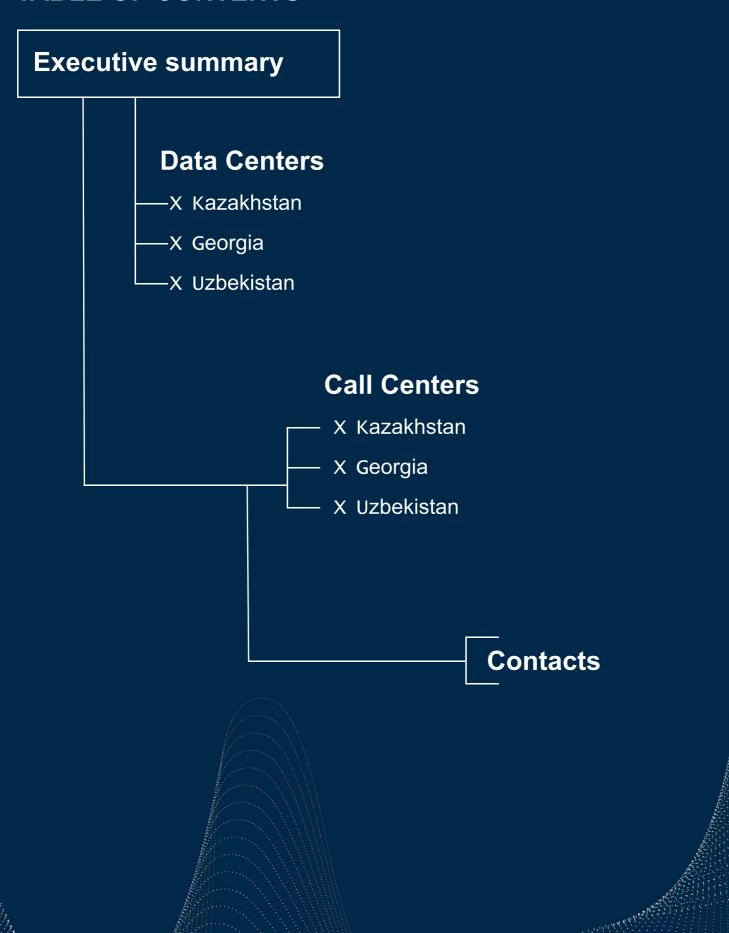
DATA AND CALL CENTERS REPORT

Central Asia and Caucasus regions

2023



TABLE OF CONTENTS





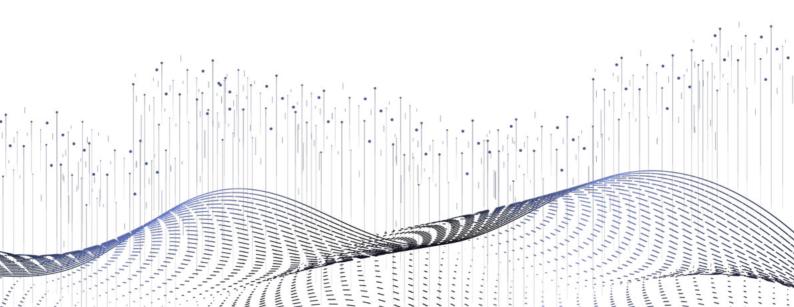
EXECUTIVE SUMMARY

At the heart of the 4th Industrial Revolution lies an unprecedented surge in data generation and consumption. Data, often dubbed the "new oil," is the lifeblood of 4IR technologies such as artificial intelligence, Internet of Things (IoT), and big data analytics. This surge necessitates the existence of robust and scalable data centers that serve as the nerve centers of this revolution. These data sanctuaries not only store and manage colossal volumes of information but also facilitate real-time processing, enabling the seamless functioning of advanced technologies.

In tandem with the surge in data is the unprecedented growth of e-commerce, an emblematic manifestation of 4IR's impact on the business landscape. The digital transformation brought about by 4IR has propelled e-commerce into the forefront of global trade.

