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technology *in transport hubs*

Whether it's an airport, train station, or ferry terminal, technology is changing the way we travel - making processes more streamlined and efficient for operators and travellers alike.

When it comes to spending IT budgets, airports are certainly putting their customers first. Data from the 2013 Airport IT Trends survey states that the passenger experience remains the single most important driving force for IT investment for **68%** of airports.

More acutely, at project level, passenger processing is the highest priority IT investment for the majority of airports surveyed **(51%)** over the next three years, well ahead of investment in airport operations.

Cloud services, automated processes and near field communications are expected to be the main areas of investment, with ease of access to information also a priority.

Challenges for the transport model of the future can be grouped into four areas, commonly known as the **four Cs**:

Customer Centricity

making the passenger experience smoother and more convenient

Commercialisation:

Maximising existing revenue streams and creating new ones

Connectivity:

Providing a network that readily gives everyone access to the information they need

Collaboration:

Enabling all stakeholders to share information in real time and work together seamlessly

These needs are being addressed around the globe. A recent survey by airport IT specialists SITA reported that 2013 spend on IT in this marketplace was over **£3.5 billion**, with **90%** of airports expecting to increase or stabilise their spend in 2014.

With technology becoming increasingly necessary in transport hubs, this trend can be expected to cross over to all aspects of public transport.

Technology is already changing passengers experience at the airport from the time they check-in through to the time they board an aircraft

Airport International Magazine
May 2014

Within this white paper, we cover four fundamental areas required for a safe, secure and hassle-free customer travel experience:

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audio *solutions*

A muffled, inaudible announcement in a departure lounge is no good to anyone. Today's solutions provide crisp, clear and intelligible audio that is vital in delivering the right message.

As well as giving travel announcements, a quality audio system is also crucial for any security or evacuation announcements, ensuring staff and public are aware of any potential concerns and alerting them to emergency situations and procedure.

When considering public address solutions for transport areas, researching EN54 certification requirements is an important aspect for operators to consider.

Through European law, the correct approvals for any system and the method they are designed, integrated and maintained is as important to an integrator or operator due to the liabilities legislation places upon them.

Since 1st April 2011, within Europe, components used within sound systems used for emergency purposes must conform to EN54-16 (voice alarm control and indicating equipment – VACIE) and EN54-24 (voice alarm loudspeakers) harmonised standards. These standards are mandated in EU legislation called the construction products directive.

When approved product is designed and implemented correctly, the result not only provides mitigated risk to the operator, it also provides improved, reliable results for the public who rely on the system for their safety.

Having a voice evacuation system that works in all conditions is paramount and manufacturers provide speakers that can withstand fire, ice and even explosions to ensure announcements are effective in all circumstances and conditions.

Natural sounding speakers can also help in the efficiency of day-to-day operations in airports and train stations. It is widely accepted that 'mood music' can influence people's shopping habits, making it a prime consideration for duty-free areas.

Music psychologists refer to what is known as 'musical fit', whereby musical characteristics that correspond with a brand's core message prime relevant beliefs, which can increase the salience of a brand and influence consumer behaviour

The effect of musical fit on consumers' memory. Psychology of Music
Neoh & North, 2010.

With a wide range of styles and specifications, today's audio solutions can, quite literally, be heard and not seen. Camouflaged solutions, such as Sennhesier's K-Array range, allow speakers to blend into their surroundings, whether it's a brick wall, plain, or wallpapered background.

Disability access legislation demands that hard of hearing visitors are catered for with hearing loops, ensuring that everyone has access to clear information.

digital *signage*

Quality digital signage allows visitors to airports, train stations and other travel hubs to be kept informed of all necessary information. A recent installation of Samsung screens at Manchester Airport saw several new screens supplied for their check-in area.

Reasons for improved messaging are clearly explained by David Brown, Servisair Coordinator at Manchester Airport, who said: "The biggest concern for customers as they walk into the building is where to go and when to go."

