



Next Generation Passenger Screening

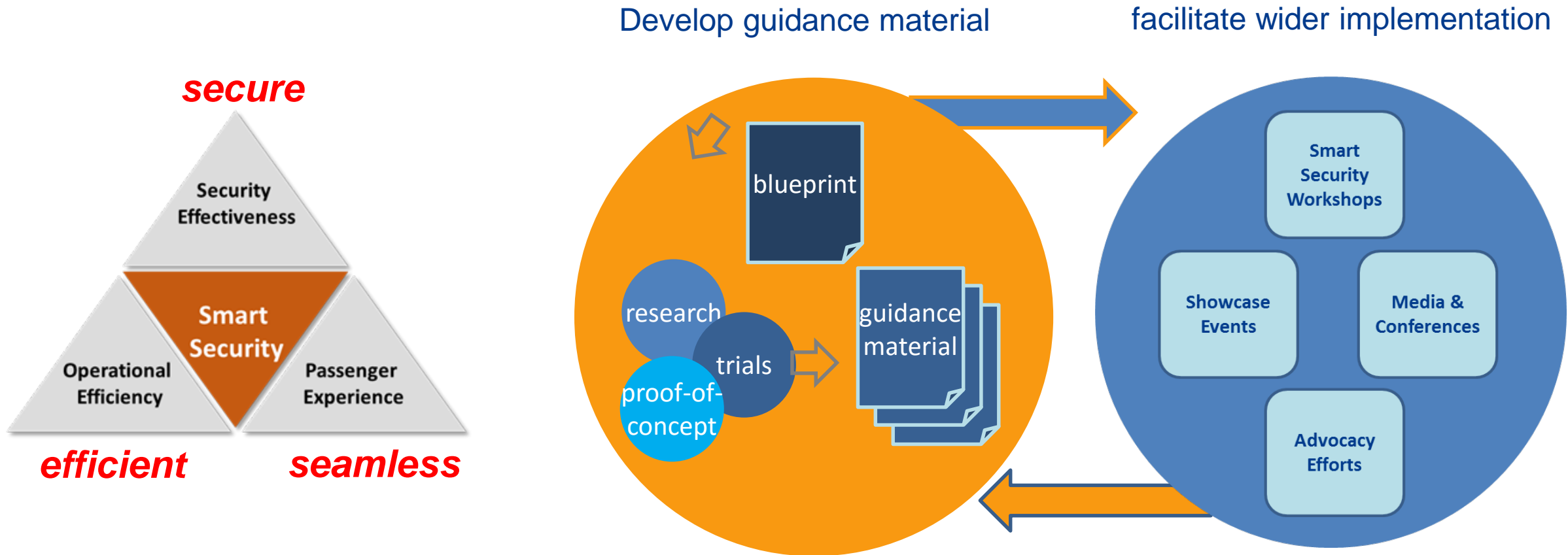
ADSA17
Boston, MA



Jeff Barrow, ACI World
Jbarrow@aci.aero
17 October 2017

Smart Security – A joint IATA/ACI initiative

Scope = passenger and cabin baggage screening

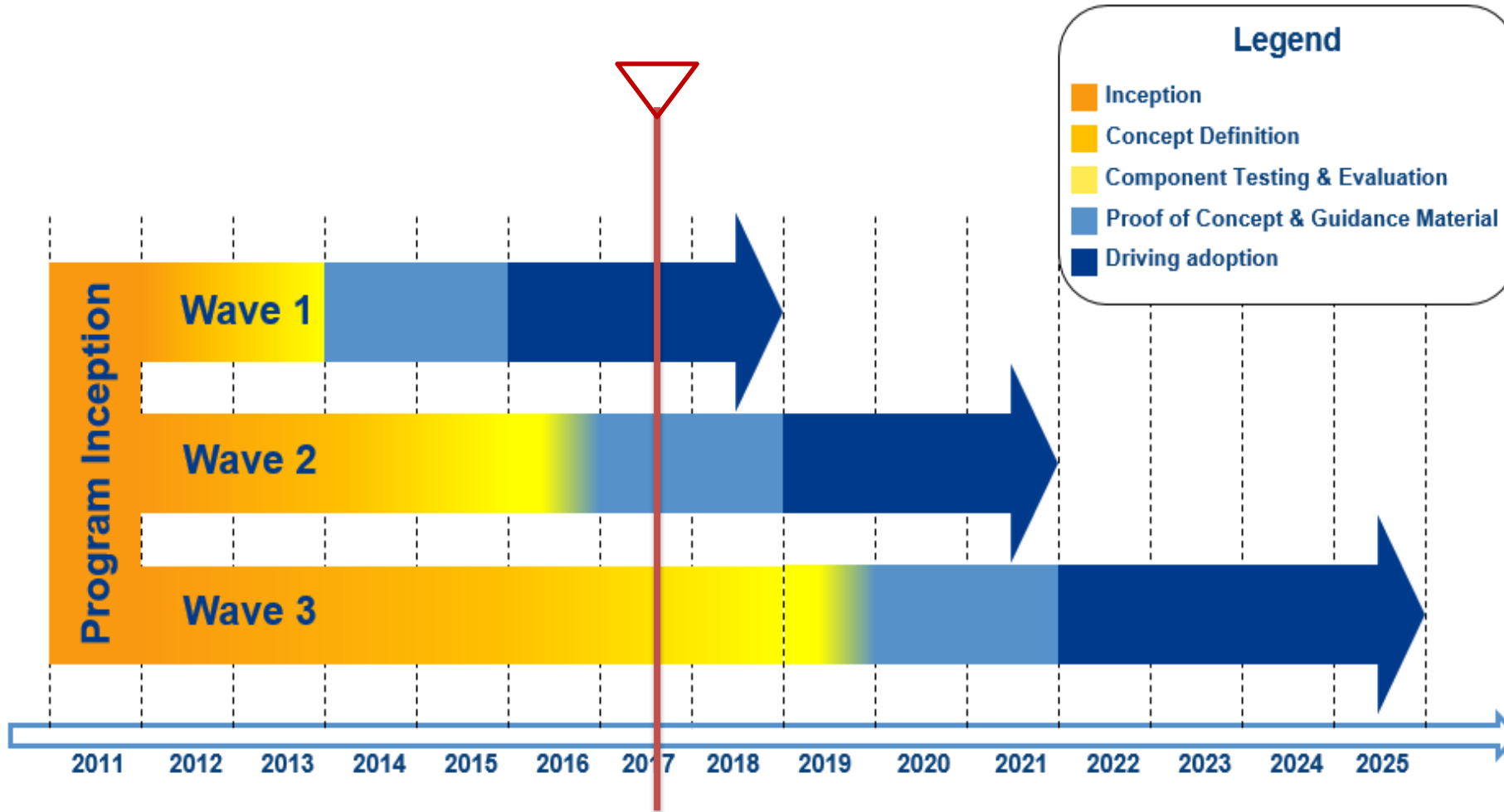


Developing New Technologies & Driving Adoption



- ✈ Standardization is the key to increase speed of adoption
- ✈ The greatest benefits will come from an integrated solution
- ✈ Reducing costs while balancing demand
- ✈ Improving the passenger experience AND the staffing experience

Evolution comes in waves



Many airports are implementing or have implemented first wave components. Solution development efforts have shifted towards the second wave, with the third wave still in concept stage.