Technologies like artificial intelligence and machine learning are enhancing customer experiences, optimizing supply chains, and personalizing marketing strategies. As e-commerce continues to redefine the retail experience, data centers play a pivotal role in ensuring the reliability, security, and efficiency of online transactions. The real-time processing demands of e-commerce platforms find fulfillment in the capabilities of modern data centers, fostering a dynamic and responsive digital marketplace.

As we navigate this digital frontier, the technology not only augments human potential but also reshapes the very fabric of our economic and social interactions.



EXECUTIVE SUMMARY

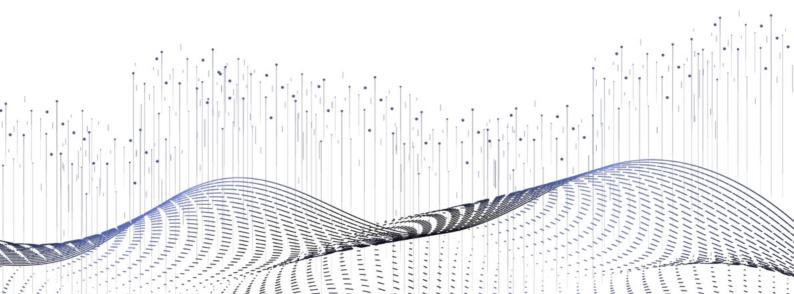
The Central Asian countries have a high potential to become leaders in the field of digitalization. Over the past few years, there has been a very active discussion, at forums of different scales as well as among high-ranking government officials, about how countries need to develop regional cooperation in order to maximize their full potential, since digitalization has become an integral part of economic development.

An article from Asian Development Bank mentions that digitalization can serve as an impetus for regional cooperation in Central Asia:

- 1. **Healthcare** When the pandemic made face-to-face meetings difficult, patients could consult with their doctors using telemedicine.
- 2. **Training and education** The pandemic has pushed entrepreneurs to develop online learning tools, and the readership of e-books and magazines available in digital libraries has also increased.
- 3. **Agriculture** To share best practices, Azerbaijan has offered training for digital leaders and managers on implementing changes in other countries of the Central Asian Regional Economic Cooperation.
- 4. Finance Georgia offered to share its experience of solutions for Small and Medium-sized enterprises in the field of e-commerce. The Georgian Innovation and Technology Agency (GITA) also offered to help create a regional ecosystem of innovations and startups, as well as organize training and networking for startups throughout the region. Kazakhstan and the Kyrgyz Republic also offered to host a regional hub for startups within the framework of the Central Asian Regional Economic Cooperation, and the Information Technology Park of Uzbekistan offered to organize joint incubation, acceleration of development and training for startups.

Kazakhstan possesses all the necessary elements for the development of data centers, including the presence of telecom operators and an established infrastructure for information exchange, both in the public and private sectors. As of Q3 2023, the size of the Kazakhstan market is estimated to be approximately 2,400 rack spaces.

Due to increased demand for data center services, companies are not only constructing new facilities but also enhancing existing ones. Modernization efforts are underway, thereby expanding the capacity for hosting equipment for both existing and new clients. Over the next two to three years, we anticipate a rapid increase in the number of rack spaces and the development of cloud services as well.



ABOUT DATA CENTERS

A data center is a physical room, building or facility that houses <u>IT infrastructure</u> for building, running, and delivering applications and services, and for storing and managing the data associated with those applications and services.

Data centers have evolved in recent years from privately-owned, tightly-controlled onpremises facilities housing traditional IT infrastructure for the exclusive use of one company, to remote facilities or networks of facilities owned by cloud service providers housing virtualized IT infrastructure for the shared use of multiple companies and customers.

Source: IBM.COM

DATA CENTER CLASSIFICATIONS								
	Tier I Basic Capacity	Tier II Redundant Capacity	Tier III Concurrently Maintainable		Tier IV Fault Tolerant			

WHY DATA CENTERS ARE IMPORTANT TO BUSINESSES?

