajayeva, T.P.
Focus: Infrastructure development aligned with COP-29 climate goals.
Methods: Case studies, policy reviews.
Findings: Climate-resilient infrastructure supports growth, cost savings, public health, and investment.
Recommendation: Collaboration across sectors is essential for sustainable

infrastructure.
Full text

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8. Authors: Najafov, B.A., Nasirov, S.N., Neymetov, S.R.
Focus: Solar-hydrogen technologies for green hydrogen production.
Methods: Review of photoelectrochemical, photocatalytic, concentrated solar, and bioinspired systems.
Findings: Hydrogenated amorphous thin films optimized by deposition/annealing.
Recommendation: Advance pilot plant development and material optimization.
Full text

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9. Authors: Aliyev, A.S., Huseynova, R.G., Gurbanova, U.M., Zeynalova, A.O., Tagiyev, D.B.
Focus: Green hydrogen from water electrolysis and cost-effective electrocatalysts.
Methods: Review of HER catalysts and electrolyzer technologies.
Findings: Iron-group metal alloys show promise as alternatives to noble metals.
Recommendation: Focus on affordable electrocatalysts to expand hydrogen economy.
Full text

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10. Authors: Ahmadov, F.I., Ahmadov, G.S., Sadigov, A.Z., Sadygov, Z.Y., Rasulov, O.
Focus: MAPD-SiPM + LaBr3(Ce) scintillation detector for gamma-ray detection.
Methods: Wide energy range tests (0.1–7 MeV).
Findings: Excellent linearity and resolution (1.99% at 1.460 MeV); identified multiple gamma peaks.
Recommendation: Explore larger scintillators and denser materials (BGO, LSO).
Full text

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11. Authors: Azizkhanli, S.A., Aliyeva, S.B.
Focus: Environmental impact of polymers in film capacitors.
Methods: Life cycle assessment (LCA) using Eco-invent data.

Findings: PPS had the highest impact, PP the lowest.
Recommendation: Prefer PP for more sustainable capacitor production.
Full text

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12. Authors: Zakiyeva, I.H., Hashimov, A.M., Samadova, U.F., Aligayev, A.K., Hasanova, S.I.
Focus: Heavy metal removal from wastewater using high-voltage electrical discharge.
Methods: Mass spectrometry and adsorbent surface analysis.
Findings: Electrical discharge improved adsorbent efficiency and safety.
Recommendation: Promising alternative to traditional wastewater treatments.
Full text

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13. Authors: Babayev, F.F., Goncharenko, I.M., Mazur, H., Abdullaev, U., Chernyaha, L.
Focus: Impact of foreign investment on economic development (Ukraine, Azerbaijan, Uzbekistan).
Methods: Economic and SWOT analysis.
Findings: Investment boosts GDP, jobs, infrastructure, and technology; but risk of dependency.
Recommendation: Balanced foreign investment is key for sustainable growth.
Full text

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14. Authors: Nizamoğlu, H., Turan, M.D., Sarı, Z.A., Babayeva, P.G.
Focus: Copper recovery from slag using $FeCl_3$ from mill scale.
Methods: Leaching with HCl to produce $FeCl_3$ solution.
Findings: Achieved 97.22% copper extraction, outperforming HCl alone (75.05%).
Recommendation: Mill scale is an eco-friendly substitute for commercial $FeCl_3$.
Full text

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15. Authors: Humaira, Afsana Huseynova Anvar, Shaukat Ali, Marcelo Franco, Muhammad Irfan.
Focus: Cell-free biomanufacturing for sustainable production.
Methods: Review of biofuel/bioplastic production from biomass.
Findings: Higher productivity vs. traditional systems; challenges with co-factor costs and recycling.
Recommendation: Further research needed to lower costs and improve energy efficiency.
Full text

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16. Authors: Aliyev, A.Y., Yalchinkaya, A.
Focus: Mechatronics as a driver of modern technology.
Methods: Review of applications in robotics, transport, healthcare, defense.
Findings: Mechatronics is among the most in-demand academic/professional fields.
Recommendation: Expand education and training in mechatronics for industrial growth.
Full text

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17. Authors: Ali, I., Imanova, G.T., Alharbi, O.M., Hameed, A.M., Siddiqui, M.N.
Focus: Advances in green hydrogen production via radiation-driven water splitting.
Methods: Review of visible, UV, and gamma radiation techniques.
Findings: Radiation methods offer sustainable alternatives but face industrial challenges.
Recommendation: Further research required to improve large-scale viability.
Full text

Research

SDG contributions

Goal 1: No poverty	9 documents	Goal 10: Reduced inequalities	37 documents
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