Key principles



Smart Security is NOT about

- Implementing individual technology components or process improvements



Smart Security is about

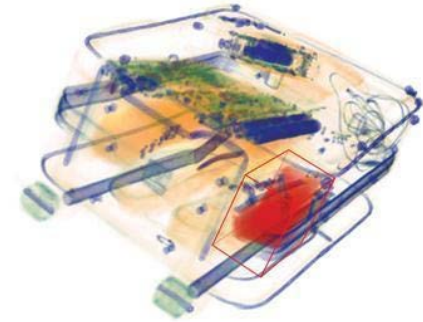
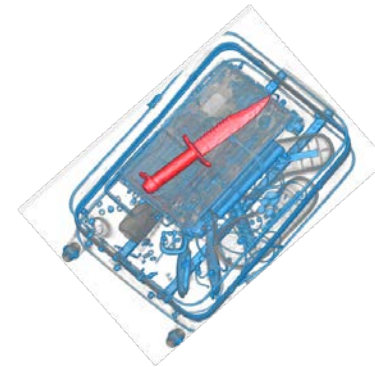
- Finding the optimal configuration of technologies, process improvements and risk-based concepts that delivers your desired security outcomes, passenger experience benefits, and business objectives (cost, staff, space, SLAs, etc.)
- Discovering your own path to success – it's not a one-size-fits-all !

The second wave is taking shape

Security Scanner and X-ray evolution

Security scanner

- Faster and better detection
- Parallel processing
- In the longer term will evolve to walkthrough, hybrid (many-in-one) systems



X-ray (CT etc.)