In the world of business, data storage is a fundamental requirement, and for cost-conscious enterprises, transitioning from in-house server systems to third-party data storage in data centers represents a significant reduction in data storage expenses. Data centers are indispensable for companies as they enable swift and secure access to crucial information, with any disruption potentially resulting in customer loss and damage to their reputation.

Many organizations opt to relocate their professional applications to data centers as a strategic move to minimize the operational costs associated with maintaining their own servers. In the contemporary landscape, the significance of data centers has surged dramatically, primarily due to the escalating demand for data trading a valuable and costly resource in today's business environment.

TYPES OF DATA CENTERS:

- Enterprise
- Colocation
- · Cloud data centers
- Managed services data centers

KAZAKHSTAN DATA CENTERS

State of the market

Kazakhstan possesses all the necessary elements for the development of data centers, including the presence of telecom operators and an established infrastructure for information exchange, both in the public and private sectors. As of Q3 2023, the size of the Kazakhstan market is estimated to be approximately 2,400 rack spaces.

Between 2013 and 2015, a significant initiative known as the "Creation of an Internet server platform for providing hosting services to state bodies of the Republic of Kazakhstan" led to the establishment of 14 data centers. This project was executed by JSC "National Information Technologies" as part of the state program "Information Kazakhstan 2020."

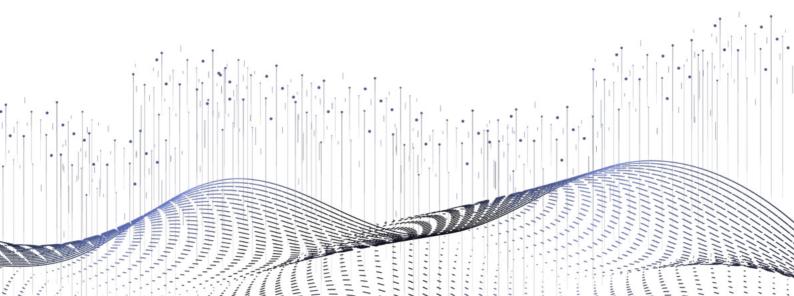
JSC "NIT" stands as the largest player in Kazakhstan's information technology market, also serving as the operator for the information and communication infrastructure of the Republic of Kazakhstan's "electronic government" (EGOV). With 22 years of experience in the industry and a presence in 17 regions, JSC "NIT" is a prominent entity in the field.

The following companies remain infrastructure leaders:

- JSC Kazteleport (Halyk)
- JSC National Information Technologies (NIT)
- JSC Kazakhtelecom
- JSC Transtelecom

Commercial data centers are mainly concentrated in two cities Almaty and Nur-Sultan, and the needs for "cloud" services in the regions of the republic are covered worse. Transtelecom JSC decided to rectify the situation by launching a network of seven data centers into commercial operation. The data centers were built by the company at its own expense and correspond, according to the company, to a fault tolerance level of 99.982%.

Kazakhtelecom also has a large number of customers of its data centers, most of them belong to the TIER 2 and 3 level and offer Colocation and Cloud Services. In total, there are 15 data centers located in the regional centers of Kazakhstan.



KAZAKHSTAN DATA CENTERS

State of the market

In the Kazakhstan market, there are more than 30 commercial data centers, with only two of them holding Tier III Design and Tier III Facility certifications. One of these certified data centers is the KazTeleport "Sairam" located in Almaty.

KazTeleport has been present on the market for more than 20 years, it is a subsidiary of Halyk Bank JSC, a major info-communication and cloud provider in Kazakhstan. Offers IT infrastructure for business: from renting communication channels to cloud services.

KazTeleport continues to expand its network of data centers. This year, the construction of another data center, "Ereymentau," in Astana will be completed. It will be certified as Tier III and will have a total capacity of 100 racks, with each rack capable of handling 7 kW to 14 kW of power. The estimated launch date for this data center is December 2023. This will be the third data center in Astana operated by KazTeleport, and they have a total of eight data centers across the country.

