

3.4. IT technologies

For the Information Technologies Division, 2025 became a period of the concentration of efforts on ensuring stable, fault-tolerant and manageable IT infrastructure of the company. The main attention was directed at the operation and modernization of internal IT systems, the maintenance of data centre sites, the development of the architecture of corporate applications and the strengthening of information security measures. The implementation of these tasks ensured the stable operation of critically important services, the reduction of technological risks related to the operation of obsolete solutions, and the formation of the infrastructure base for the further digital transformation of the Company.

3.4.1. Development and resilience of IT infrastructure

Operation and modernization of IT infrastructure

Within the framework of the project “Support of IT in working order” in 2025, key measures aimed at the renewal of the hardware base and the modernization of storage and virtualization systems were implemented. With the aim of enhancing the level of redundancy and preservation of data, the Information Technologies Division implemented the delivery of server equipment necessary for the organization of backup of virtual machines hosting corporate applications. On the updated platform, the transfer of virtual machines from obsolete solutions to a new virtualization site was performed, which made it possible to increase the volume of available storage, and also to enhance the productivity and fault tolerance of services.

The measures implemented ensured the reduction of risks related to the operation of obsolete technologies and equipment, and also enhanced the ability of the infrastructure to withstand peak loads and to recover promptly after incidents. As a result, a more predictable and manageable operating environment was formed, which directly affects the stability of business processes of the company.

Along with the development of the internal infrastructure, in 2025 the implementation of the project on the creation of a centralized wireless data transmission network Wi-Fi in the subscriber departments of Kazakhtelecom JSC was begun. The project provides for the connection of 63 departments throughout the territory of the Republic of Kazakhstan.

The introduction of the centralized network forms a uniform standard of connection and security of access. The authorization of users is carried out by means of SMS confirmation, which makes it possible to manage access in a centralized manner and to control the use of the network. For employees, a stable working environment is created, allowing the use of digital client servicing tools, and for visitors — convenient access to the company's services.

The implementation of the project forms a single digital environment in the company's points of presence and creates the basis for the introduction of additional servicing services and the automation of processes of interaction with clients.

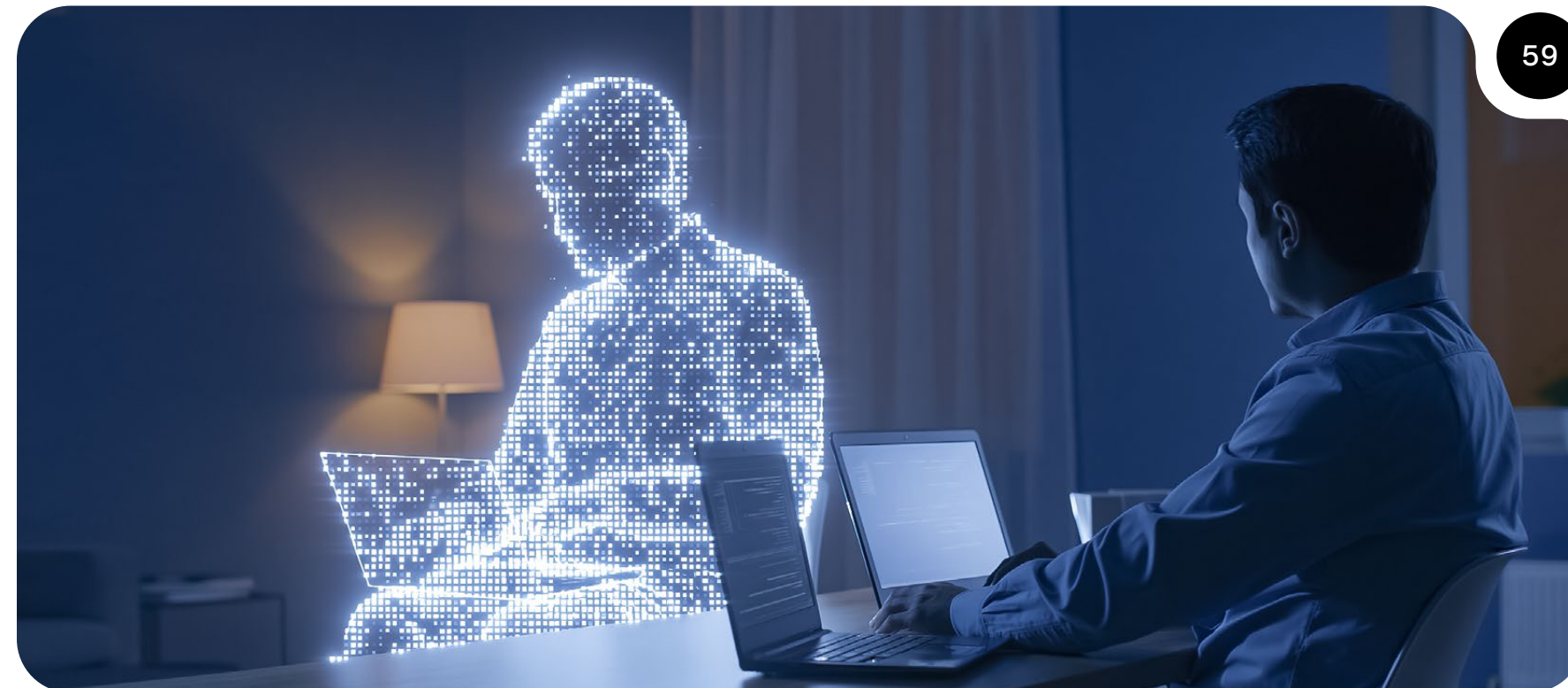
Creation of geo-reserved data processing infrastructure