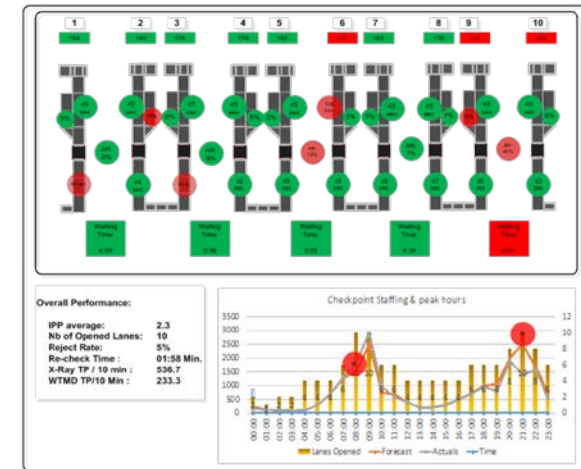
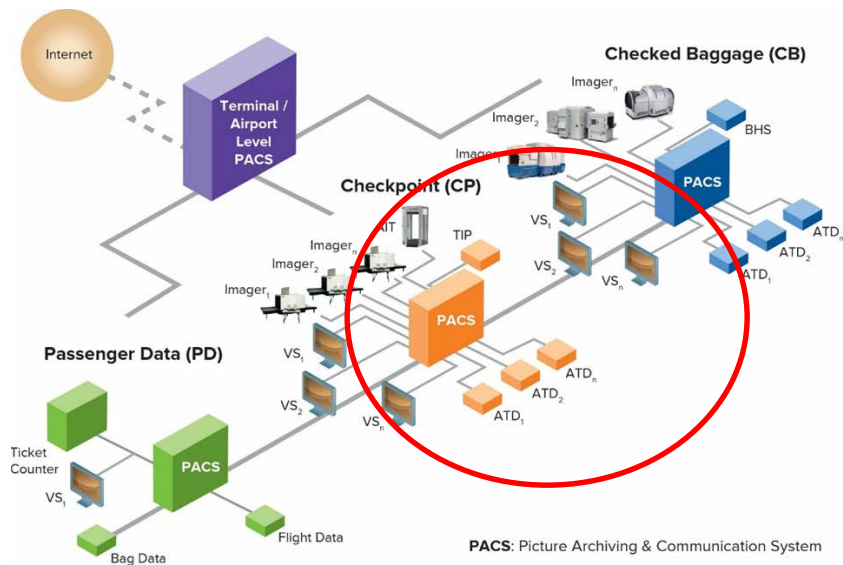
- No divestment, no blind spots (3D), automated explosive and other threat detection
- Challenges: false alarms, belt speed, certification, training

The second wave is taking shape

Open architecture and next generation CMS

Open architecture

- Hardware/software decoupling
- Remote control of screening equipment
- Real-time data exchange
- Challenge: manufacturer resistance

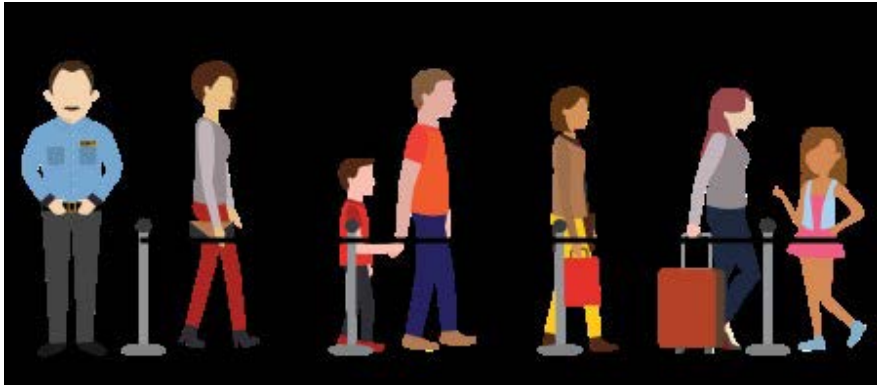


Next generation CMS

- Real time decision support and predictive data analytics, including dynamic staffing models
- SeMS integration

