

PASSME sets out four steps to heaven

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European researchers produced four outcomes for smoother and faster door-to-door journeys. *Ben Vogel* reports

The three-year Personalised Airport Systems for Seamless Mobility and Experience (PASSME) project officially ended on 1 June after a final showcase event at Amsterdam Schiphol.

A team of 12 partners, co-ordinated by Sicco Santema of Delft University of Technology (TU Delft), delivered four principal results with the potential to shave an hour off the average door-to-door air journey. PASSME was funded with EUR4.7 million (USD5.5 million) from the EU Horizon 2020 framework programme.

PDF

A real-time Passenger Demand Forecast (PDF) system deals with congestion by predicting the flow of travellers in the airport terminal, 30 minutes ahead of time. PDF was tested at Amsterdam Schiphol and Hamburg international airports, using sensors (Wi-Fi, Bluetooth, and video) or Internet of Things-enabled personal devices to detect and track passengers in real time.

The system “contributes real-time information for airport services” by allowing airport staff to tailor resource allocation precisely, Santema explained to *Jane's* before the final PASSME showcase on 29 May. PDF can also deliver live flight information and mobile applications directly to passengers, helping to ensure they reach the departure gate on time.



Hamburg Airport in Germany implemented the PASSME Experience Lounge. (PASSME)

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Managing bag flows

Another breakthrough from PASSME is a passenger-independent system for managing the flow of baggage, inside and outside the airport. Door-to-door baggage delivery services have an important

role to play, Santema indicated, as a means of decoupling the passenger journey from baggage flow.

PASSME tested three types of baggage decoupling: for hold baggage, hand luggage, and duty-free shopping.

Hold bags can be taken from their owners at home, or at railway stations, car parks, hotels, or cruise ships; this has the potential to shave 40 minutes off the average one-way journey and deliver an improved travel experience for passengers who can track the location of their bags by accessing a smartphone app.

In terms of duty-free goods, PASSME developed an e-commerce home delivery system. Researchers also noted the problem of excessive cabin baggage being taken on board an aircraft to be stuffed into insufficient space in overhead lockers; this results in a poor travel experience for those passengers who cannot store their hand luggage. As a solution, PASSME proposed technology to detect excess hand luggage as soon as possible in the passenger journey, and it also demonstrated the technical feasibility of enabling passengers to reserve overhead storage space.

Santema argued that this would make the boarding process faster. "By relating seat reservation to cabin baggage storage space, the advantage is that airlines will know exactly how many bags are being taken on board the aircraft," he commented. Airlines are always eager to exploit new ancillary revenue opportunities, so they may want to charge for this idea if they decide to pursue it, but cabin baggage reservations would entail a change to the check-in process: passengers would have to declare how much hand luggage they are carrying and how large it is.

In all, work by PASSME on luggage flow resulted in about 15 market initiatives for potential future commercialisation: Santema said this aspect of the programme was "very successful in terms of commercial exploitation", with interest from airlines (including KLM), as well as logistics companies such as DHL and start-ups, Bagpoint and Travel Light. "We didn't expect such a high number of industrial companies to join the research and commercialise the findings," he added.

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