

## CASE STUDY: KAZAN INTERNATIONAL AIRPORT

Kazan International Airport is located 17 southeast of the capital of Tatarstan Republic (a federal subject of Russia). The site operates since 1979. At present, there are 3 terminals, over 50 parking units and two runways of 1.5 and 2.3 miles long. Total passenger terminals area exceeds 540,000 square feet. The airport provides regular lines to Urals, Volga region, Siberia, Krimea and Central Russia. Total capacity of all terminals exceed 2.5 million passengers per year; 40% of this amount are related to international flights to Middle East, Germany, Turkey, etc.

In 2008, a massive renovation of the airport has started within the 2013 Summer Universiade preparation program. For such a complex project, there was an urgent need for an experienced integrator having expertise in Russian regulatory system compliance and knowing all the specifics of customer's business



**Industry segment:**  
transportation  
**Customer:**  
Kazan International  
Airport OJSC  
**Parallax roles:**  
system design,  
integration,  
commissioning  
**Applications:**  
security,  
communication,  
public address,  
firefighting,  
business intelligence  
systems  
and infrastructures  
**Project dates:**  
2009 to 2013

### Investor, customer, contractors

The initial concept of airport renovation had been created by Fraport AG, Germany; another company from Bulgaria had got a contract to develop the project. OJSC Kazansky Giproniaviaprom had been contracted to monitor key processes and adapt the project to Russian regulatory norms. In 2003—2005 the same company had developed and administrated the construction project of Terminal 2 as a part of preparation to Millennium of Kazan in 2005.

The customer had chosen Parallax company to develop and perform the subproject of building the entire IT and engineering infrastructure on site. The company, an active member of Airport association and Transportation Security association, had been a master developer at a chain of local airports and air border checkpoints in Tatarstan Republic. Company's experts took part in planning, design and construction of Terminal 2 of Kazan International Airport in 2004—2005. It was decided to continue the successful partnership with another project — Kazan Airport renovation.

## Complex configuration

Parallax team members had taken the responsibility for specifying and developing the project documentation of IT and engineering systems at Kazan International Airport. The project documents had been approved by all airport services and government regulatory agencies. During implementation of the project, some higher level decisions had been sufficiently altered, for instance, the need for boarding bridges installation. All these changes have led to massive corrections of the entire set of project documentation — but Parallax team members carried out this complex task without sacrificing due dates.

In the beginning of the project, the key investor was some Bulgarian company. Then delayed financing started to occur, and the Government of Tatarstan Republic had taken a decision to fund the project from Republican budget. The role of general planner had been recommissioned to OJSC Kazansky Giproniaviaprom, and Turkish company Monotek has been chosen a general contractor.

Despite a very complex configuration of project management and certain difficulties caused by changing investor and general planner, Parallax team members had established project continuity, exact compliance with deadlines and highest possible level of quality.

## Project expansion

Since the airport was intended to handle international flights, a need for air border crossing point had emerged. In this subproject there was a different customer — Rosgranstroy federal agency, and Parallax company had to perform the full cycle of system planning and implementation. The main challenge here was to reach an optimum in compliance with various requirements of different agencies and organisations taking part in crossing point operation — Border Service of the Russian Federation, Federal Customs Service, Russian Agency for Health and Consumer Rights, Russian Service for Veterinary and Phytosanitary Surveillance and some others — covering communications, security and operational intelligence systems. Relevant divisions of the project had been approved at three different official levels — local (in Kazan), regional (in Saratov, Samara and Nizhny Novgorod), and federal (in Moscow).



## Some unexpected problems to solve

Part of the system designed by foreign engineers was not compliant with Russian regulatory norms. To establish compliance, a need for direct communication with vendors emerged. For instance, Honeywell programmers were asked to modify fire system software.

Some auxiliary spaces (server and telecommunications rooms) have not been provided with hard walls and flooring. There was a need to design and build relevant structural elements to support the elements of automatic firefighting system.

Corporate telephone network had to be extended with zero downtime of its existing segment. The key problem of new telecom system implementation was the need to align new and legacy portions of it.

Overall site planning of Terminal 1A had been performed by a foreign contractor and did not comply with requirements of Border Service of the Russian Federation for service premises. Similar problems in other major Russian airports were solved by moving border service areas into separate buildings. Such a measure was inappropriate for the customer.

Kazan International Airport, Terminal 1A operates since December 17th, 2012. Total area is approx. 215,000 square feet, estimated annual capacity exceeds 1.2 million passengers. 1A is provided with 19 check-in slots, 6 passport check gates and 4 boarding bridges.



During 2012, Kazan International Airport completed over 20,000 takeoffs/landings with nearly 1.5 million passengers.

**Solutions designed and implemented by Parallax crew in Kazan International Airport:**

	Security Systems	Firefighting systems	Communication systems	Low power operational circuitry
Terminal 2	2004			
Terminal 1A	2009—2012	2009—2011	2009—2012	2009—2012
Air border crossing point at Terminal 1A	2009—2012		2009—2012	2009—2012
Terminal 1	2012—2013	2012—2013	2012—2013	2012—2013
Air border crossing point at Terminal 1	2012—2013		2012—2013	2012—2013
Perimeter protection. Security equipment	2011			
Air traffic control tower	2012—2013	2012	2012	2012

design      implementation      specification and customer approval

**Project results and customer benefits**

- The choice of system solutions and components for the whole set of customer’s tasks has been technically motivated and economically optimised.
  - All supplied systems are stable and reliable in operation.
- Parallax team had provided high quality installation, technical support and after-sales service.
- Top professional level, friendliness and attentiveness as well as industry and agencies specific expertise of Parallax team.
  - Joint effort of Parallax and OJSC Kazansky Giproiiiaviaprom led to full compliance of service premises with the requirements of Border Service of the Russian Federation. Some unique solutions developed in this co-operation had been approved at federal level.



We have worked in close cooperation with Parallax team that did a marvellous job for the airport. And certainly the success of the entire project is caused by their detailed knowledge of industry specifics, operational processes and relationships between different parties. All systems installed and integrated by Parallax specialists are working stable and flawless. This is a win-win combination.

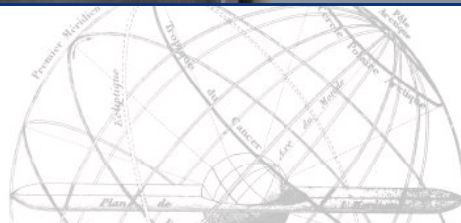
From operational and technical point of view, Kazan International Airport is one of the state-of-the-art sites of this kind. Considering our service specifics, it can be called comprehensive. This is the result of intensive and fruitful communication of our agency's representatives with Parallax team members. They have invested a lot of effort into our convenience and operational efficiency.

**Oleg Tarabrin,**  
*commanding officer of Kazan Airport checkpoint, Border Patrol Service of Russian Federation*

**Alexey Starostin,**  
*CEO of Kazan International Airport OJSC*

## FURTHER PLANS

At this moment, a unified situation centre is being planned in Kazan International Airport. The centre will absorb all data from various security and business intelligence systems of the airport including those at passenger and cargo terminals, Air Express railway station and site perimeter. The center is intended to provide adequate response in case of an incident or an emergency as well as to transfer situational information to relevant agencies. Solutions developed by Parallax team for the situation centre project facilitate further integration of new terminals into site infrastructure. Considering future expansion of the airport in prospect of FIFA World Cup—2018, such a feature is very useful and efficient.



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