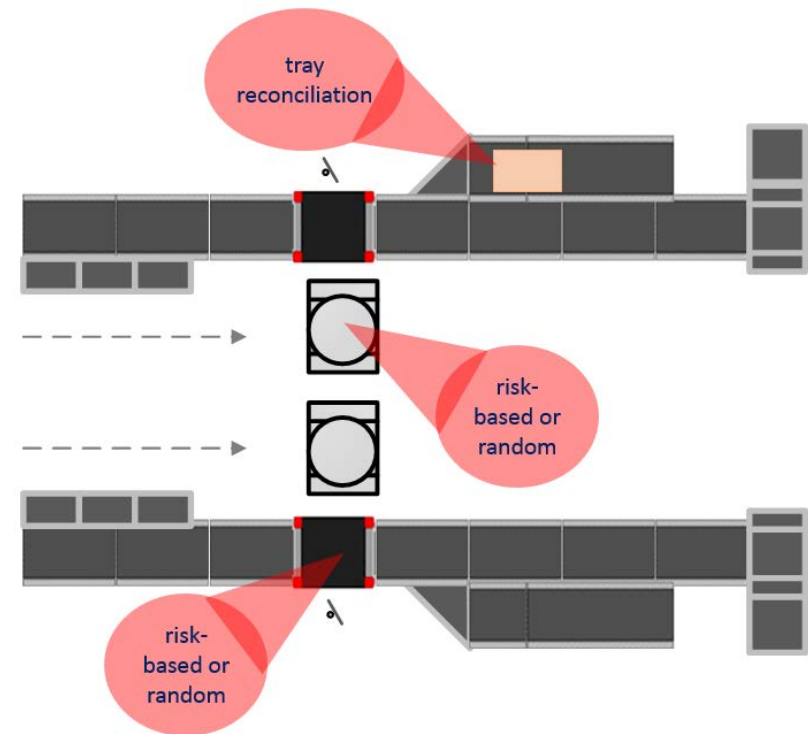
The second wave is taking shape

Human factors and risk-based differentiated screening



Human factors

- Dynamic staffing models
- Selection, training and performance management in function of technology evolution
- Passenger behavior detection



Risk-based differentiated screening

- Identity management
- Dynamic technology lanes
- Differentiation of high or low risk passengers

Achieving the next generation of pax screening



- ✈ It's as much about process and human factors as it is about technology
- ✈ There's a lot you can do right now
- ✈ It's not the new one-size-fits-all
- ✈ The greatest benefits will come from an integrated solution
- ✈ Success will depend on collaboration between stakeholders

QUESTIONS ?



This is just the beginning.
Work with us to deliver the future.



www.iata.org/smart-security
smartsecurity@iata.org



www.aci.aero/smart-security
smartsecurity@aci.aero

Smart Security Management Group

Providing guidance and direction, and setting priorities



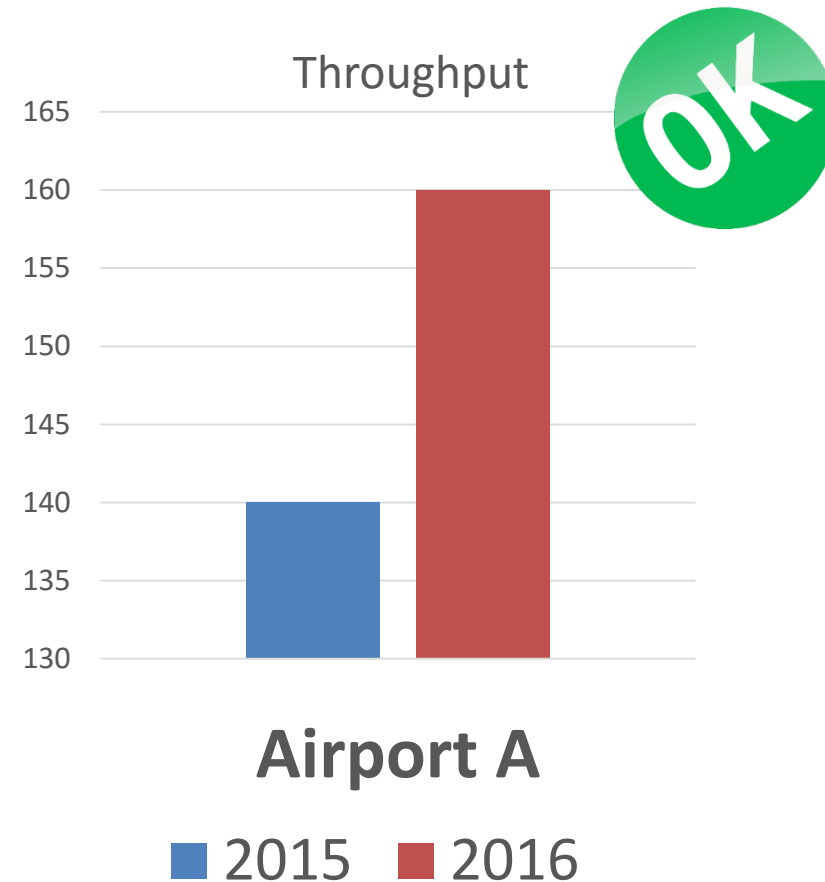


Key Performance Measures

The throughput fallacy ...

