THALES

AIRPORT SECURITY

Smarter, safer, smoother airport operations

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THALES

THE CHALLENGES OF AIRPORT SECURITY

Airports face two main challenges — building capacity to meet strong growth in passenger and freight traffic volumes, and providing rock-solid security assurances for complex airport operations managed by multiple players.

More than
3.6 billion
passengers in 2016
6.7 billion
in 2032
16 billion
in 2050[1]

Worldwide
100,000 flights
a day[2]

A global commercial
fleet due to double to more than
40,000 aircraft
by 2032[3]

Steady growth in the airport security market to reach an estimated
$12.8 billion
dollars in 2023[4]

1. Airbus, Boeing, International Air Transport Association (IATA)
2. Air Transport Action Group (ATAG)
3. Airbus, Boeing
4. Global Market Insights Inc., January 2017

THE CHALLENGES OF AIRPORT SECURITY

The growth in air traffic is an enormous challenge at every stage in the air transport value chain. Airports need to handle ever larger volumes of passengers and freight and meet ever stricter security and safety regulations. At the same time, terrorism — but also drones and hackers — are real threats that can be disruptive for airport operations.

As nodes in the air transport network, airports play a crucial role. Airport operations are key to the overall security and safety of the air traffic infrastructure, the passengers who use it and the data streams that make it works. Countries' entire economies are dependent on the performance of the air transport system.

New procedures and technologies, and security protection for new integrated systems, are critical to an airport's ability to optimise operations. They are the only way for airports to combine efficiency — in terms of capacity utilisation, cost structures and environmental performance — with the highest levels of security and safety.

A COMPREHENSIVE APPROACH FROM AIRPORT SECURITY AND SAFETY TO SMART AIRPORT

Thales is a world leader in air traffic management, avionics, airspace surveillance and airport security, and a valued partner for all the stakeholders in the civil aviation sector.

With a full range of products, systems and services, we offer complete, integrated solutions tailored to each airport's needs. Thales airport security solutions are modular, scalable and intelligent. They are designed from the outset to accommodate new procedures and technologies as they emerge.

Thales solutions meet the needs of airport operators, security services, regulators and airlines and are ideal for existing systems as well as new airport projects. They provide end-to-end security management of airport infrastructure, operations, data, passengers and personnel to boost overall operational efficiency.

SMARTER…

AIRPORT OPERATION CONTROL CENTRE

Thales has developed a unified integration platform to make airport systems management smarter and more efficient. The innovative Airport Operation Control Centre (AOCC) is a complete, modular solution designed to overcome the complexity of centralised airport operations management and meet the safety and security requirements of all the stakeholders involved.

Built around a middleware layer based on an Enterprise Service Bus (ESB) and a Service Oriented Architecture (SOA), the platform seamlessly integrates the many applications used to manage airport security and operations (Special Airport Systems - SAS). It provides a complete picture of the situation that helps airport decision-makers to coordinate routine operations more effectively.

The intuitive web-based interface centralises disparate datasets from different airport systems completely transparently for the user, with standardised commands and display formats for all applications. The solution also includes advanced decision support tools that can be crucial in a crisis situation.

This powerful process management, supervision and optimisation solution using intelligent data processing efficiently handles airport operations and alerts, monitors activities in real time and optimises infrastructure utilisation and personnel management.

THALES GOES FURTHER

Thales is closely involved in SESAR 2020, a large-scale European programme where airports, airlines, technology partners are working together to shape a modern, sustainable and smart air transport industry. Thales contributions to the programme include its AOCC platform as a core component of the Total Airport Management (TAM) concept. By collecting accurate information in real time, the AOCC allows all airport stakeholders to work together with maximum efficiency. The approach delivers measurable value to airport operators, helping to inform their strategic roadmaps and improve efficiency, increasing revenues while continuously enhancing the passenger experience.

SMART VIDEO ANALYTICS PLATFORM

The volumes of data generated by airport videoprotection systems are constantly growing and becoming harder to manage. To help operators detect security incidents as they happen, the Thales smart video analytics platform automatically extracts data from images in real time, using different video analysis algorithms to meet each type of operational requirement. Image data can be correlated with existing databases or fused with other data streams to prioritise reporting and escalate the most relevant events to security operators.

These smart processing algorithms optimise the performance of existing videoprotection systems, significantly increasing detection rates when abnormal events occur and allowing operators to focus on value-added tasks. Harnessing the power of artificial intelligence and advanced algorithms, and with cybersecurity built in from the earliest design phase, the Thales smart video analytics platform has the potential to fuse data from existing CCTV cameras with future IoT sensors to transform big data into smart data.

THALES GOES FURTHER

Thales has developed an algorithm to detect violent incidents in airports by analysing real-time video streams and identifying erratic movements. The algorithm draws on the latest deep learning technologies to determine which movements or gestures are liable to have been caused by an altercation.

SAFER…

PROTECTING INFRASTRUCTURE AND PEOPLE

Thales has extensive international experience as a Special Airport Systems (SAS) provider and integrator, and is helping to protect some of the world's busiest airports. This experience allows Thales to design the best solution in every case based on the specific needs and constraints of each site. Proven expertise in the design, installation and integration of up-to-date security and telecommunication systems, datacentres and complex networks is at the core of the Thales value proposition.

