



D. Serikbayev

EKTU

EAST KAZAKHSTAN TECHNICAL UNIVERSITY BROKERAGE EVENT 2025



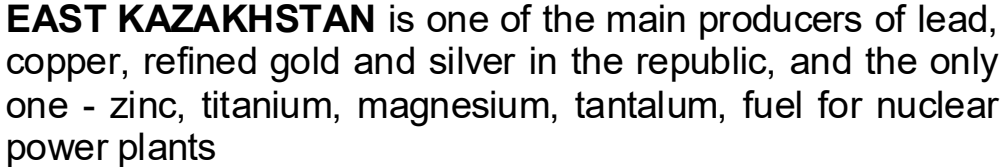
KAZAKHSTAN IS THE CENTER OF EURASIA



- **Kazakhstan** is a state in the **center of Eurasia**, most of which belongs to Asia, and a smaller part belongs to Europe.
- **Population – 20 000 840 people.**
- **Area – 2 724 902 km².**
- Kazakhstan ranks **the 9th in the world** in terms of territory and 2nd among the CIS countries.
- In the southwest it is washed by the **Caspian Sea**.
- It borders with **China, Kyrgyzstan, Russia, Uzbekistan and Turkmenistan.**

Nowadays Kazakhstan is a state with a multi-ethnic population. There are 131 different ethnic groups in Kazakhstan





60%

- of enterprises of the Republic of Kazakhstan in the field of metallurgy, mechanical engineering, mining and manufacturing industries

40%

- of tax revenues to the country's budget are provided by enterprises in the region

66,6%

share of non-ferrous metallurgy in the manufacturing industry

- 38.2% of the country's copper reserves
- 21% lead
- 36% zinc
- 33% gold
- 32% silver
- 11% titanium
- 29% zirconium
- 3% coal
- 9% nickel
- 6% cobalt

117

large and medium enterprises

manufacturing - 72,4 %, mining - 22,3%





The largest titanium production in the world: it has a share of **17% in the global titanium market**, and **14% in the aerospace industry market**, whose direct partners are Boeing and Airbus



A large integrated **zinc producer** with a large share of the associated output of **copper, precious metals and lead**. The general investor is Glencore International AG



One of the **largest suppliers of enriched uranium in the world**, as well as **rare earth metals beryllium and tantalum**



One of the largest companies in the world in the mining and processing of **copper, lead, gold**. The Group's shares are listed on the London and Kazakhstan Stock Exchanges

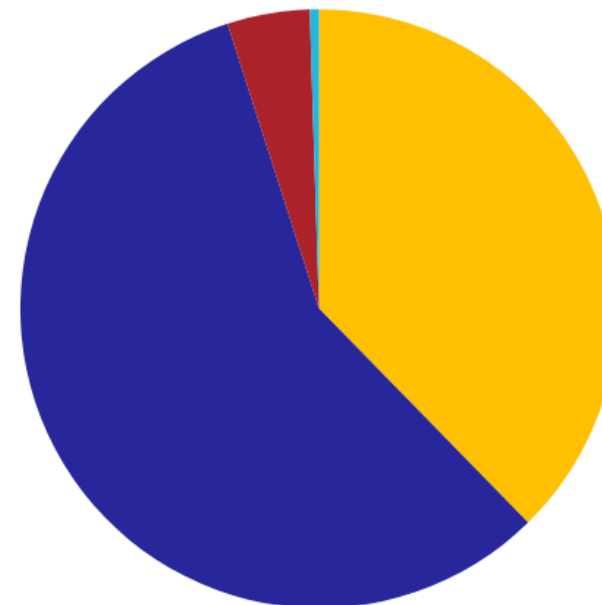


The **20th place in the world in the production of copper** in concentrate and the **12th place in the production of rough and cathode copper**



National operator for the import and export of uranium, rare metals, and nuclear fuel

- Mining and quarrying
- Manufacturing industry
- Electricity supply
- Water supply; collection, processing and...



**GRP structure of the
East Kazakhstan Region industrial complex**

GEOLOGY AND GEOLOGICAL EXPLORATION (RARE METALS):

- technologies of hydrochemical research of extraction and processing of rare earths; methods of forecasting and searching for deposits of critical metals

HEALTH TECHNOLOGY (AI) & NEW MATERIALS FOR MEDICAL DEVICES:

- additive technologies for the production of metal products; bioactive composite coatings of medical products.

