

On track: building a future passenger flow management system

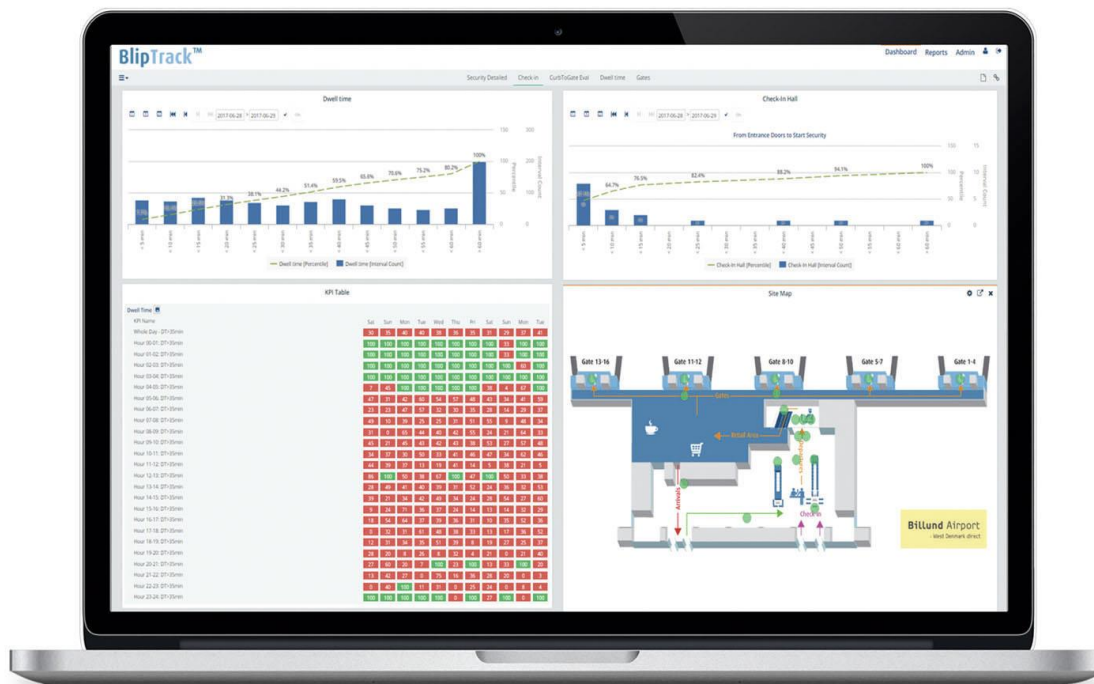
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Airports around the world are looking at solutions to optimise the passenger journey, within and beyond the terminal. *Marisa Garcia* reports

Amid rising traffic, airlines and airports are working with technology companies to improve passenger flow management through the introduction of sensors, biometrics, and smart software.

In October 2017, the International Air Transport Association (IATA) and Airports Council International (ACI) unveiled their NEXTT vision for the future passenger journey. NEXTT moves many common processes away from the airport by making check-in convenient by app. Bags would be dropped off at home for collection, and security checks would be possible in off-airport locations.

Ron Reed, SITA business intelligence portfolio director, explained that machines play an important role in the passenger journey, especially as it moves towards a largely self-service model.



Dashboard view of BlipTrack at Billund Airport, Denmark. (BlipTrack)

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“For a while now, there’s been a trend for prediction of passengers flowing through the airport without interacting with anybody, which is starting to come into fruition, but with that you still need automated machines or automated equipment such as self-service devices,” he said. “So, we envision self-

service bag drops, self-service e-gates at different points and at the boarding gates. It may evolve from work stations to self-service devices, but there will still be a certain footprint at the airport.”