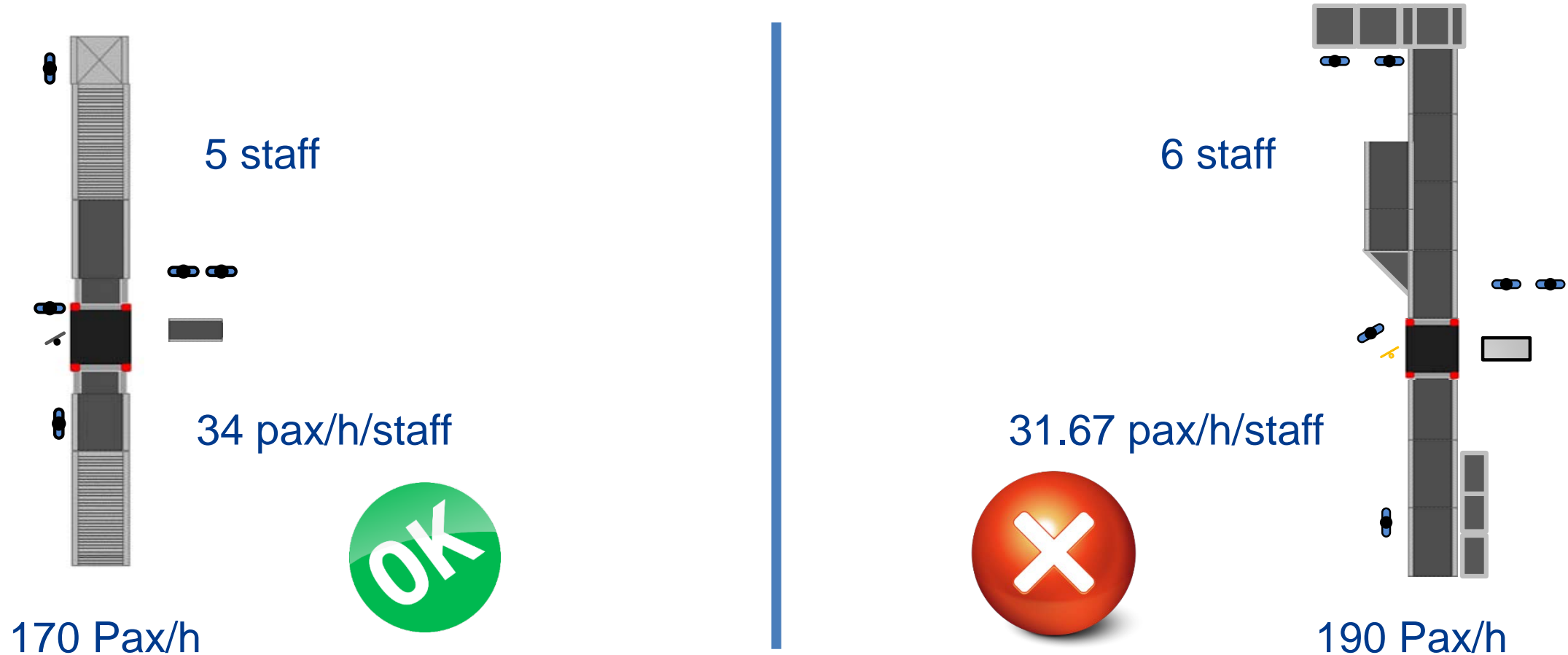
Checkpoint Efficiency Measurement

Benchmarking checkpoints?



