

HORIZON

The EU Research & Innovation Magazine

ICT

Long airport queues could soon be a thing of the past

15 December 2016

KEY THEME: OPEN INNOVATION

by Helen Massy-Beresford

New tools could help travellers get to the airport at the best time to avoid long lines. Image credit: Pixabay/ MichaelGaida

Getting to the airport without delay, choosing the fastest-moving queue at security and taking the quickest route to your gate may soon be par for the course for airline travellers thanks to technology that uses personalised data and crowd simulations to streamline people's journeys from their home to the gate.

Dr Halid Hrasnica, of Eurescom in Heidelberg, Germany, said the aim is to reduce people's travel time. 'Because we're not really able at the moment to cut the travelling time in the air, the only way is to reduce travelling time on the ground. I usually travel from Frankfurt and leave home 2 hours and 45 minutes before the flight. If I had reliable information I could leave 45 minutes later.'

Eurescom is coordinating the EU-funded DORA project, which is developing a tablet and smartphone app to help travellers plan every stage of their journey.

'The idea is to collect the information needed to guide travellers from home or their starting point, to the airport, and through to the gate,' said Dr Hrasnica. 'When you start your journey you'll get messages of options that might be better – valuable information about traffic situations, tram, bus or train options or disruptions at the airport.'

The app should also put an end to wandering through an airport looking for the right check-in counter or luggage drop, as it provides passengers with navigation information on the best routes to these points and to the departure gate, as well as information about delays or the shortest security queue to join.

The team is currently discussing what form the business model will take but Dr Hrasnica expects that airlines, travel agencies, cities and regions looking to provide an extra service to passengers or airport businesses keen to know more about who is walking past their doors could pay for the app, rather than passengers.

For the moment the team is focusing on providing information on the journey itself while respecting the data privacy rights of users, but Dr Hrasnica sees potential for teaming up with other providers, such as car-sharing schemes, to offer travellers even more options when they land. They plan trials in Berlin, Germany, and Mallorca, Spain, from June 2017.

Another service, BizTweet, is already in operation and gives personalised real-time updates via social media to smooth passengers' journeys and improve communication between airports and their customers.

Passengers tweet their flight number to an airport-branded Twitter account which BizTweet is monitoring and automatically receive immediate up-to-date flight status information in reply, allowing them to plan for any delays.

Paul Brugger, the founder of TIC, the Ireland-based company behind the technology, used to work in financial services, where banks make overnight decisions on accounts based on data. BizTweet takes this idea of making data-driven decisions in real-time and combines it with social media to operate in the transport sphere.

'It's data-driven, so it's very targeted,' said Brugger. 'The technology is relevant to many sectors but it is the real-time side of things that made it more applicable to travel.'

The Issue

Europe currently lags behind the US when it comes to the number of start-up companies valued at more than USD 1 billion, known as unicorns.

As part of a move to stimulate funding for innovative companies, the EU has [earmarked EUR 3 billion](#) under its Horizon 2020 research funding programme for high-tech small- and medium-sized enterprises (SMEs) based in the EU or associated countries.

The funding is designed to help businesses ready their innovative products or services for the global market, creating European jobs.



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Airports pay for the service, with the cost depending on the size of the airport, but BizTweet cuts down dramatically on the resources needed to reply to customer queries individually, Brugger explains.

BizTweet is already in use in several major airports, including London City, UK, Dubai, United Arab Emirates, and Melbourne, Australia, and the company expects to announce more airport partners imminently.

As part of its research, an analysis of 900 airports has shown that those using the BizTweet service consistently score 100 % on interaction with customers, Brugger says. 'A lot of the airports we deal with would have been at 10 to 20 % before they used our service.'

Targeted marketing

The technology also opens up possibilities for targeted marketing, already in use in Melbourne and Dubai. Passengers may receive a discount offer for



'Before, at Frankfurt airport, there were a lot of passenger complaints about waiting times. That

suncream if they are flying to a hot destination, or a reduction for a restaurant in the part of the airport they will be departing from.

EU funding for the first phase of the project has allowed the company to research different markets, regions and sizes of airport to look at more closely, Brugger says. 'Our intention when we go to phase two is that it will allow us to scale up and get more people on board.'

Researchers are also coming up with crowd simulations to better manage passenger flows within airports, inspired by operational problems in Frankfurt airport caused by aircraft delays.

The EU-funded AERFOR project has created software called AMORPH.aero that provides near-term forecasts of passenger flows and cuts down congestion in Frankfurt airport, where its technology is in operation, according to Andreas Hofmann from Amorph Systems, the German company behind the project.

The system extracts data including flight schedules, how many passengers are on board an aircraft and any projected delays, and processes that data through a layout-based simulation engine which is updated every minute. This allows airport operators to know what effect a flight delay will have on passengers moving through different areas of the airport and to share that data effectively between different departments at the airport.

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Andreas Hofmann,
Amorph Systems,
Germany



New technology maps the passenger flow through airports and tells users where there is congestion. Image courtesy of Amorph Systems

To get the technology, an airport requires no extra hardware, Hofmann says.

A Boston Consulting Group study showed the system reduced waiting times at security by 20 % and allowed the airport to process 10 % to 15 % more passengers with no extra staff, according to Hofmann.

'Before, at Frankfurt airport, there were a lot of passenger complaints about waiting times. That has been dramatically reduced,' he said.

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