The following companies remain infrastructure leaders:

- JSC Kazteleport (Halyk)
- JSC National Information Technologies (NIT)
- JSC Kazakhtelecom
- JSC Transtelecom

A meeting convened on June 21st at Astana Hub, bringing together commercial data center operators and cloud service providers from Kazakhstan, along with representatives from the Committee on Telecommunications.

The outcome of this gathering was the establishment of the "Association of Data Center Operators and Cloud Service Providers."

This association has been formed with the primary objectives of improving industry regulations, advocating for the service-driven approach to IT service consumption within the country, cultivating a favorable investment environment in the sector, and addressing various facets of industry advancement.

Construction work has been completed in the existing Kazakhtelecom modular data center in Almaty, following the expansion. The total number of rack spaces in the modular center now stands at 168. The overall area of the modular data center is 180 square meters, with each rack having a power capacity of 8 kW, which can be increased if needed. It complies with the TIER II+ reliability level and has a high seismic resistance rating of up to 10 points.

Due to increased demand for data center services, companies are not only constructing new facilities but also enhancing existing ones. Modernization efforts are underway, thereby expanding the capacity for hosting equipment for both existing and new clients. Over the next two to three years, we anticipate a rapid increase in the number of rack spaces and the development of cloud services as well.

GEORGIA DATA CENTERS

State of the market

As the global business process outsourcing (BPO) market continues to expand, Georgia is emerging as a notable Eastern European outsourcing destination. Positioned strategically at the crossroads of Europe and Asia, coupled with its competitive business environment, Georgia is gaining prominence in the outsourcing landscape.

According to the World Bank's Ease of Doing Business Report (2020), Georgia ranks as the 7th easiest country to do business. The nation provides special incentives specifically designed for BPO and IT companies, fostering a conducive environment for business operations. These favourable conditions make it feasible for BPO businesses to enter the Georgian market and thrive successfully. As a result, Georgia is positioned as an attractive destination for outsourcing, leveraging its strategic location and business-friendly incentives.

The multilingual customer experience (CX) sector stands out as a highly developed segment within the BPO industry in Georgia. Established providers in this field offer services in over 10 languages, showcasing the country's proficiency in serving diverse linguistic needs. Georgia attracts investors with its access to a young, skilled, and multilingual talent pool. Major cities in the country boast around 574,000 individuals proficient in English, German, French, Italian and other European languages. To further enhance language skills among the local workforce, Georgia has implemented specialized schools focusing on English, German, and other European language education. This emphasis on multilingual education contributes to a workforce that is not only linguistically diverse but also highly skilled. Combined with competitive pricing, this multilingual and skilled workforce creates a favourable environment for hiring and conducting business in Georgia.

Georgia stands out with one of the most liberal labor codes, creating an attractive environment for BPO sector. Notably, work permits are not required, and citizens from 98 countries can stay in the country without a visa for a year. This flexibility simplifies the process of attracting highly skilled individuals for job openings in the BPO sector, drawing talent from neighboring countries within the region.

In addition to its labor-friendly policies, Georgia offers competitive business operating costs. The absence of minimum wage regulations is a distinctive feature, contributing to a workforce of 1.6 million people. Despite an unemployment rate of 17%, where 11.3% are individuals with advanced education, the country maintains competitive average monthly salaries in Customer Service (including all taxes) at 563 USD. This figure proves to be quite competitive when compared to labor costs in neighbouring countries, further positioning Georgia as an attractive destination for businesses, especially those in the BPO industry.

Georgia boasts high-speed internet and robust network connectivity, making it an ideal environment for BPO and call centre industries. Notably, the cost of a one-minute local call to a fixed telephone line is 0.8 cents, which is lower than rates in neighbouring countries such as Serbia, Bulgaria, Poland, Hungary, and Slovakia. This cost advantage further enhances the attractiveness of Georgia for BPO and call centre businesses.

