Optimising time-to-FLY and enhancing airport SECurity

Result in Brief

Project information

FLYSEC

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Pioneering methods and technologies to keep air passengers safe while improving their experience

Today's rigorous airport security measures are effective but can result in long queues, increased waiting times, passenger dissatisfaction and escalating costs. There's a need for more efficient security with convenience, faster and more secure border crossings, and an enhanced passenger experience at airports.

Improving the aviation security chain is one of the EU's research priorities. The International Air Transport Association (IATA) and the Airports Council International (ACI) have also joined forces to improve the journey from curb to boarding and realise their joint vision of smart security.

The EU-funded FLYSEC project addressed the EU's calls for better security and aligned with the roadmap and recommendations reflected in the IATA/ACI Smart Security programme. “FLYSEC facilitates the programme’s three main principles specified under smart security: strengthened security, increased operational efficiency and improved passenger experience,” says project coordinator Dr Stelios Thomopoulos.
Novel concept for airport security

Project partners developed and demonstrated an innovative, integrated and end-to-end airport security process for passengers. To do so, they enabled a guided and streamlined procedure, from landside to airside and into the boarding gates. This method facilitates risk-based screening to achieve a measurable increase of throughput at airports. “For the very first time, FLYSEC offers an operationally validated innovative concept for end-to-end airport risk-based security,” he notes.

The project team integrated new technologies on video surveillance, intelligent remote image processing and biometrics, combined with Big Data analysis, open-source intelligence and crowdsourcing. It also repurposed and integrated in the FLYSEC solution existing technologies such as mobile application technologies for improved passenger experience, and radio frequency identification for carry-on luggage tracking and quick unattended luggage handling. “The deployment and integration of new technologies and the repurposing of current solutions will lead to a risk-based security paradigm shift,” adds Dr Thomopoulos. “The improvement of passenger facilitation and customer service will bring security as a real passenger service into the airport of tomorrow.”

Smart security for tomorrow’s airports

The project delivers promising and enabling technical solutions that will be further developed for a closer-to-market technology readiness level. These include computer vision analytics, artificial intelligence and machine learning algorithms, and on-the-fly identification and screening techniques. FLYSEC’s risk-based security framework and technology is being expanded to cover land, sea and air in an integrated manner through the EU-funded TRESSPASS initiative.

“Risk-based security implemented in FLYSEC fully reflects the high standards the EU stands for in terms of fundamental values and principles in human rights, privacy and ethics,” stresses Dr Dimitris M. Kyriazanos, FLYSEC’s technical and ethics manager. By applying smarter and non-discriminatory security, the project’s solutions “avoid treating all people horizontally as potential suspects by avoiding discrimination and questionable practices still applied in several airports worldwide, and focus on the real-time perception and fair, unbiased analysis of actual risks.”

The consortium successfully tackled the problem of risk-based airport security. “Ultimately, FLYSEC demonstrates the value of risk-based security in terms of efficiency of security checks and security check lines, uncompromised level of security along with passenger satisfaction and experience at airports,” concludes Dr Thomopoulos. “We offered proof that a smarter, fairer and more ethical security model based on analysing actual risks exists and can be applied within the airport environment, effectively challenging the status quo that seriously compromises passenger experience.”

Keywords

FLYSEC, airport, risk-based security, airport security, passenger experience, smart security

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