THE FUTURE OF COMMON USE

Applications and infrastructure that can be used anywhere and everywhere, by anyone – or everyone

WHITE PAPER

SITA

CONTENTS

1

INTRODUCTION

Common use was first embraced by the air transport industry some forty years ago. While common use implementations have continuously evolved, we are now on the threshold of a radically new approach. In the future we will see applications and infrastructure that can be used anywhere and everywhere, by anyone – or everyone.

Increasingly, common use will be managed by travelers and air transport industry staff using their own mobile devices. This, in turn, will reshape the way we think about the airport ecosystem – and will reshape the future look and feel of airports themselves.

Common use will be a crucial part of a digitally-transformed industry that makes travel safer and more efficient, end-to-end, for passengers.

This transformation will be driven by three key technologies:

- API-driven and cloud-enabled digitalization
- Mobility
- Secure identity management

2

HISTORY AND EVOLUTION OF COMMON USE

Flying first became accessible to more than just an elite few in the 1950s. In 1955, for the first time, more Americans traveled by plane than by train. By 1957, more people crossed the Atlantic by air than by sea.

For the next thirty years, as passenger numbers soared, the airport model remained much the same, with airlines renting dedicated space which they used to process passengers. Gradually, paper-based systems were automated, but it wasn't until the early 1980s that the idea of common use, as opposed to single use, was finally born.

Common use terminal equipment – CUTE – was first implemented in Los Angeles, to increase airport capacity at LAX ahead of the 1984 Summer Olympics. This allowed desk-based agents from different airlines to share check-in terminals. Over time, shared infrastructure then expanded to include common use self-service (CUSS), and ultimately morphed into common use passenger processing systems (CUPPS) – covering not just check-in, but bag drop, boarding and biometrics as well.

Fast forward to today, and we're now starting to see common use being managed from mobile devices, both in the hands of airline agents and passengers too. This is the future of common use – a world where individual airport and airline processes come together with multi-user infrastructure.

.

3

MARKET CONTEXT

The resurgence in passenger numbers over the past year or so has taken even the most optimistic observers by surprise.

With fewer staff, and limited resources, providers right across the air transport ecosystem have struggled to cope with the increased demand. So nobody wants to have to resort to solutions such as imposing passenger caps on airports, or airlines canceling flights, with business booming. Airport and airline reputations are quickly damaged and only slowly repaired: when travelers have a good experience, they tell someone else; when they have a bad experience, they tell everyone – often using social media.

Post-Covid, travelers' expectations have changed, and younger travelers in particular are anticipating much more from their interactions with the passenger journey, through mobile and online platforms. They expect to be well-informed, especially when something goes wrong – such as a missing bag. As the Harvard Business Review pointed out, when the pandemic was coming to an end in 2021: You're no longer competing with your competitors; you're now competing with the last best experience your customer had.

None of this is easy. Supply chain issues mean that airlines are struggling to source spare parts and facing delays in deliveries of new aircraft. Staff, and especially ground handlers, are proving hard to re-recruit. The European crisis meanwhile continues to translate into fluctuating energy costs and ongoing inflation.

On top of all this, there is a growing appreciation of climate change, and the need to do more across the industry in terms of sustainability, and reducing both physical and carbon footprints.

We need to dynamically address all these challenges. But progress isn't helped by the siloed and often outdated technology systems still widely in use across the ATI, which limit innovation and restrict agility.

The key is going to be smart new mobile and online platforms that fully leverage the power of the devices already in the hands of travelers and staff.

4

THE FUTURE OF COMMON USE

4.1 APPLICATIONS AND INFRASTRUCTURE, ANYWHERE AND EVERYWHERE

Common use was until recently limited to a handful of applications such as check-in, bag drop and boarding. Today, it's already expanding rapidly into other areas, and it will, over time, come to embrace anything in the airport ecosystem that's touched or used by more than one entity.

This could include – amongst others:

- Physical spaces, such as aircraft stands or gates
- Check-in and boarding infrastructure
- Bag tagging and bag drop
- Digital signage and wayfinding
- Electric vehicle charging stations – either airside or landside
- Next generation on-ramp equipment, such as autonomous vehicles
- Connectivity and networks, including Wi-Fi and 5G – both indoors and outdoors
- Taking care of passengers with reduced mobility
- Off airport infrastructure and applications
- Biometric controls
- Mobile devices
- Baggage processing, tracking and tracing applications

Common use now needs to be defined around 'infrastructure', in its broadest sense. What does the airport / airline / handling agent ecosystem, together with regulator / immigration / security partners, need to do to get passengers and bags through the various touchpoints safely and with the minimum of fuss, making the journey digital, door-to-door? How can you implement dynamic / predictive queue management systems to speed up throughput and ensure that passengers spend more time in retail outlets and less time stuck in queues? How can you be free from the constraints of fixed desks and kiosks, and put your staff where they're needed most – even off airport?