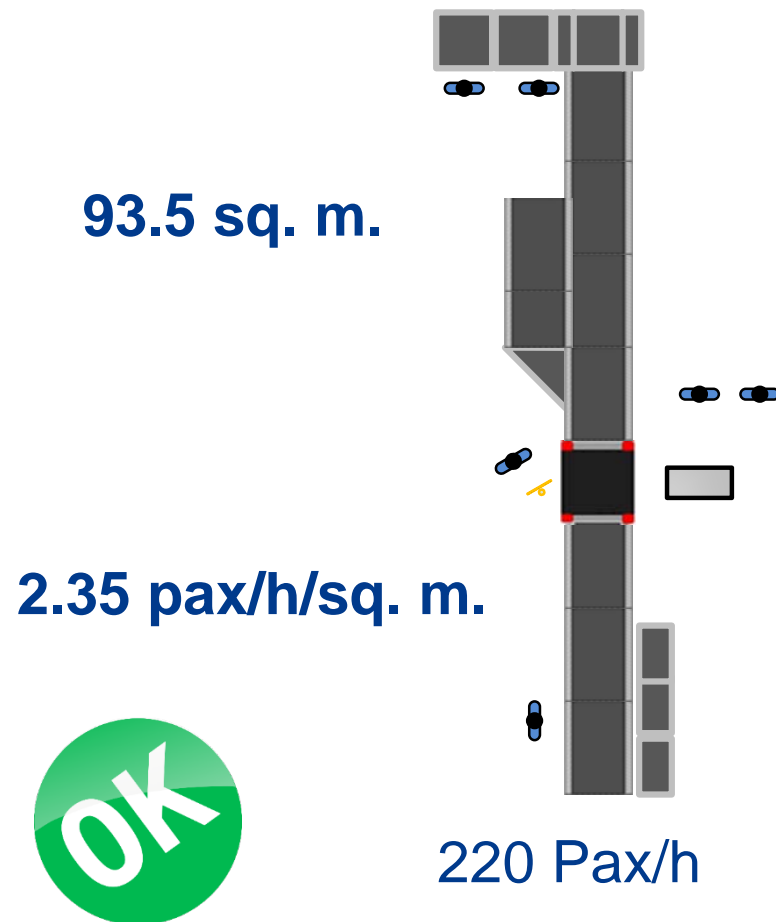
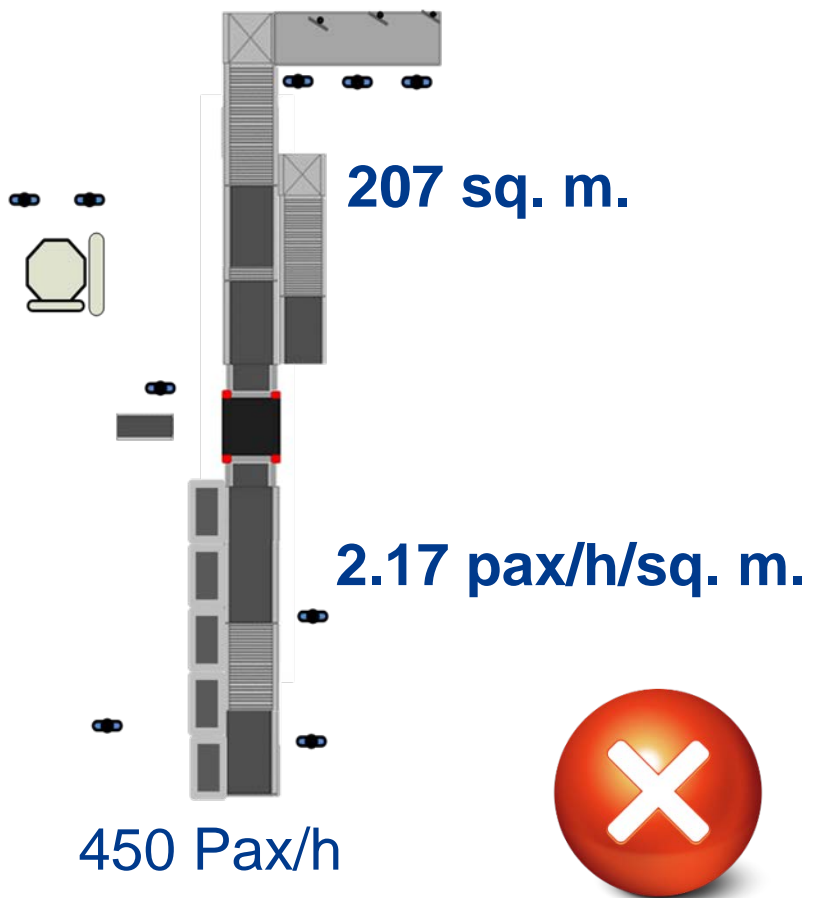
Checkpoint Efficiency Measurement

Throughput or Staff efficiency ?



Checkpoint Efficiency Measurement

Throughput or Surface efficiency ?



Checkpoint Efficiency Measurement

Staff efficiency or Surface efficiency ?

