Airports and Augmented Reality

A new world of information and interaction is opening before our eyes

aertec SOLUTIONS
Aerospace & Aviation

EUROPE
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Augmented Reality is an enriched view of reality that incorporates additional relevant information about what is currently being viewed, through a digital device.

LAND SIDE

Support

Guides passengers through the terminal indicating the fastest route from where they are to their departure gate or any other point of the building.

Maps

Generates and displays themed maps based on the preferences of the passenger and then superimposes them over the real environment.

Customising

Displays customised information about flights and interacts with the passenger's screen to keep them informed.

Alerts

Displays information about the shops and restaurants in the airport when you pass by them, including specific offers.

Accessibility

Improves accessibility for the passenger by translating instructions in real time in their own language.

Interactivity

Displays tailored information about the passenger environment, including text, graphics, video and audio.

Maintenance

Supports more effective maintenance of the terminal by providing relevant information on processes and/or services.

Remote assistance

Remotely assists operators who must act (repair, update, modify) on any element of the terminal.

Wayfinding

Wayfinding Apps are those most commonly in use in today's airports.

They guide the passenger in his or her way inside the airport to the destination (gate, restaurants, shops, toilets, security...) using prompts on the mobile screen, which are superimposed over the real image of the airport that the passenger is viewing.

AIR SIDE

Big Data

Shows relevant data on everything existing in the airport: vehicles, processes, people, etc.

Instructions

Superimposes instructions and docs relating to operations tools over images of the environment. Provides remote assistance, showing procedures, regulations, instructions, graphics or recommendations about processes.

Collaborative environment

Enables collaborative work between operations teams and their managers or supervisors.

Identification

Identifies vehicles and people on the platform and indicates their level of access and skills. Displays and analyses the approach route of the aircraft indicating whether it is correct or not.

Aircraft routes

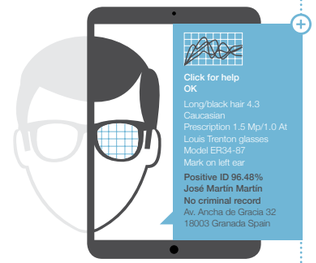
Displays the most efficient and safe routes for the movement of each vehicle on the platform, depending on its status.

Analysis

Allows you to identify the contents of containers of goods or luggage without opening them, optimising management and minimising errors.

Airport security

The possibilities that Augmented Reality offers for security are of vital importance: both facial recognition of people and the ability to bring together the information authorised by passengers will very soon be commonplace. In an airport visited by thousands of people daily, the identification and assessment of risk allows you to act with greater effectiveness and/or take preventive measures. In some airports Augmented Reality is already being tested in combination with artificial intelligence systems to identify people and recognise suspicious patterns or behaviour.



Interactive, real-time information

Remote control towers

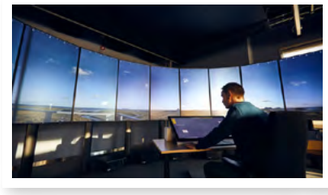
Remote control towers allow you to direct air traffic from one airport remotely with full guarantees of efficiency and security. They allow you to visualise everything that happens in real time, zooming in on any event on the screen, and obtaining additional information on the projection screen itself. If it were not for Augmented Reality, remote control towers would just be a video recreation of an airport.

The first were installed in the airports of Örnsköldsvik and Sundsvall (Sweden).

A curious fact

Did you know?

Norway will manage up to 15 airports with remote control towers using *Augmented Reality.*



Devices

Augmented reality glasses

These are used to show images of the user's environment, incorporating and integrating digital information that provides additional relevant data. The movement of the glasses is perceived by a sensor that allows the system to add digital information to the physical environment displayed through the glasses. It is an individualised display system.

Screens

Screens (smartphone, tablet, monitor...) operate using a camera as a display device in the environment. Digital information is superimposed on what appears on the screen. Initially the devices used tracking sensors (digital compasses and GPS) that added markers to the environment displayed. Later the use of systems (ARToolKit library) allowed the adding of digital information in real time. Today, visual tracking systems (SLAM or PTAM) are used for follow-up (portability and lower cost).

Spatial projection

Uses digital projectors to display additional information on physical objects. There is no screen associated with each user, which enables collaborative work. The spatial projector has no limit in resolution or screen size (which does affect other devices). The projection system allows you to incorporate more projectors to expand the area of vision and even display a 360-degree environment (e.g. remote control towers).

United Kingdom >>> London City airport (LCY) will control its air traffic from a distance of 120 kilometres

Benefits for the airport

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