UZBEKISTAN DATA CENTERS

State of the market

Finding a place in a highLquality reliable commercial data center in Uzbekistan now is not an easy task. The most important problem is energy supply. There are a lot of infrastructure providers in the country, but, as a rule, they offer exclusively vps (virtual private server) 4 separate servers with limited functionality for basic tasks. Uzbek companies prefer to place their IT equipment and services on their own sites, the level of which has grown significantly over the past five years. But this approach contradicts the global trend, according to which more and more customers choose a service model and use the services of commercial data centers.

The following companies remain infrastructure leaders:

- Uzcloud
- Airnet
- Comnet
- Uzinfocom

Uzcloud - The largest data processing center in Uzbekistan with a wide range of services ranging from Colocation and web hosting to cloud storage. Participates in the project to support the development of the digital state, providing the organization of government video calls on its technical platform.

Airnet.uz - provide virtual hosting services, reselling, VDS and dedicated server rentals, domain registration, and are also members of the TAS-IX zone. The equipment is located in a high-tech and reliable TIER-2 level Data Center in Tashkent.

Comnet - the data center has its own optical channels to the main TAS-IX traffic exchange point with the possibility of docking at speeds up to 10 Gbit/sec. The company has been on the market since 2003, has a wide range of additional services (IP TV, SIP telephony. hosting, virtual colocation server, static IPv4 address).

Uzinfocom datacenter is a technical platform for hosting information and communication infrastructure. Equipped with uninterruptible power supplies that ensure the operation of all systems and services. Currently, the data center hosts the websites of government agencies. Servers, equipment of the ZiyoNET Network, including the portal, servers of the National Information Search System are located in the Uzinfocom, servers of electronic payment systems.



CALL CENTERS

You will be surprised when you find out that the first telephone companies with call processing functions appeared more than 70 years ago. The first call centers appeared with the development of telephone communication, and today they are used in all spheres of activity, from government to commercial structures. Call centers allow you to expand the customer base and maintain contact with regular customers, analyze appeals, promote the brand.



Call-center is a division of a company or a separate organization that provides services for processing incoming and outgoing customer calls. In fact, it is a link in the sales funnel that provides feedback to the buyer of the brand's products. In addition, the expanded version of the call center also provides services for conducting opinion polls, various votes, promotions and consumer support.



WHY CALL CENTERS ARE IMPORTANT TO BUSINESSES?

- X The purpose is to promote the services of the customer company by expanding the customer base by consulting about the goods and services of potential buyers. Investing in such a center will allow you to take a stable position in the market, while forming a clear base of regular customers. Call centers also perform a wide range of tasks, the importance of which is very important for customer interaction:
 - X increase conversion to sales, increase the company's profit;
 - X attract new customers, help keep regular ones;
 - X improve the quality of service, work on brand awareness and audience loyalty.

KAZAKHSTAN CALL CENTERS

State of the market

The demand for call center services is caused by the desire of customers to expand the reach of the potential audience and provide uninterrupted feedback to customers. The choice of an outsourcing call center depends on the specifics and scale of the company. Retail usually uses a mixed model μ its own center and a third-party one.

The growth driver of the market will be the development of e-commerce and the need for companies to establish stronger ties with consumers. In Kazakhstan, the market of call centers is well developed, companies offer their clients a wide range of services: organization of a hotline, outgoing calls, search for new customers, updating databases, SMS-mailings, marketing research. Most of the head offices of the companies are located mainly in the city of Almaty, at the same time new companies are also appearing in the city of Nur-Sultan.

The following companies remain infrastructure leaders:

- 7LINE
- KazNetCom
- MM Contact
- Aspan

7Line is a welluestablished company in the market, and has a large number of customers among banks, travel agencies, online stores and service centers. In addition to the usual range of services, call centers also provide assistance in creating scripts for sales and can act as a secret buyer.