SUSTAINABLE URBAN DESIGN & TECHNOLOGIES:

- Urban design for climate change, hardware and software complexes for monitoring urban and natural territories using space vehicles and unmanned aerial vehicles

1

2

3

4

5

6

GREEN ENERGY:

- hybrid and carbon-free energy complexes, zero energy losses of buildings and structures, university territory of energy efficiency

CARBON FOOTPRINT:

- carbon footprint monitoring tools, climate change modeling

DIGITALIZATION OF EDUCATIONAL AND PRODUCTION ACTIVITIES:

- digital models and doubles, digital footprint of the user

SMART ENGINEERING Competence Center in the field of agricultural and industrial engineering

The work on creation of a complex for liquid fertilizer application to the root system of oilseed crops is being completed. Manufacturing of this complex is planned on the basis of KOSTANAJSKIJ AGROMECHANICHESKIJ PLANT



PROJECT FUNDING

World Bank grant program “Manufacturing Sector Consortia: Competence Centers” under the project “Stimulating Productive Innovation”

For industrial enterprises of the city and the region works on development of design documentation for units and parts of complex technological equipment, as well as partial manufacturing of parts on the basis of the Center are carried out



PROJECT PARTNERS



«Pilot farm of oil plants»LLP



«KOSTANAJSKIJ AGROMECHANICHESKIJ ZAVOD» LLP



«Ust-Kamenogorsk Industrial Valves Plant» JSC



«Kazzinc» LLP



«Ulba Metallurgical Plant» JSC

RELEVANCE



97%

share of imported medical devices (implantation in orthopedics and traumatology)



50+ billion tenge

volume of investments in the infrastructure of the healthcare system of East Kazakhstan



16 units

technological equipment for production



20+

medical device projects realized

MAIN AREAS

- Endoprotheses
- Medical devices for traumatology and orthopedics
- Medical instruments
- Exoprotheses
- Hardware and software complexes for rehabilitation of patients with pathology of musculoskeletal and nervous systems

PARTNER MEDICAL ORGANIZATIONS



KEY AREAS

- Metallurgy and engineering
- Geology and mining
- Sustainable development



FIELDS OF RESEARCH

- Mineral exploration and earth sciences (geology, mining)
- Sustainable Mineral Extraction
- Smart Materials (metallurgy and materials science)
- Energy and Environmental Technologies

WAYS OF IMPLEMENTATION

- International double degree programs and joint studies
- Integration of science and education between universities
- Development of interdisciplinary programs

INNOVATIONS

- Networks and clusters of science and industry
- Collaborative research projects
- Business incubator and start-ups
- Experimental production, test beds and pilot lines



