

Research and Development

7
completed R&D projects

In 2025, R&D activities were focused on developing applied solutions for the Group's production and infrastructure facilities. At the Fund level, the coordination and selection of some scientific and technical initiatives is carried out by the Samgau Centre for Scientific and Technical Initiatives, and at the Group level by industry centres of competence, including KMG Engineering LLP, QazaqGaz Scientific and Technical Centre LLP, and the Institute of High Technologies LLP.

Research activity covers projects in extraction, processing, industrial and environmental technologies, as well as next-generation solutions in digitalization, predictive analytics and artificial intelligence.

In 2025, the Institute of High Technologies LLP delivered R&D projects under 14 contracts for a total of KZT 2 billion. Key research areas included the improvement of uranium production and processing, well restoration methods, technologies for the extraction of associated rare metals, and matters of environment and radioactive-waste management.

13 MEETINGS
of the Scientific and Technical Council

32 PROJECTS
in the CSTI portfolio
totalling KZT 9.2 billion

2 KZT BILLION
spending on R&D

215 EMPLOYEES
engaged in research and development

Key R&D projects in 2025:

Improving the quality of circulating water supply and reclaiming oil-contaminated lands at Atyrau Refinery LLP

The project aims to improve the quality of the recycled water supply and to remediate oil-contaminated land using complex activated aluminium reagents. The solution is designed to improve water quality within the recycled water supply system and to clean up contaminated soil.

IMPACT OF THE PROJECT

96 %
recirculation water stabilization rate

99 %
water-turbidity reduction effectiveness

New superabsorbent polymers for well-killing fluid at Kazakhoil Aktobe LLP

A project on the development of an environmentally safe, self-dissolving well-killing fluid based on superabsorbent polymers has been completed. The solution is designed to improve the efficiency of operational processes and lay the groundwork for further scaling up.

IMPACT OF THE PROJECT

Improved efficiency in well workover and drilling operations, reduced risk of damage to productive formations, and the option of scaling to other fields and foreign markets.

Development of an efficient drilling reagent

A project involving pilot-scale testing of methods for dissolving and removing clay deposits during drilling, using a specially developed chemical reagent, has been completed.

IMPACT OF THE PROJECT

A **3%** reduction in operating expenses, equivalent to savings of **KZT 579 million**. Additional expected outcomes include higher well productivity, lower maintenance costs and extended well service life.

AI in research and development

The Samgau Centre for Scientific and Technical Initiatives is the Fund Group's technology accelerator, delivering industry research and applied projects in artificial intelligence.

In 2025, AI-enabled projects were focused on improving the efficiency of processing operations, optimising seismic-survey work, and improving transport and logistics operations.

Key R&D AI projects

Pulsed seismic surveys using machine learning (Karazhanbasmunay)



Digital simulator for associated petroleum gas processing (QazaqGaz)



Digital platform for managing R&D in the transport sector