KazNetCom - the advantages of this company include the presence of a virtual office, a night operator, online reporting, a backup call center, 5 service languages, integration with CRM systems.

MM-contact outsourcing contact center is a multidisciplinary call center. You can learn more about our services and get acquainted with the price list by contacting the company's specialists. They work with many large companies in the field of IT, design, education, banking. The main services offered are mystery shopper, lead generation, backup call center, personal manager to increase sales.

Aspan is a round-the-clock system for providing telephone contacts on behalf of the Customer with his Clients, on the market since 1994. There is also extensive experience with large Kazakhstani and global companies.

Over the past couple of years, the load on call centers has increased significantly. Managers had to adjust the rules of work, introduce innovations in the field of customer service in order not to lose customers. In the future, there will be a tendency to actively use the services of commercial call centers of large companies working with mass consumers.



GEORGIA CALL CENTERS

State of the market

The most common services already provided from Georgia are multilingual voice and non-voice business process services, contact centers, IT, and architecture, design and engineering services (ADE). As the business expands,

- X Number of employees in offshore IT&BP activities reaches over 40 000;
- X Value added by IT & business services sector is 1.67 billion USD;
- X Export of services amounts to 2.56 billion USD.

In addition to its favourable business environment, Georgia provides special incentives to further support BPO businesses. One such incentive is the "FDI Grant," offering a 15% cashback on investment for the development of both material and immaterial assets and workforce training. To qualify for the grant, a BPO must make a minimum investment of at least USD 0.75 million and create a minimum of 200 new jobs, or 50 jobs if it is an IT company. The eligible activities for businesses to avail themselves of this grant include combined office administrative service activities (Shared Service Centres - SSC), data processing, hosting and related activities, architectural and engineering activities, software publishing, computer programming, consulting, and related services.

The following companies are notable in the sector:

- Majorel (Germany)
- Concentrix+WebHelp (USA)
- Georgian Service Group (Georgia)
- · K Call (Georgia)

Majorel is the largest company in the sector, operating in Georgia since 2016 and running 5 offices in 3 cities. It provides support to customers from the travel, e-Commerce, IT, digital media and automotive industries. Concentrix is an American business services company that specializes in customer engagement and business performance. With operations in Georgia, specifically based in Tbilisi, Concentrix is dedicated to assisting some of the world's leading brands in delivering exceptional customer experiences and achieving outstanding outcomes. The company's focus on customer engagement positions it as a key player in the business services sector, contributing to the success of its clients through effective and tailored solutions.

Georgian Service group, the local company with over 300 employees, provides customer experience services via chat, telephone and e-mail; It also offers IT support and application development, and managed services. Meanwhile, K Call Centre is Georgia's first 24/7 outsourcing contact center since 2016. Their services cover inbound and outbound calls, auto dialer, lead generation, database management, telemarketing, quality monitoring, CRM, and customer satisfaction surveys.

Operator	Town	Employees	Clients	
Majorel	Tbilisi, Kutaisi, Batumi	3000	>500	
Concentrix+WebHelp	Tbilisi	200		
Georgian Service Group	Tbilisi	300		
K Call	Tbilisi	50		

UZBEKISTAN CALL CENTERS

State of the market

The following companies remain infrastructure leaders:

- Nasvyazi
- Fledex

Nasvyazi - the outsourcing call center has been operating in the Uzbek market since 2010 and has extensive experience in telemarketing in the domestic market. In addition to working in the domestic market, there are projects in cooperation with Russian companies to provide information and advisory services.

Fledex - provides the service of creating a call center both on outsourcing and for private companies. It has all software and hardware (servers, computers, telephone headsets, as well as telecommunication equipment) organized for automation, control and accounting of telephone calls.

The advantage of the call center is the ability to automatically distribute calls (Automatic Call Distribution, ACD), it solves the problem of connecting a subscriber with the most qualified agent, and also ensures an even distribution of the load between agents. The company can also help with the selection of suitable equipment so that all the necessary parameters and specifications are met.







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