

INNOVATIVE TECHNOLOGIES IN AIRPORTS

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Recently, new technologies have radically transformed all spheres of our life, and in terms of the development of innovations, one can already draw conclusions about the future of these spheres. As for the airports, they have also received some new innovative technologies, which we would like to tell in our report.

Inflight VR. Inflight VR, which creates virtual reality-powered (VR) systems for the air industry, has partnered with ground-handling service provider Aviapartner to provide immersive VR content to air travelers at the company's passenger lounge.

Inflight VR's virtual reality experience provides passengers with a headset loaded with immersive entertainment, including shopping, travel experiences, a 3D cinema and games.

The system will soon be available to air passengers as it can integrate into the existing in-flight entertainment infrastructure. Following several flights with Germania and Volotea, the headsets are being tested with Iberia until October 2020, with a potential roll out on this airline towards the end of the year. [1]

The use of virtual and augmented reality for training in aviation can increase the effectiveness of the process, while significantly reducing costs in comparison with traditional means. In Vantage's case, the airport company is anticipating reduced annual training costs, and millions of dollars mitigated in potential accident risk and lost revenue [2].

Airport Robotic. Various airports, worldwide, are making use of robots that are helping airport officials interact with passengers and provide with assistance at the airport. Moreover, airports across the world are engaged in conducting trials with robots, in terms of providing information, guidance, and entertainment solutions to passengers.

Additionally, robots have been introduced for cleaning, as well as security services. The increasing number of robots being used in airports, worldwide, is likely to drive the growth of the market in the future. The introduction of advanced technology robots to improve airport services is expected to lead to enhanced customer experience, in the years to come.

Key market robotic trends. Currently, the airport security segment has the highest share among all the segments. Airport security is one of the biggest concerns faced by airport officials, worldwide. The rise in terrorism across the world has led to airport officials taking extra precaution and being highly focused toward airport security.

To prevent any unwanted incidents, airports around the world have taken a step further and have started the testing of autonomous robots, which is expected to help security officials provide adequate security at the airport.

Airports, such as Hamad International Airport and La Guardia Airport, have started deploying security robots to provide the next level of airport security. The robots come equipped with an in-built facial recognition system, cameras, and sensor. They can measure

pulse rate remotely, and thus, detect suspicious persons, credit cards, fake currencies, abandoned objects, and explosives, without disturbing the passenger flow at the airport terminal. [3]

Biometric Technologies. In connection with the growing passenger flow (that was before, and hope, would be after Covid-19), one of the challenges for the aviation industry will be how to deal with the growing demand in the most efficient way and also at the same time avoiding or minimizing the reconstruction of airports and investments [4,5]. The solution to the problem of airport congestion is to improve and accelerate the technological operations of airports [5].

One solution to this problem can be biometric technologies that will not only accelerate the process of all pre-flight formalities but also increase the number of satisfied passengers, and at the same time increasing the level of security in such processes. Biometric technologies such as technologies used for identifying and confirming the person, based on the characteristics of biological, morphological and behavioral features. The main advantage of the use of biometric technologies in transport is to enhance transport security, they can also be used for: access control, video surveillance, fare collection, therefore, smoothening the flow of passenger traffic [6,7]. Using biometric data, the passengers, airlines, airports, and countries will be able to efficiently and safely manage passenger flow, and the process of processing passengers will be accelerated by a rate of twice the current amount. To implement biometric technologies at the airport, it is necessary to understand at what stages of the process the use of biometric technologies will enhance the flow of passengers.

The advantages that the application of biometrics provides are obvious: ensuring the safety of passengers and the functioning of airport structures; free movement between the departure area and other departments of the airport; the automation of screening eradicates queues; simplification of service by eliminating passports and boarding passes.

Thus, we can conclude, that new technologies are rapidly appearing in the airport, and there is high probability, that some of the listed innovations would be included in the basic airport fixtures in the nearest future.

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