It's important to note that the multifaceted airport-airline-ground handling ecosystem is completely interdependent. So the weakest link will always affect the certainty of any desired outcome – whether that's on-time departure, a seamless passenger experience, or successful baggage handling. Passengers will make choices about which airline they fly on, or which airport they use, based on both positive and negative past experiences.

4.2 API-DRIVEN AND CLOUD-ENABLED

Future solutions will ideally combine application programmable interfaces (APIs), the cloud, and the Internet of Things (IoT). By leveraging these technologies, industry stakeholders will massively extend the scope of common use, and will be able to operate transversally, across the whole ecosystem. End-to-end mobility can be used to exploit self-service, everywhere – making the whole passenger journey better, safer and touchless. And operations can be scaled up or down as needed, to manage fluctuations in demand.

While today you might only be able to offer passengers services such as mobile check-in and seat selection, in the future you could also, for example, offer fast-track security or bag drop, via your app. In the current common use environment, where you're constrained by technical specifications and certification processes beyond your control, this simply isn't possible. Vendor neutral cloud and API-driven solutions will allow you to simply sidestep long and complicated certification processes. By building on open APIs, you can create new apps that revolutionize not just passenger processing, but many other processes across the airport environment as well.

Leveraging the cloud can bring down costs, eliminate the need for expensive and bulky equipment onsite, break down barriers to innovation and facilitate efficient passenger flow, both on and off airport. Once implemented, you'll remove the need for 'heavy' at-airport infrastructure, and you should have no hidden costs – it should just be a simple pay-as-you-use service.

It's important, however, not to fall into the trap of believing that simply lifting and shifting on-premise applications into the cloud can deliver all the potential benefits. Cloud solutions should take advantage of cloud-native features – and in particular the ability to speed up the development of new apps, using APIs.

This won't mean just leveraging new technologies; it will also be a question of changing mindsets. Historically, our industry has been somewhat slow to adopt new ideas, but there's a real drive now for digital transformation across the board, and API-based passenger processing is a crucial part of that.

It's also important to recognize the need for operations continuity. Airports need to maintain backward compatibility in their new passenger processing systems, understanding that different airlines migrate to newer cloud-based applications at different speeds.

Moving forward, there's likely to be much more integration and multi-stakeholder collaboration. Total Airport Management (TAM) is already being implemented in some airports, and we're likely to see this evolve into collaborative decision making (CDM) across the whole air transport ecosystem.

Having a truly common use platform will enable the integration of terminal processes providing better situational awareness, improved passenger and baggage throughput, and the ability to make operational changes in real-time, giving both the airport and airlines much-needed operational agility and flexibility.

4.3 IMAGINE THE FUTURE AIRPORT

Airports will look and feel very different in the future. As the physical spaces evolve, passengers and staff should all enjoy a better experience. Almost everything can be adapted to common use, and traditional touch points such as desks and agents should only be needed in the future for assistance and exceptions.

For passengers, it would mean having the ability to use their personal devices or biometrics securely and seamlessly from check-in to boarding. At the same time they could also be making their favorite purchases or enjoying food and beverage facilities.

We'll be seeing both passengers and agents using mobile devices, biometric tokens and QR codes to interact with innovative and exciting airport hardware.
Imagine the future airport – where there would be no self-service kiosks, as passengers would have checked in via their mobile or wearable devices. Travelers' identities will be authenticated on arrival via their personal biometrically-enabled devices, and converted to digital travel tokens. They can then just breeze past every touch point as the token is verified.

Passengers will already have a personalized bag tag – using technologies such as e-paper displays, which can enable batteryless RFID-enabled tags. They can then take advantage of strategically located self-bag drop stations located anywhere to drop off their bags at any time. That might include off-airport check-in and bag drop services at train stations, hotels, cruise ships or conference venues, or bag collection services from home or other locations. Border control and security screening could also be combined, without the need to take off shoes or belts, and passengers could go straight onto the plane, without lengthy queues.

5
BENEFITS

The benefits will be tremendous.

By leveraging open, non-proprietary APIs, the cloud, and the Internet of Things, you can use end-to-end mobility to exploit agent-facing processes and deliver self-service right across the common use ecosystem. And operations can be scaled up or down – on- or off-airport – as needed, to manage fluctuations in demand.

In the process you optimize resources across the journey, landside and airside, reducing costs, dealing better with staff or resource shortages, delivering a safe and touchless experience, and improving your sustainability.

REDUCE COSTS

Drive down the cost of doing business, optimize your human resources, and maximize self-service opportunities for passengers. Remote agent support also helps bring down costs.