The ability for new technology to perform to a high standard and for long periods of time is paramount and today's high resolution and ultra-high definition (4k) displays provide clear messaging to travellers and, with 24/7 usage capability and when required, high luminance and weatherisation for outdoor use, they offer a reliable, round-the-clock solution in transport hubs.

Today's high definition, edge blend displays are available in sizes up to 95-inches, allowing for both portrait and landscape orientation. For maximum impact, videowalls can be used to convey a multitude of information.

As well as conveying vital travel information, digital signage can also play an important role in providing advertising and additional revenue streams.

Multi image processors allow video content to be changed simply and hassle-free, giving end users total flexibility and control over displayed content.

Global sales of large format displays (LFD) continue to grow, with sales in Q1 2014 up 8.5% year-on-year

Futuresource Consulting
May 2014

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interactive *solutions*

Whether finding a toilet, hiring a car or choosing duty free goods to be collected at a later date, interactive touchscreens offer a simplified process for the passenger, and can be used to reduce front line resource.

Placing of interactive screens around terminals can assist with passenger navigation, helping people get to the right place at the right time by directing them to their required transport.

Using touchscreen technology is becoming second nature to today's traveller, and capacitive touch technology on the latest generation of screens is identical to that used on smartphone devices and tablets.

The screens enable travellers to easily find where they need to go anywhere in the airport and the best route to get there

Vicki Sundstrom, Manager of Airport Signage and Wayfinding at San Francisco International Airport

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68% of airports consider 'improving the passenger experience' as the most important driver of IT investment

Société Internationale de Télécommunications Aéronautiques (SITA) 2013

Addressing passengers' needs encourages them to return to their airport / station / port of choice and few technologies engage as well as interactive screens, with sizes ranging from 19-inch to a hard-to-ignore 84-inch 10 point touch offering from LG.

Similarly to conventional digital signage, interactive screens can be used as an advertising medium when not in use.

A suitable App can replicate the software available on interactive touchscreens. Available via the previously mentioned wi-fi network, people can have the convenience of the touchscreen available on their mobile device, adding to the 'customer first' experience.

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security *and* networks

More than ever, excellent security at airports, ferry terminals, train stations and indeed, all transport hubs is an essential requirement.

At places where immigration, drugs, contraband and terrorism issues can be prevented, it is imperative that security measures are in place to help prevent illegal activity and ensure the safety of staff and travellers alike.

As well as being an effective deterrent for opportunist law breakers, the modern CCTV solution is capable of much more than simply capturing video. Advanced analytics and recognition capabilities mean that large areas of people can be monitored like never before. Face recognition means known criminals can be identified by cameras and subsequently alert the appropriate authorities. Linked to access control systems, doors can even be locked to ensure suspects are contained.

In security sensitive areas, cameras can monitor for suspicious loitering by, for example, unauthorised points of entry.

Cameras can also monitor foot-flow, ensuring that movement to and from departure and arrival areas remains fluid. Analytics can also count movement, providing an accurate tracking device of passengers.

On the runway, it is important that no area remains unmonitored. Cameras are an effective tool in watching vast areas. A recent installation at Copenhagen airport has seen thermal security cameras installed to ensure all movement is monitored - with 100% effectiveness in both day and night conditions.

Investment in security technology at transport hubs is growing like never before, with technically superior solutions offering high resolution, night vision, 360 degrees rotation and zoom capability.

Having a secure IP-based security system also provides a wealth of networked technology opportunity. Printers, check-in terminals and staff mobile devices can all be synced on a secure network, giving convergence of information and ensuring everyone is 'on the same page'.

Today's security systems have ceased to be Closed Circuit as the benefits of opening the information up onto the IT infrastructure outway the risks that may be perceived. However this does mean that physical security systems requirements are becoming a stronger point of consideration in the IT infrastructure designs for airport systems

With a mesh network system, a separate public network on a separate VPN is also possible, allowing members of the public to access wi-fi on their laptops, tablets and smartphone devices – an essential requirement for both business and leisure travellers.

The recent trend for airports to become a destination in their own right offering a place to relax, unwind and enjoy quality time

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