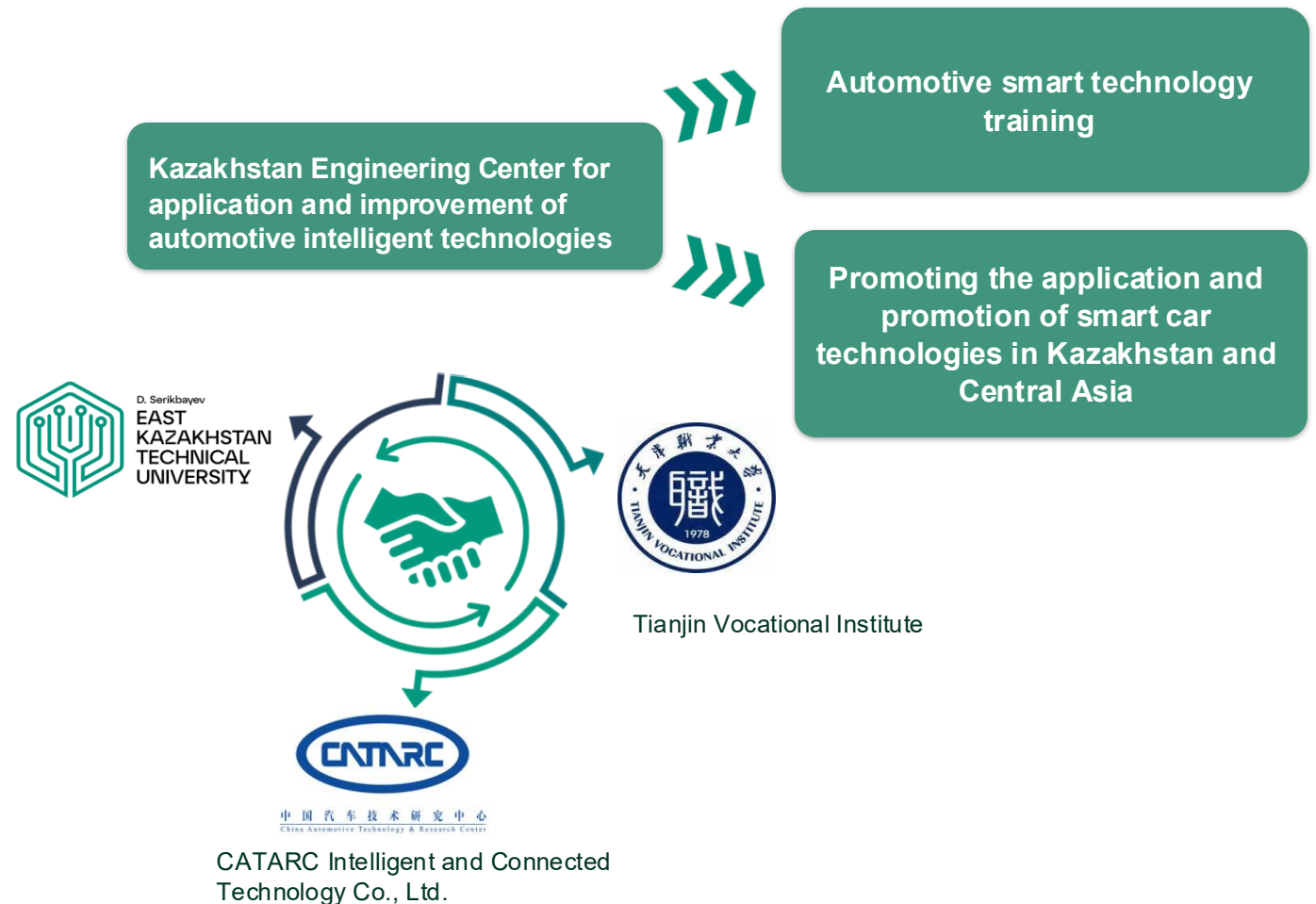
TASKS

- Study of AI-systems in the field of road transport and traffic management
- Study of unmanned vehicle technologies
- ADAS technologies
- Study of Vehicle-to-everything (V2X) technologies
- System integration of AI systems and advanced technologies
- Research in the field of unmanned vehicles and systems enabling unmanned vehicle movement
- Commercialization and transfer of scientific results, engineering of transport technologies, optimization of solutions based on AI-systems

SMART DRIVING TECHNOLOGY

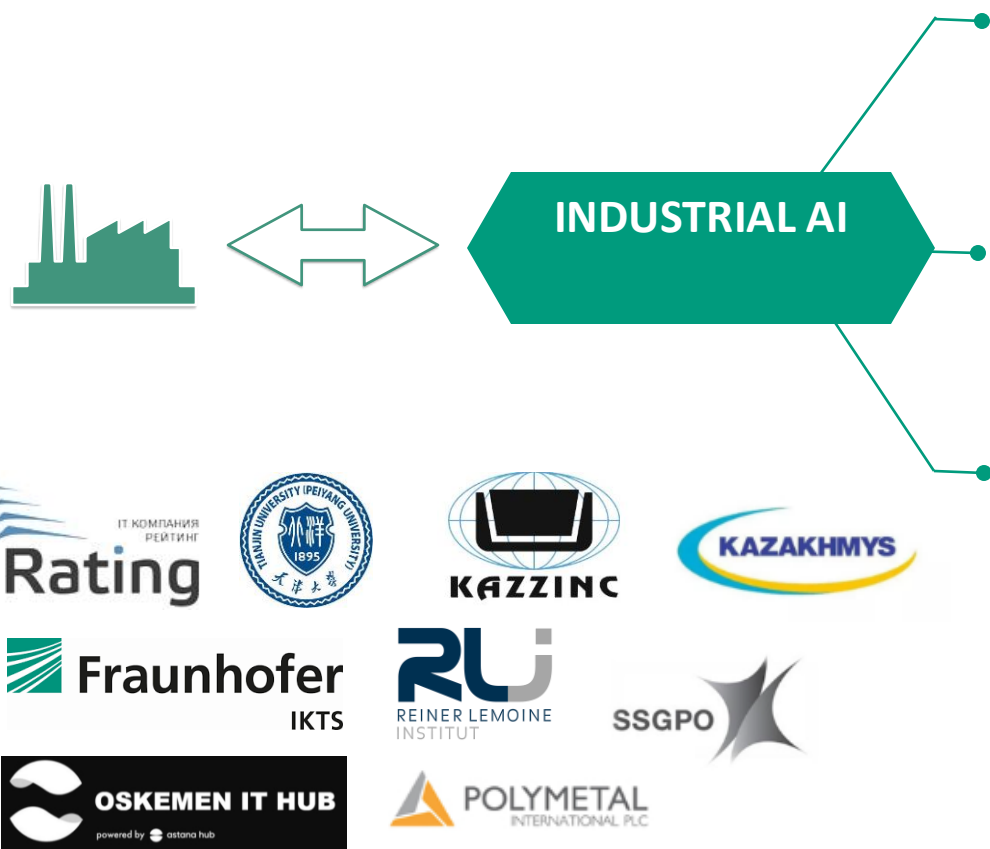
UNIQUENESS

Use of AI, satellite navigation, telemetry and Big Data technologies in all phases of the vehicle lifecycle



PURPOSE

- for developing and implementing AI solutions in the mining and metallurgical industry.



1. Develop AI-based solutions for transport and worker positioning in underground mining.
2. Create AI-driven systems for automated movement control.
3. Integrate positioning and movement control algorithms with ERP systems.
4. Design AI solutions for exploration, extraction, processing, energy, and maintenance operations.
5. Conduct training: seminars, workshops, and professional development courses for industry staff.
6. Perform industry-specific research.
7. Commercialize outcomes: protect intellectual property, and establish licensing and rights agreements.

EKTU in the international rankings:



951-1000



288



1201+



Teaching

Employability

Environmental impact



850



100

№1 in Kazakhstan



Share of EPs ranked in the top five - 52%



International certification of QMS ISO 9001, QMS ISO 37001

Member of the international CDIO initiative



EPIP certified center



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THANK YOU FOR ATTENTION!



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