Vision-Box agrees there remains a role for airports to host passenger processing equipment, even as the form and function of these machines evolves. Business Solutions Director Aaron Beeson suggests that, even in a streamlined process, passengers feel more secure if there is some validation that they belong where they are. It is a dynamic similar to the haptic reinforcement offered by software programs to reassure users that something is happening. An airport flow that would revert to walking straight from the kerbside to the gate, without any visible checks, could unsettle passengers who already feel some stress related to air travel.

“The focus for us has always been on biometrics,” Beeson explained. “The ability to identify who an individual is really creates trust and confidence in the travel process. The traveller still wants that same trust process across the airport journey, so there is a level of security implemented, but one that doesn’t put a burden on them. People want a confirmation that they have done something successfully.”

Vision-Box provides this confirmation in the form of hardware, he added. “We had one installation of our first “on-the-move” facial biometric solution, where the visual impact for the traveler – to tell them that they successfully passed that process – wasn’t in place. We noticed right away that we do want to have that going forward. We have clear visual indicators to tell the traveller what has happened.”

As the self-service model evolves, Reed thinks that biometrics will play a growing role in the process. “The infrastructure is there today to facilitate the future of biometrics: common use systems at the airport, self-service boarding gates, bag drops, and kiosks at different areas of the airport. We’re going to see them feature more biometrics used by passengers to facilitate the flow of the passenger journey,” he said.

Waypoint checks may still rely on 2D barcode scans. “The way to capture close to 100% movement of passengers on a more granular level is the 2D barcode,” said Reed, whose role includes product management of Big Data, Internet of Things (IoT), and digital solutions. “Passengers have to scan their boarding pass at security checkpoint. If they haven’t passed that area then airlines want to know that information in real time, so they can make the decision on whether to keep the flights or keep the seats or release them to somebody else waiting for the flight. We are seeing a strong demand in knowing where passengers are and that they are in a certain area at a particular time. The way to capture 100% of that is on the 2D barcode, either on a mobile boarding pass or paper pass.”

Beeson believes that form will follow function for passenger flow check machines, freeing more space at airports for revenue-generating activities.

“We’ll see smaller form factors, with common hardware technology today,” he said. “We see that already with common-use self-service applications: hardware that has a form factor that doesn't take as much of a footprint, or hardware that is more flexible to be moved around the airport and be more in line with operational needs. It’s in line with where people want to go in the future.”

Critical importance of software

Reed and Beeson say that software will play a critical role, ensuring that stakeholders have a working view of information gathered by a whole ecosystem of passenger flow management devices that will form the IoT for travel.

“What it comes down to is the power of the software,” Beeson said, “connecting to different stakeholders in one piece of equipment. To the degree that this can be delivered by integrating new technology – especially leveraging the IoT from both a software and hardware perspective – it gives viable tools and solutions to the different stakeholders. In the past, that meant very labour-intensive activities, but now the ability of stakeholders to work together, by using different tools and technologies, means they have the opportunity make it more seamless.”

Reed agrees that technology is now delivering on its potential. “The words Big Data have been tossed around quite a lot in the past few years, but what we’re starting to see now are the benefits and the use-cases for having a Big Data portal platform,” he said. “This gives the industry the ability in the airport, where you have a variety of sensors and data that you need to capture, whether it’s biometrics, or Wi-Fi, Bluetooth, 2D barcode boarding passes – all of those need to be captured, correlated, analysed, and provided in some meaningful, insightful way to airport and airline stakeholders and governments. I think now we’re seeing a proliferation of IoT sensors and a variety of data sources, but there needs to be a way to capture that information and correlate it and marry the way that it is presented.”

SITA offers its AirportPulse platform as a cloud-based ‘day of operations’ business intelligence portal. It is starting to really become something the industry is interested in because data is key,” Reed remarked. “Our industry partners are looking for us to provide these solutions.”

The strength of software giving stakeholders an easily understood view of passenger flow, even extending off-airport, is a growing trend as the air transport industry moves closer to NEXTT, especially with the integration of multimodal transport.

[Continued in full version...]

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