	Checkpoint A	Checkpoint B
Number of lanes	2	4
Sustainable lane throughput	400 pax/hour	200 pax/hour
Sustainable throughput per entire checkpoint	800 pax/hour	800 pax/hour
Checkpoint footprint	260 sq. m.	288 sq. m.
Staff per lane	10	4.5
Staff efficiency	40 pax/staff/hour	44.44 pax/staff/hour
Surface efficiency	3.08 pax/sq. m./hour	2.77 pax/sq. m./hour

Set your objectives!



Checkpoint Efficiency Measurement

Queuing time or total transaction time?



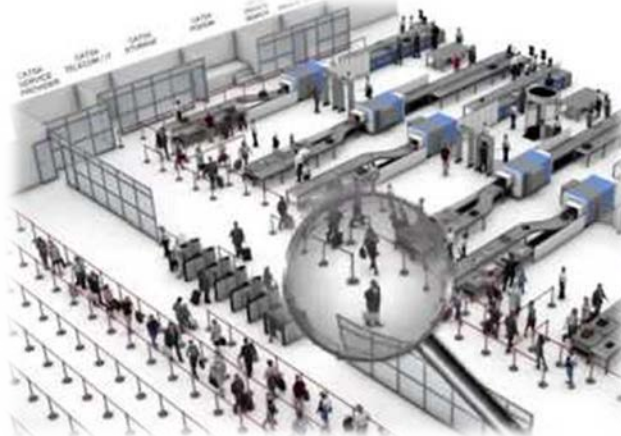


The current solution footprint

“Wave 1”

The first wave is building momentum

Access, preparation and recomposure



- Automated access
- Queue Management Systems
- Parallel loading
- Recomposure area



The first wave is building momentum

Passenger and cabin baggage screening operations



- Lane automation
- Checkpoint environment & design
- Centralized Image Processing
- Security scanners
- Checkpoint Management Systems

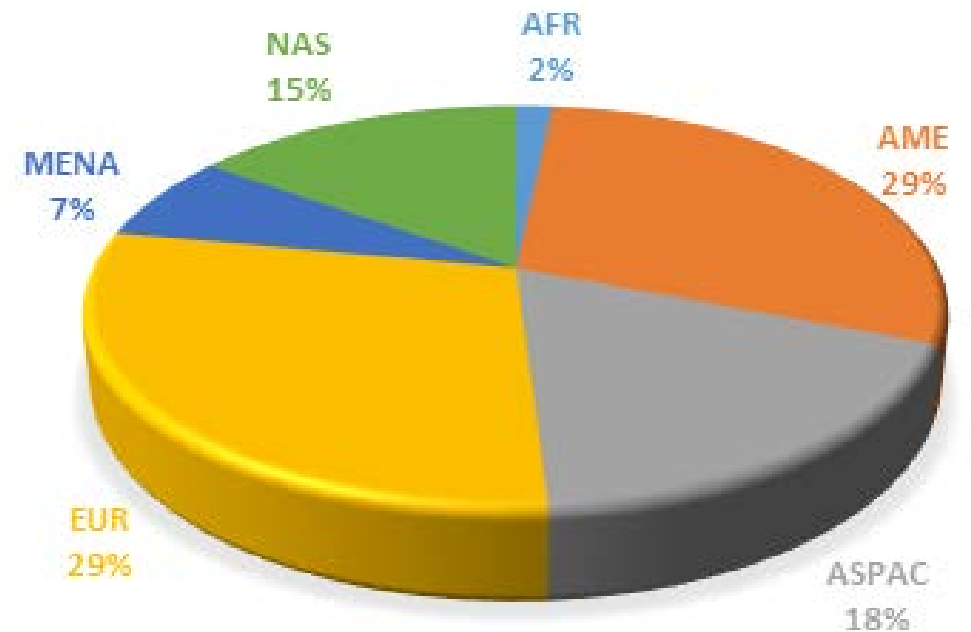


Adoption is spreading around the globe

.. and quickly accelerating



300 Airports = 80% of global traffic



It started in 2014 ...



AMS



BRU



LGW

London Gatwick

- ✈ One of the early adopters
- ✈ Results
 - 5000 passengers per hour capacity in each terminal
 - 25% increase in efficiency
 - >96% of passengers < 5mins (July 2017)
 - Space and staff efficiencies
- ✈ Now tops UK DfT survey on security screening satisfaction
 - 89% very good or good
 - Perception: 83% believes they queued for < 5mins



Gatwick tops DfT survey on security screening satisfaction

Saturday, September 9, 2017 by Mark Caswell



Gatwick airport has come out on top of a new survey by the Department for Transport, on the passenger experience of security screening.