In 2025, the Company implemented the project of geographically distributed computing infrastructure (geo-reserve) for enhancing the accessibility of critically important information systems. The data centres located in the cities of Astana and Akkol are combined into a single computing cluster with synchronous data replication. The distance between the sites exceeds 100 km, at the same time the architecture of the solution ensures minimum network delays necessary for the functioning of corporate information systems in real time.

The project created a fully redundant infrastructure at all levels — from engineering systems and power supply to network architecture, computing resources and data storage systems. Between the sites, independent high-speed communication channels are organized, eliminating single points of failure and allowing the carrying out of routine works without violation of the accessibility of services.

A key element of the project became the implementation of a geo-distributed computing cluster with synchronous replication of data between storage systems located at different sites. Such a solution ensures the identity of data and automatic recovery of operation of services in case of failure of one of the data centres without stopping information systems.

Additionally, an independent backup system was deployed, implemented on the “3-2-1” principle. On a permanent basis, automatic verification of the possibility of recovery of virtual machines is carried out, which makes it possible in advance to identify and eliminate potential risks. The integrated testings conducted confirmed the correctness of the operation of the architecture and compliance with the target accessibility indicators.



3.4.2. Development of architecture and management of IT services

Development of microservice architecture and managed DevOps processes

In 2025, the Information Technologies Division continued the transfer of corporate information systems to the microservice architecture. Earlier, a significant part of the Company’s IT systems was built on monolithic and proprietary vendor solutions, where any changes required integrated refinements and were accompanied by heightened operational risks.

Within the framework of the project, the decomposition of existing corporate applications into independent functional components — microservices, allowing autonomous development and updating of individual modules without impact on the operation of the entire system, was carried out. The Company refused a number of proprietary solutions, including Oracle ASAP, Amdocs and Siebel CRM. The phasing out of the Remedy system continues, while new solutions,

including Workforce Management, are initially designed and introduced on the basis of the microservice architecture.

At the same time, managed DevOps processes covering the maintenance, testing and deployment of applications were developed. Particular attention was paid to the issues of monitoring and observability of services, which made it possible to identify bottlenecks in the operation of systems promptly and to respond in a timely manner to potential risks.

The transition to the microservice architecture accelerated the introduction of changes and new functionality, reduced the dependence on vendor solutions and enhanced the resilience of services at peak loads.

Quality of the processes of operation and support of the company’s IT infrastructure

In 2025, Kazakhtelecom JSC underwent the annual inspection audit on compliance with the international standard ISO/IEC 20000-1:2016. The audit conducted by an independent certification organization confirmed the compliance of IT services management processes with international practices.

The standard ISO/IEC 20000-1 determines the requirements for the system of management of IT services IT Service Management, ITSM and covers

the full life cycle of services — from planning and provision to their constant improvement. The presence of the certificate confirms that the Company systemically manages IT processes, supports the stability and quality of services for internal and external clients.

Kazakhtelecom JSC received the certificate in 2023 and annually undergoes inspection audits to confirm compliance. The next full recertification of the IT services management system is scheduled for 2026.

3.5. Innovations

Satellite and international technology partnerships

In 2025, Kazakhtelecom JSC expanded cooperation with international technology companies in the area of satellite communications.

With Amazon Kuiper, a Master Service Agreement was signed, determining the conditions of placement, construction and connection of the ground infrastructure of the project in Kazakhstan with the use of the infrastructure of Kazakhtelecom JSC. Additionally, an exclusive distributor agreement on the provision of satellite communications services and user equipment in Kazakhstan was concluded.

In parallel, the Company continued interaction with Starlink on the issues of the development of telecommunications infrastructure, and also the elaboration of technical and commercial models of cooperation. Based on the results of negotiations, arrangements were reached on the provision to the Company of individual telecommunications services under the Starlink project.



Organization of the L1 channel transmission service

In 2025, Kazakhtelecom JSC organized the provision of the L1 channel transmission service by Alien Wavelength technology on the basis of its own backbone optical network OTN/DWDM.

The service makes it possible to transmit the customer’s optical wavelength with the use of the existing infrastructure without the installation of additional equipment. Within the framework of the service, a channel with a frequency of 100 GHz and a throughput capacity of up to 100 Gbit/s is provided for government customers.

The “Auyl Online” project

The “Auyl Online” project is aimed at the expansion of access to high-speed internet in rural population centres and the enhancement of the quality of digital infrastructure in regions.

By the end of 2027, it is planned to provide more than 1 million residents of rural areas with access to high-speed internet. The project covers 2,991 villages, 62 thousand houses, 2,011 schools and 3,029 state institutions.

The implementation of the project will make it possible to expand access of residents of rural population centres to digital services, including online education, telemedicine and government services. The project also reduces the digital divide between city and village and creates the basic infrastructure for the development of regions.