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ASSA ABLOY

WHITE PAPER

Effective Asset Management in Airports

ASSA ABLOY, the global leader in door opening solutions

Introduction

The Civil Aviation Authority reported that 7.8 million passengers went through UK airports in 2013, a 3.5% rise from 2012*. And the projections are set to increase further, with global air travel expected to double by 2030*. This will mean more air traffic, as well as a rise in the average number of passengers per flight. This surge coincides with an escalation of security responsibilities and the need for cargo to be handled faster and aircraft ground time to be reduced.

The growth in passengers is met with a greater expectation from them for a seamless experience. Delays have an impact not just on reputation and customer satisfaction but it can also result in hefty fines for the airline or airport seen to be responsible. So how will airports cope with the increase of traffic and demands? According to the European Commission, airports are already struggling to cope with the amount of passengers and simply expanding the airports is, in a lot of cases, not an option as there is no space to do so**.

Building Management Systems are one solution that looks at improving the efficiencies of all aspects of an airport, and they have a valuable role to play in linking security, access control, HVAC and other operational necessities. Technology, and more importantly integrated technology, has a significant effect on airport flow, meaning that more passengers, more cargo and more air traffic can be processed in the same space.

However, this reliance on improved efficiencies means that time becomes even more precious and deadlines more rigid. While sophisticated Building Management Systems and implementation of Building Information Modeling will take care of the larger systems and overarching operational functions, the seemingly insignificant 'weak-links' could have much more serious knock-on effects on the overall flow of the airport.

The Butterfly Affect

How do sophisticated management systems control the location or accessibility of a physical key? How does BMS ensure that a baggage scanner is fully charged and ready for use at the beginning of a shift? And how do you track where a key to an emergency response vehicle is and who last used it? These seemingly small details in the grand scheme of the overall environment can have a very real impact on the flow of an airport. This whitepaper takes examples of the consequences of ineffective management of the smaller details, and specifically keys and assets.

In the changing environment unnecessary delays in such a time-sensitive process will become more poignant and the consequences much more significant.

* Source: Civil Aviation Authority, http://www.caa.co.uk/application.aspx?appid=7&mode=detail&nid=2342

** Source: European Commission, http://ec.europa.eu/digital-agenda/futurium/en/content/trends-air-transport

Assets and Portable Devices

Portable devices and vehicles are used extensively throughout an airport. The technology and equipment used to ensure optimum operational efficiencies are varied, as are the personnel who use them. Also varied is the hierarchy of permissions, only certain employees are able to access certain keys or equipment.

The issue therefore is learning how to manage these assets and vehicles effectively across extensive areas of land and across varying degrees of access rights.

Vehicles

When operating on large, sprawled out areas of land, ground transport becomes vital to the smooth running of an airport. Vehicles are also difficult to manage centrally, as although there can be trackers built in to locate them, it still requires a physical key to access them. This means they are largely out of the control of larger systems that are being put in place to manage airport flow.

Vehicle types are varied, as are the applications they are used for. When there is not a key management system in place, there is very little control over who is able to gain access to the vehicle. Airport security is stringent, so unauthorised personnel gaining access to areas where keys are on display is unlikely. However, monitoring the use of keys among personnel creates accountability and traceability on who was the last to use a certain vehicle and when the keys were returned.

Tugs

The vehicles that move an airplane into the loading bays, commonly known as tugs, are instrumental in the boarding and unloading of planes. When operating in an airport, particularly a large airport spanning hundreds of thousands of square metres, the tugs can be misplaced, lost and in some cases will need to be retrieved across relatively long distances.

The tugs can cost in excess of £500,000 and although they rarely go completely missing, the additional time it takes to locate a tug can result in delayed flights. Those flight delays can result in hefty fines either for the airline or the airport, so locating the vehicles quickly is vital. A sign in/sign out paper record of who has accessed keys to the equipment can be easily manipulated, or simply not completed accurately and does not allow operators to quickly locate where a key has been issued from or who has taken the key and at what time.

Automated key management makes the data visible through software, so it can be accessed anywhere in the airport. This not only helps to locate equipment quickly but it also emphasises accountability, so personnel know that they are monitored if they do not return the vehicles in the correct place and within the correct time.

This accountability and traceability of the location and the previous operator means that capital outlay is minimised. Instead of purchasing numerous tugs to ensure one is available, the asset is managed effectively and can be located quickly. This also reduces the number of vehicles that need to be on terminal grounds, a pressure that all airports face.

Emergency Response Vehicles

There are many different types of emergency response vehicles in an airport environment including, police, paramedics and fire engines. Maintenance and repair operatives also use emergency response vehicles to ensure that any breakdowns or concerns can be addressed quickly.

The response vehicles are also used to transport staff and equipment across the rugged and expansive areas, a vital aspect of terminal infrastructure. However, because of the environment these vehicles have a shorter lifetime and often need replacing or repairing.

In addition, operatives often have to wait in the response vehicles for long periods of time in designated areas of the airport, waiting for incidents to respond to. Because of this, there is cause for concern about how the response vehicles are treated by the staff that use them, heightening the pressure of keeping cars operable for as long as possible. One airport noted that the interior of a new response vehicle had been vandalised within a matter of days of being purchased, with the rubber on the steering wheel having been picked off, which resulted in replacing the steering wheel.

Because there is no definitive way of identifying who last used the keys for each individual car, accountability is hard to achieve. Effective key management of vehicles allows a central administrator to find out who has used which key and when. This means that an individual can be held accountable for any damage that has been caused to an asset, and in many cases this is enough of a deterrent.