The survey – which covered Gatwick, Heathrow, Luton, Manchester and Stansted airports during 2016 – asked travellers visiting the airports how satisfied they had been with their experience of the security screening.

A total of 89 per cent of Gatwick passengers said they were either satisfied or very satisfied, compared to 87 per cent for Heathrow, 83 per cent for Luton, 79 per cent for Manchester, and 78 per cent for Stansted.

Gatwick also scored highest when it came to perceived waiting times at the security, with 83 per cent saying they queued for five minutes or less, compared to 66 per cent for Luton, 60 per cent for Heathrow, 48 per cent for Manchester, and 41 per cent for Stansted.

Interestingly the average perceived security waiting times across the airports surveyed are broadly unchanged over the last few years, with 62 per cent of respondents saying they queued for five minutes or less in 2016, compared to 61 per cent in 2015, 62 per cent in 2014, and 60 per cent in 2013.

Now adoption is spreading quickly around the globe

Complete and partial “wave 1” implementations

Europe



- LHR
- CDG
- AMS
- FCO
- LGW
- DUB
- OSL
- BRU
- MAN
- STN
- MXP
- HAM
- LTN
- EDI
- GLA
- LYS
- TLS
- BRS
- BGO
- KEF

ASPAC



- ICN
- SIN
- MEL
- KIX
- BNE
- BLR
- AKL
- PER

MENA



- DXB
- DOH
- AUH
- AMM

Americas



- YYZ
- YUL
- YYC
- ATL
- ORD
- LAX
- DFW
- JFK
- LAS
- EWR
- MSP

Keflavik Airport (KEF)

The screenshot shows the top of a webpage from AIRLINES INTERNATIONAL. The navigation bar includes links for ANALYSIS, COMMENT, NEWS (which is underlined), CEO INTERVIEWS, KNOWLEDGE CENTER, and TOPICS. There are also social media icons for LinkedIn, Facebook, and Twitter. The main article title is "Smart Security benefits being realized in Iceland" with a sub-headline "Keflavik Airport has responded to rapid growth by revamping its security checkpoint". The date is "7 August 2017". Below the text is a photograph of the Keflavik Airport terminal at night, featuring a large, illuminated, metallic structure resembling a bird or a wing. To the right of the article is an "EDITOR'S PICK" section with three items: 1. "The future of the airline industry" (ANALYSIS), 2. "Drones: A new player on aviation's radar" (ANALYSIS), and 3. "Responding to structural change: Goh Choon Phong, Singapore Airlines" (CEO INTERVIEWS).

The airport has faced rapid growth, from around 2 million passengers in 2010 to almost 9 million in 2017.

As a result of the changes, passenger throughput has increased by around 20-25%, waiting times have decreased, and the adaptations have been positively received by passengers and airport security staff alike.

In July 2017, 92% of passengers waited less than 5 minutes, and 99% waited less than 10 minutes.

Keflavik Airport (KEF)



Johannesburg O.R.Tambo Airport (JNB)



- Automated entry
- Aim to cut wait times to 5mins
- Reduced need for full pat downs
- Reduction in the need to remove and switch on laptops
- Ability to better search bags aided by X-ray image

USA: airlines leading the way



Hartsfield-Jackson International Airport
22 lanes

Partnership with Delta

Newark Liberty International Airport
17 lanes

Partnership with United

Los Angeles International Airport: 7

Chicago O'Hare International Airport: 5

JFK International: 17

McCarran: 3

10-30% increase in efficiency



Hartsfield–Jackson Atlanta International Airport (ATL)



Best Airport Security Initiative



Hartsfield-Jackson Atlanta International Airport's security-related improvements were recognised with the 'Best Airport Security Initiative' award for its implementation of 22 smart security lanes, 20 of which were funded directly by the airport. The lanes help to speed up passenger processing and reduce waiting times at the TSA checkpoint, thanks to the use of multiple divestment stations and an automated tray return system. ATL was also the first US airport to commit to the ACI/IATA 'Smart Security' programme.

Brisbane (BNE)



- QF Lounge BNE
- Followed the 2015 MEL trial
- Results from MEL informed lane design

Singapore Changi (SIN) T4



From trial to reality:

- Automated Screening lanes
- Two parallel loading stations per lane
- New CT baggage screening technology
- Security Scanners and WTMD for passengers



Personal Electronics Devices What are we worried about?

PEDS – personal electronics devices

- ✈ Sometimes we have a setback as the threat picture evolves
- ✈ PEDs: what are we worried about?
- ✈ Why is it so difficult to find a solution?
- ✈ What can Smart Security do about it?