Security is an integral part of airport operations today. The AOCC also enables security management through the integration of video management solutions, access control systems, complex video analytics and investigative tools as well as intrusion detection systems. The user interface of the AOCC provides a unified user experience, with simplified and collaborative management of events through an intuitive Standard Operating Procedures (SOP) tool.

With the innovative security solutions and integrated platform proposed by Thales, operators meet security challenges more effectively, with a better incident detection rate and faster response times.

DATA PROTECTION

Airports rely on complex, closely interconnected information systems. Securing these systems is clearly of paramount importance, especially in an era prone to dramatic turns of events and ever more sophisticated cyber-attacks.

Users need to follow strict authentication procedures to access confidential data on airport information systems. But with more connected devices inside the airport, and ever more resourceful cyber attackers, security constantly needs to be stepped up. Data protection measures need to stay a step ahead of the threat at all times.

Thales is a major player in IT security with a focus on mission-critical systems. From cryptology to penetration testing, risk analysis, security audits, design of security architectures and rapid response in the event of an attack or crisis situation, Thales expertise spans every aspect of cybersecurity, critical information systems and resilient networks.

All our solutions are built around hardware and software components that guarantee the highest level of security protection. Our end-to-end approach to cybersecurity helps customers fight the most sophisticated cyber-attacks by planning and implementing the right protective measures and technical solutions at the right time.

◀ THALES GOES FURTHER ▶

Thales is the ideal digital transformation partner for airport operators. The Thales customer-centric approach hinges on defining a master digitalisation plan that takes into account the specific needs, constraints and ambitions of each customer. New technologies and legacy systems are seamlessly integrated to maximise the overall return on investment, avoid service disruption during implementation and guarantee the continuity that is crucial for all modern airport operators.

◀ THALES GOES FURTHER ▶

Drones are a growing threat for airports. A number of Thales solutions are available to manage the risks of a drone attack or a collision between a drone and a commercial aircraft. These systems can detect, classify, identify and neutralise unmanned systems of any type, relying on the portfolio of sensors, effectors, and command and control sysems developed by the Thales Group and extensively proven in operation.
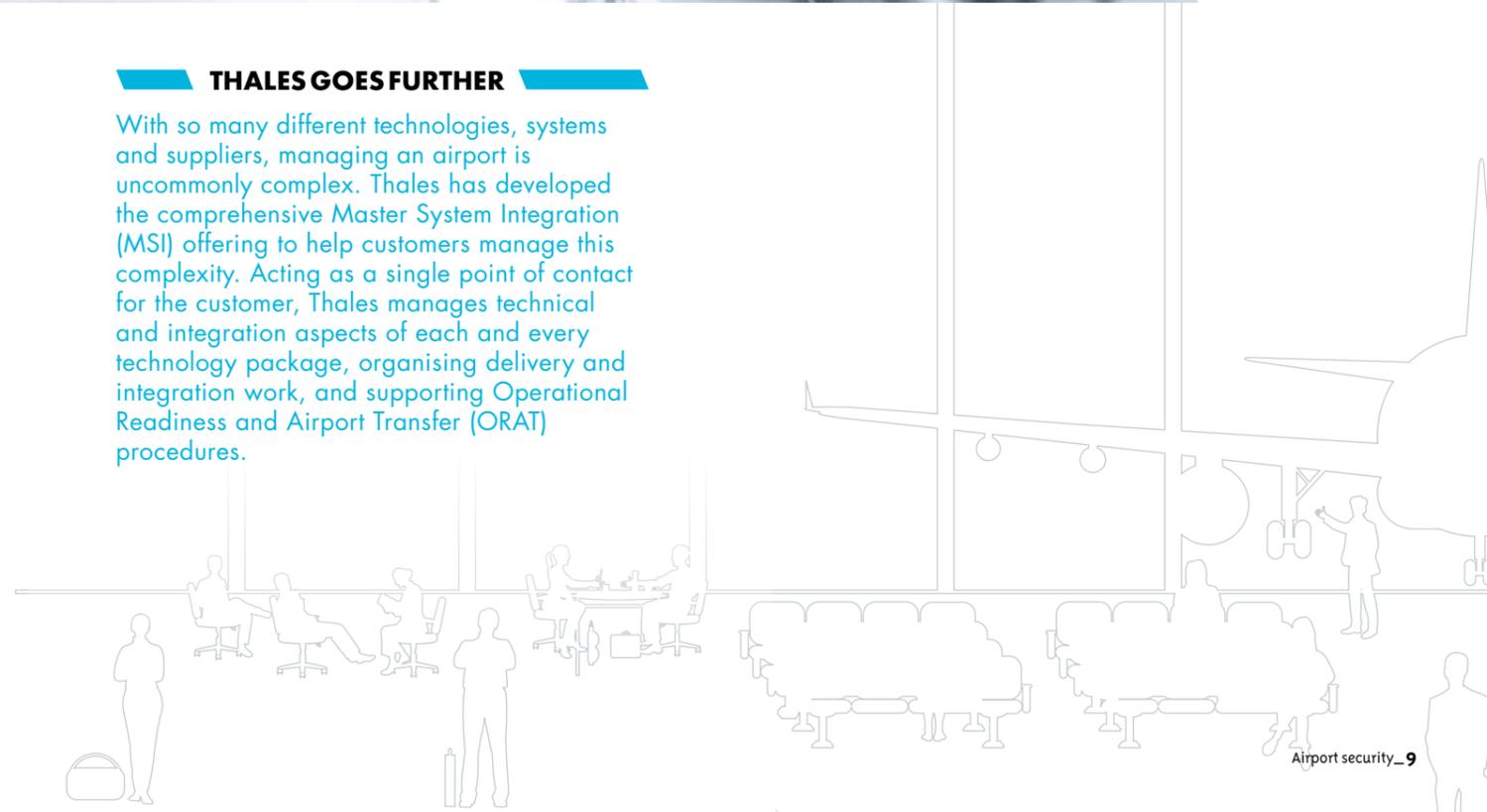
SMOOTHER…