With ubiquitous common use, passenger processes can take place anywhere – in train stations, hotels, resorts or shopping malls, or even home baggage collection, using small, lightweight devices connected to the internet. By taking some of the passenger processing off airport you reduce congestion and the number of touchpoints in the terminal, reducing your dependence on staff.

MANAGE STAFF AND RESOURCE SHORTAGES

Increase self-service, and make more effective use of touch points by passengers and agents alike, throughout the airport ecosystem. Apps built on APIs mean you can use any device, anywhere – so bag tags, for example, can be printed anywhere you like, straight from the cloud. Agents can then become truly mobile and no longer need to be tethered to a desk – and agents and passengers can even share devices.

You can also enable remote agent services, so that passengers can be assisted by video conferencing, for example. So you can have staff working in the most appropriate time zones, offsite, as well as putting staff in airports in front of desks, not behind them. You no longer need to recruit staff for 4am starts or midnight shifts – making for better and more helpful passenger-staff interactions, and improved staff retention.

DELIVER A SAFE AND TOUCHLESS EXPERIENCE

Embrace a safer, fully-mobile touchless experience, with on and off airport passenger engagement and processing. Passengers can print boarding passes or bag tags, drop bags or make payments through apps, on their own mobile device, without having to use a kiosk touchscreen. With complete control of their journey from their mobile phone, passengers can continue to use apps they're familiar with, in their own language, on a device they know and trust.

IMPROVE SUSTAINABILITY

Reduce your physical and carbon footprints – with reduced onsite infrastructure, lower emissions in the cloud, and new, low-energy use devices. Processing power moves from the airline and airport into the passenger's hands.

6

CONCLUSION

As common use becomes ubiquitous, we can start to rethink the fundamental architecture of airports, evolving airline and groundhandling processes, and of course the role of the passenger.

Your key focus areas haven't changed: maintaining and improving operational efficiency; increasing capacity and revenue; improving passenger processing and the whole passenger experience; and, of course, sustainability.

But ubiquitous common use – with applications and infrastructure that can be used anywhere and everywhere, by anyone or everyone – will make it easier than you think to radically transform your business.

This isn't about digital transformation for its own sake, or simply moving today's processing capabilities to the cloud – this is a fundamentally different vision of the future.

With next-generation common use, we can make the old world better – and new worlds possible.

For every airport, every airline, every departure, every passenger – every time.

---

[1] *https://hbr.org/2021/03/10-truths-about-marketing-after-the-pandemic*

DISCOVER MORE ABOUT THE FUTURE OF COMMON USE

www.sita.aero/the-future-of-common-use/

SITA AT A GLANCE

Easy and safe travel every step of the way.

- Through information and communications technology, we help to make the end-to-end journey easier and safer for passengers – from pre-travel, check-in and baggage processing, to boarding, border control and inflight connectivity.
- We work with over 400 air transport industry members and 2,500 customers in over 200 countries and territories. Almost every airline and airport in the world does business with SITA, and nearly every passenger trip relies on SITA technology.
- Our customers include airlines, airports, ground handlers, aircraft, air navigation service providers, and governments.
- Our solutions drive operational efficiencies at more than 1,000 airports, while delivering the promise of the connected aircraft to customers of 17,000 aircraft globally.
- We help more than 70 governments to strike the balance between secure borders and seamless travel.
- Created and owned 100% by air transport, SITA is the community's dedicated partner for IT and communications, uniquely able to respond to community needs and issues.
- We innovate and develop collaboratively with our air transport customers, industry bodies and partners. Our portfolio and strategic direction are driven by the community, through the SITA Board and Council, comprising air transport industry members the world over.
- We provide services over the world's most extensive communications network. It's the vital asset that keeps the global air transport industry connected in every corner of the globe and bridging 60% of the air transport community's data exchange.
- With a customer service team of over 1,700 people around the world, we invest significantly in achieving best-in-class customer service, providing 24/7 integrated local and global support for our services.
- Our annual Air Transport and Passenger IT Insights reports for airlines, airports and passengers are industry-renowned, as is our Baggage IT Insights report.
- We are a certified CarbonNeutral® company, reducing greenhouse gas emissions for all our operations through our UN recognized Planet+ program. In 2022, we committed to setting science-based emission reduction targets aligned to the Science Based Target initiative Net-Zero Standard.
- We also develop solutions to help the aviation industry meet its carbon reduction objectives, including reduced fuel burn and greater operational efficiencies.

For further information, please visit **www.sita.aero**

For further information, please contact SITA by telephone or e-mail:

Americas
+1 770 850 4500
info.amer@sita.aero

Asia Pacific
+65 6545 3711
info.apac@sita.aero

Europe
+41 22 747 6000
info.euro@sita.aero

Middle East & Africa
+961 1 637300
info.mea@sita.aero

Follow us on **www.sita.aero**