When a vehicle is damaged it not only results in costly repairs and the additional expense of rental cars, but it also causes downtime, which could mean a slower response to a critical incident. Locating these vehicles and ensuring the drivers are held responsible for unnecessary vandalism means that cars can be kept operable for as long as possible.

Vehicle key management is one aspect of airport flow that can be neglected. But in the new age of 'hyper-efficiency' it is a small detail that need not have an impact on the wider processes. When there is an incident responses should be swift so passenger and cargo flow resumes as quickly as possible.

Portable Devices

Vehicles are quite obviously vital to the running of an airport, especially as they span such large areas and require rapid response both for critical and non-critical issues. However, portable devices in varied shapes and sizes are also vital for effective airport management.

Harsh conditions and rugged environments are a year-round inevitably in an airport, which means that expensive portable devices are often broken and damaged. There are a number of consequences because of this. Firstly, broken or faulty equipment is hard to identify and manage, meaning that when shifts change staff can be without vital equipment. Secondly, because of the high turn around of devices, personnel can feel very little responsibility towards the items, causing unnecessary damage and loss.

The wider consequences of this are the knock-on effects it can have on the rest of the airport flow. The devices that help manage the processes have to be at hand and have to be operable when needed, even slight delays, no matter how small the aspect concerned, will decrease airport efficiency.

Baggage Scanners

Baggage scanners are vital to managing luggage throughout any airport. Heathrow alone processes 53 million bags a year and has over 30 miles of baggage conveyors and that figure is to rise as passengers do. Rather than being scanned once, each piece of luggage is scanned several times throughout the journey, a process that ensures bags arrive where and when they are supposed to.

Because of the cycle of shift patterns, a baggage scanner is not assigned to an individual staff member, but is shared. When starting a shift the baggage handler selects the scanner and goes to their position. However, there are very little automated processes available to ensure that equipment is charged and ready for use. There are also limited management systems that can identify when a faulty or broken scanner is returned and there is a reliance on members of staff alerting their manager or team leader.

This simple issue can cause significant problems, as personnel will have to find a working, charged device. In such a time-pressured environment small, functional delays can result in longer passenger delays.

Other Devices

Engineers and maintenance operatives are beginning to use iPads to help diagnose problems and perform checks on the engines and aircrafts. Because of the early adoption of this technology, the argument for asset management is a financial one - to protect the investment and to create accountability among users to ensure they take care of the equipment.

However, as the technology is used more and more for critical applications, reliance on iPads and apps will also increase. Asset management will then become even more important; not just in protecting the financial investment but also to ensure that equipment is available, charged and working before use. Additional time locating the equipment when it is being used for such a vital purpose will reduce the effectiveness on the technology and put more pressure on the engineers and operators.

iPad lockers enable personnel to access devices with their existing access credentials. It also ensures that personnel who should not have access to the devices cannot gain access.

Conclusion

Assets such as vehicles and equipment are vital to the operation of an airport. But these assets are difficult to manage across large, challenging environments. It is also difficult to implement accountability of expensive and operationally critical items, such as baggage scanners, across the wide range of personnel, who will all have different access rights to vehicles and equipment.

Having a key and asset management system in place enables different departments in the airports to manage the every day items that are crucial to the many processes that keep an airport running.

The industry is facing increased pressure because of the rise in passengers and air traffic. When expanding isn't possible the only way to ensure continued operational excellence is to improve the overall efficiencies of the airport, taking every detail into account. Although overarching building management systems and other integrated technology will have an impact on ensuring airport flow, the smaller details, like key and asset management, should also be effectively managed and automated to decrease the likelihood of causing delays and disrupting the airport flow unnecessarily.

About Traka

Traka enables you to control, monitor and record the use of almost any physical asset, including: premises, facilities, secure areas, equipment, machinery and vehicles. Traka provides intelligent key management and equipment management access control to better protect your important assets - resulting in improved efficiency, reduced downtime, less damage, fewer losses, lower operating costs and significantly less administration.

Intelligent key management

Giving access to buildings, facilities, secure areas, equipment, machinery, lockers, cabinets and vehicles; keys are one of your organisation's most important assets.

On a conventional site, any attempt to manage keys usually relies on a book in which cursory details of keys taken and returned are entered by hand and confirmed by an illegible signature - an arrangement that is inefficient, unreliable and makes tracing keys an almost impossible task.

Intelligent asset management

Intelligent asset management is ideal for controlling access to portable computing and communications equipment such as data terminals, laptops, attack alarms and airwave radios, as well as for medical use, and industrial tools and devices such as gas analysers, detectors and specialist monitoring equipment.

In environments where shared portable devices are not always treated with respect - and are prone to being lost, damaged, mislaid or stolen - the ability to control who has access to the equipment, and the ability to identify who last used a specific piece of equipment, and when, can be an essential management tool.

Software

All of Traka's intelligent access management solutions are managed by our powerful software. This can be run from a single PC, or across the network, and provides a full range of management and reporting functionality.

Traka has two powerful software products that it offers to customers – the brand new Traka Web and its comprehensive Traka32 software product. These products offer two very distinct functionalities, Traka Web allows you to manage Traka Touch key management systems from any mobile device and Traka32 works with our core networked product range, including lockers, offering a wealth of management and reporting options.

At its basic level Traka software grants you the ability to add and delete users, set access permissions for each user and view reports on which keys are out of the system and who has them; although there is a matrix of additional functionality and options to truly offer you a bespoke management tool suitable for your organisation.

For more information on any of Traka's solutions visit www.traka.com.

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

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