PASSENGER EXPERIENCE

Passengers have ever higher expectations and airport operators are constantly striving to provide the best combination of terminal services, retail opportunities and seamless security to create the ideal travel experience. The modular AOCC Passenger Management Suite from Thales offers a clear and comprehensive approach to passenger management for modern airports. Fully compliant with IATA4 standards, it regulates and simplifies access to boarding areas while ensuring the highest levels of security at all times.

The AOCC Passenger Management Suite checks all the passenger information required by airlines, simplifying the boarding process and providing performance indicators so that operators can manage wait times, services and passenger flows to ensure a smooth passenger experience and continuously improve the passenger management processes. AOCC Passenger Management Suite includes Queue Management and Flow Management features to manage the quality of services at every stage.

THALES GOES FURTHER

With so many different technologies, systems and suppliers, managing an airport is uncommonly complex. Thales has developed the comprehensive Master System Integration (MSI) offering to help customers manage this complexity. Acting as a single point of contact for the customer, Thales manages technical and integration aspects of each and every technology package, organising delivery and integration work, and supporting Operational Readiness and Airport Transfer (ORAT) procedures.

WORLD-CLASS CREDENTIALS

JOHN F. KENNEDY INTERNATIONAL AIRPORT, USA

59 million passengers in 2016. Thales's Airport Operation Control Centre (AOCC) makes security and operations management safer, smoother and more efficient while simultaneously enhancing the passenger experience. Thales is also in charge of system integration, working with the different airport stakeholders, and providing airport security engineering services under a three-year contract.

DUBAI INTERNATIONAL AIRPORT, UNITED ARAB EMIRATES

83.6 million passengers in 2016. One of the largest international air traffic hub in the world. 10,000 access control points. 1,500 videoprotection cameras. Thales provided an ultra-modern airport communications and security solution offering the highest levels of safety and security.

BAHRAIN INTERNATIONAL AIRPORT, BAHRAIN

8 million passengers in 2016. As the Master System Integrator, Thales is delivering an innovative and trusted security system ensuring continuity of operations and centralising airport operations management. This security system relies on the latest airport management technologies such as smart videoprotection, access control, biometrics, and supervision of IT and telecomunication infrastructure.

DOHA INTERNATIONAL AIRPORT, QATAR

37 million passengers in 2016. 1,200 access control points. 12,000 videoprotection cameras. Data security systems and telecommunications infrastructure provided by Thales/ARINC consortium. Thales is responsible for complete design and delivery of the integrated safety and security infrastructure as well as all safety and security systems throughout the airport.

LYON SAINT-EXUPÉRY AIRPORT, FRANCE

9 million passengers in 2016. Major expansion project by airport operator ADL to increase airport capacity by 50% and handle more than 15 million passengers by 2020. The Airport Operation Control Centre (AOCC) solution from Thales manages and supervises all subsystems for the existing airport and the ongoing expansion project.

MUSCAT INTERNATIONAL AIRPORT AND SALALAH AIRPORT, OMAN

12 million passengers in 2016. Thales is Master System Integrator for both airports, providing a high-tech integrated security solution managed by an airport operation control centre including perimeter intrusion detection system, videoprotection systems, access control, screening equipment, security check points, access and backbone network along with datacentres to ensure high performance and quality of services.

WHY THALES?

> **World leader in airport security providing smart airport solutions** with major references

> **Major player at every stage in the air transport value chain:** 40% of the world's airspace is managed by Thales at traffic control centres; two out of every three commercial aircraft worldwide use Thales equipment

> **Unique systems architecture and integration capability** to deploy modular, scalable, intelligent solutions that meet every airport's needs as they evolve

> **Tailored solutions integrated** with legacy systems ensuring continuity of operations by centralising management of airport operations and meeting safety and security requirements

> **Improved airport operational efficiency** through intelligent data processing for optimisation of resources

> **Smarter airport operations** thanks to integrated management of all airport activities and security systems for better threat prevention and detection, and quicker, optimised responses

> **Technical expertise and project management skills:** a record of success as lead systems integrator for security and communication systems to mitigate overall risk