

Greece the wheels

➔ **MICHAEL RUMPF, MANAGER OF BAGGAGE HANDLING SERVICES AT ATHENS INTERNATIONAL AIRPORT (AIA) IN GREECE, TELLS BARRY MANSFIELD ABOUT THE IMPROVEMENTS MADE THIS YEAR TO THE AIRPORT'S BAGGAGE MANAGEMENT SYSTEM.**



KEY FACTS

- ➔ It took about two years to see Athens' new baggage handling system through from idea to reality.
- ➔ The system can deal with about 10,500 bags an hour.
- ➔ An estimated 12% of baggage at Athens comes from transfer passengers.

Barry Mansfield: What exactly were you looking for when searching for technology partners to develop your new baggage recording system?

Michael Rumpf: We wrote the design specification for the system ourselves. We required a vendor that was flexible enough to develop the system according to our needs. In our tender we had the usual suspects, the big providers. But many of them were hoping to sell off-the-shelf systems and were reluctant to adapt any of the features. Athens, on the other hand, needed somebody with the software skills and the operational experience to develop a highly specialised system. In the end we recruited a Danish company, which was able to deliver exactly what we wanted.

It's not a legal requirement for you to use an electronic system?

Baggage reconciliation is an ICAO requirement but it's not mandatory to have an electronic system. Or, to be more precise, in the UK the electronic method is required, but not in the rest of Europe. However, it is an obligation for the airlines to ensure an aircraft does not depart with unauthorised baggage onboard. Whether you attain this standard manually or electronically is up to you. You can use any tool you want to help you achieve that goal. Previously we were doing it manually, using what we called the bingo card system. That means writing down and recording every bag manually.

How long did it take to build and implement the new system?

From the initial idea to completing the baggage management system, the tendering process, software development, and adapting some operational features, it took about two years to make it all a reality. It's a long-winded process. It

was launched on 1 February this year. Technology moves fast but we didn't have quite the same problem faced by T5 in London, where the project lasted so long that many elements were outdated by the time of launch. What we developed is very new. Our system is upgradeable, if the industry moves more towards RFID tagging, we can handle that if need be. Some elements were updated during the process to keep up with the latest standards.

What was the exact nature of the upgrade to your existing baggage handling system?

The new development is not a baggage handling system, but a recording system that we've put on top of the handling system currently in place. Our handling system has a capacity of around 10,500 bags per hour. We have around eight million bags every year going through the system.

It helps us to address some of the flaws that became evident after the terrorist attacks in the US. The status quo until then had been established by the 1988 Lockerbie disaster, when the Pan Am jumbo came down after a passenger checked in with an explosive device. The bag was originally checked in at Malta, flown to Frankfurt and screened, X-rayed too, but the device wasn't detected. Then the container was put on a Pan Am feeder flight to Heathrow, before being transferred on to the final flight.

What happened is that one passenger checked in a bag that flew three times, without actually boarding any of those flights. ICAO's move to stop international flight departures with unauthorised baggage on board was a security system based on the philosophy that no terrorist will target a flight when the passenger himself or herself is physically

on the aircraft. Since 9/11, we know this is only half the truth. Baggage reconciliation is an additional security layer to the other security procedures implemented rather than the ultimate security system. However there are operational side effects, which are useful for airport operation if they are used in addition to the pure reconciliation purpose.

How does your new system prevent misallocation?

It creates a database of baggage that, when made available to all involved parties, can be a very effective system. A common problem in the air travel business today is that bags are mishandled and loaded onto the wrong flight. We knew that if we could improve this, we would have the perfect system. The tricky thing is that bags come in different shapes, and sometimes they will move, roll or tumble, which occasionally results in a misallocation. But if the bag has gone down the wrong chute or pier and is scanned with Athens' reconciliation system, the handler will see that this bag is headed for the wrong flight. He will receive a notification telling him to stop, it's the wrong bag, and he shouldn't load it. That's the first step.

And the second?

We can also identify the correct flight and handler – dispatching a message notifying them as to the precise whereabouts of the bag. This helps them to be proactive and find the right bags quickly. It's something that's commonly neglected by airlines and handling agents, and why we consider our upgraded setup a baggage management system rather than simply a reconciliation system.

Are other airports using similar techniques?

It was an idea born in Athens but with some inspiration from Frankfurt. The only people I really consulted were the stakeholders, as it had to be tailored to address their needs. When I say stakeholders, I'm referring of course to the airlines, handling agents and terminal operations – everybody had an input. Our initiative is not something that would work for everybody because some airports have a very high share of transfer baggage. Athens has a transfer share of 12% of the total baggage. London Heathrow has something like 60%. So they would likely develop this system differently from how we chose to.

