

DEVELOPMENT AND PROSPECTS OF GEOSPATIAL INFORMATION MANAGEMENT IN THE REPUBLIC OF KAZAKHSTAN

Astana, Kazakhstan

15–19 September 2025



**DIGITAL
& SPACE
MINISTRY**

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CURRENT STATE

- In 2022, the Law of the Republic of Kazakhstan «On Geodesy, Cartography and Spatial Data» was adopted.
- 66 by-laws approved, 44 ISO standards on geographic information harmonized.
- The National Spatial Data Infrastructure (NSDI) project completed in 2024.
- New reference system QazTRF-23 introduced, 86 CORS stations (5 proposed for IGS).
- 46,000 geodetic points re-measured, 30,000 km leveling and 216 gravimetric measurements conducted.
- 97% of territory mapped (1:25,000); 100% of cities covered by aerial survey.
- Unified Digital Cartographic Framework (UDCF) established, mandatory for all state systems.



STRATEGIC GOALS FOR THE NEXT 5 YEARS

- Transition of all state agencies to QazTRF-23, including the conversion of historical accumulated data.
- Mandatory use of UDCF in all state systems.
- Standardization of engineering and construction works.
- Development of precision agriculture and environmental monitoring.
- Support for Smart Cities and autonomous transport.
- Integration with APREF and IGS.



KEY CHALLENGES

- Limited financing.
- Conversion of 30 years of historical data.
- Fragmented coordinate systems.
- Need for skilled workforce and infrastructure.



OPPORTUNITIES AND SOLUTIONS

- Strong government support and coordination.
- International cooperation and workshops.
- Adoption of IGIF and CAP methodologies.
- Economic benefits: reduced costs, faster cadastre and construction.
- Social impact: Smart Cities, disaster management, ecology.



INTERNATIONAL COOPERATION

Kazakhstan actively cooperates with UN-GGIM, UN-GGKIC and UN-GGCE

- International standards were applied in NSDI development.
- Growing awareness of UN-GGKIC initiatives and tools
- Kazakhstan participated in UN-GGCE workshops.
- Strong interest in further cooperation.





SUPPORT NEEDED FROM PARTNERS

- Inclusion of Kazakhstan's CORS network into APREF and ICS.
- Methodological guidance and exchange of experience.
- Joint research and training.
- Infrastructure modernization support.

CONCLUSION

Kazakhstan has built a strong geospatial foundation. The next step is full transition to QazTRF-23, NSDI integration, and global cooperation. Kazakhstan is ready to share experience and learn from international partners.



THANK YOU FOR YOUR ATTENTION!

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