How else do the changes help you to improve handling processes?

Oversized bags must be handled individually, and this is the case at every airport. There is always a limit as to how big and heavy bags can be in order to be processed by an automatic baggage handling system. Usually, if the passenger checks in oversized bags at a special counter, the relevant handler must be notified by trunk radio or telephone and told to pick up the bag from the baggage hall. Now we use our wireless handhelds to run the process more smoothly. We dispatch information about the bag to the handler



Athens needed a flexible system developer.

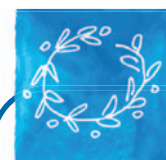
working on the flight. Everybody involved in this flight gets a pop-up message on their handheld terminal notifying them on the location of the bag, which remains on the device until the bag has been picked up and scanned again. This prevents

'A common problem in the air travel business is that bags are mishandled'.

handlers forgetting about the bag, which happens surprisingly often at the typical commercial airport.

And you are able to provide the airlines with advance information on baggage?

Yes. Athens' new system is able to send what we call BPMs, or baggage process messages. When bags are loaded onto a flight, we send a communication out to the airline declaring that a specific package is now on board. The data covers every bag, when it was loaded, who loaded it, where it is, the container where it can be found, and the position in the aircraft that it occupies, so they know at all times the precise position of their bags. That's great news for airlines with a hub operation. For example, if we have a BA jet down on our runway, four hours before it arrives at London Heathrow, BA's team at Heathrow will already



ATHENS 2004



ATHENS 2004

A highlight of Rumpf's career is AIA's successful management of the 2004 Athens Olympics event. During

the entire departure peak, no bags were short shipped, mis-sorted or loaded onto wrong flights. In addition to this there was no reported delay to aircraft departure because of baggage handling. This was achieved despite huge demand on the day of the Games' closing ceremony, when the load figures on the BHS took off and all systems were loaded to the maximum for the following three days (a total of almost 360,000 Olympic bags were handled; 66,000 alone on the peak departure day compared to a BHS capacity of 45,000 per day).



MICHAEL RUMPF

➔ A German national, Michael Rumpf joined Athens International Airport (AIA) in August 1999, as an expert in the design, construction and operation of baggage handling systems. This extends to 100% HBS (hold baggage screening) and manual hold baggage handling and screening. Before accepting his current role at AIA he worked as a consultant for Fraport AG, operator of Frankfurt Airport.

ATHENS INTERNATIONAL AIRPORT (AIA)

Since its official opening in March 2001, Athens International Airport (AIA), known to locals as Elefthérios Venizélos, has been the civilian airport based in Spata, Greece, serving the nation’s capital city, 12 miles to the east, and the region of Attica. AIA is the major hub and base for Greece’s state-owned carrier Olympic Airlines, and performs the same function for Aegean Airlines. It has become increasingly popular as a gateway to South-East

and East Asia, with frequent flights to the likes of Singapore, Beijing, Doha and Bangkok, also emerging as the largest European gateway airport to the Middle East, due to its close proximity to the region.

In 2007 the airport served more than 16 million travellers. Upgrades are planned according to a six-phase framework, with the final leg allowing the airport to accommodate as many as 50 million passengers a year.

know exactly what kind of baggage is loaded on the flight. They can make detailed plans in advance. Baggage reconciliation was invented for security but it’s another layer of security, at best, rather than the ultimate protection. But as a management system to improve baggage processes, it’s a helpful tool.

What about network security? What has AIA done to ensure its networks are secure from hackers and stable, from a business continuity point of view?

AIA has a policy that requires every application to be redundant. For example, our baggage management system has two servers. One is an active server and one is on standby. This means that if one server goes down, the other is primed to kick into action and take over automatically. But we also have a third server, which is situated

well out of the way, in case of a serious incident at either of the first two locations. This third server can be plugged in – it’s configured and ready – to perform those same functions. In effect, we have triple redundancy with our main servers.

As for our wireless network, we use that in conjunction with handheld devices to communicate with the baggage hold and the apron. But we have a wired network as a backup, so if we lose the wireless network then we have wired workstations that can be put into operation at once. We have a standalone network for baggage handling, and it’s not connected to the main airport network. Our IT team has worked closely with the contractor to make it very difficult to hack the network, as obviously that will always be top priority. ○

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