



AIR TRAVEL POST-COVID-19

# RE-IMAGINING AIR TRAVEL FOR A POST-PANDEMIC WORLD

Creating a contactless journey is key to restoring passenger confidence and accelerating recovery; existing technologies can make it happen – and improve air travel for years to come



# INTRODUCTION

As with all dire and chaotic situations, the unprecedented disruption of global air travel wrought by the COVID-19 pandemic offers one shining light: the opportunity to view existing procedures and practices from a new perspective and, perhaps, create an even more vibrant, resilient and passenger-friendly industry.

It would be easy to overlook this opportunity amidst all the bad news. By the end of April 2020, commercial flights worldwide had decreased nearly 75% compared with the same period the previous year<sup>1</sup>. Certain countries saw an even greater decline: Spain, Hong Kong, Germany, Singapore, France, India and the U.K. were all down over 90%, according to industry data specialist OAG Aviation Worldwide Limited<sup>2</sup>. More than 15 airlines have been forced to restructure or cease operations<sup>3</sup>. The International Civil Aviation Organization – part of the United Nations – said global airlines could see up to 2.9 billion fewer passengers in 2020 compared with 2019. Seat capacity could drop by more than half, resulting in a \$384 billion loss of gross operating revenues of airlines compared with previous forecasts<sup>4</sup>.

There is no question that the worldwide travel restrictions, shelter-in-place orders and widespread fear of infection have led to catastrophic losses that are likely to continue for some time. Most airlines are not expecting air travel to return to normal levels for two to three years<sup>5</sup>.

But it will return.

Air travel is a vital part of modern life, so integrated into commerce, leisure and international relations that its absence would alter the course of human history. People can tolerate temporary suspensions, but the desire to return to the patterns of travel they enjoyed previously will eventually overwhelm any pressures against it. The “bounce back” may take some time – as it did after the terrorist attacks of 9/11 and various other historic disruptions – but it will come.

The question is, when? The longer it takes, the greater the economic toll.

That’s why airports, airlines and government regulators – together with their industry partners – must **act now** to shorten the duration of the decline, limit the damage and accelerate the bounce back. How? One key is by reassuring passengers they are safe in the air-travel environment and that flying is, once again, a low-risk activity.

In the age of COVID-19, creating that safety “bubble” means reducing or eliminating human-to-human contact. **Bottom line: The contactless journey is key to restoring passenger confidence and fueling a quick resurgence in air travel.**



## EXISTING TECHNOLOGY CAN MAKE IT HAPPEN

Given the current situation with significantly decreased passenger loads, sharply diminished revenue and uncertain prospects, it's understandable that most airports and airlines have little appetite for an ambitious, long-term overhaul of their passenger processing procedures to achieve this goal. But there are low-cost, easy-to-implement actions they can take right now that represent steps along the way to the ultimate contactless journey.

The simplest of these solutions, such as mandating the use of facial masks and encouraging social distancing where possible, are already in place, as are new procedures for disinfecting airport common areas, luggage and aircraft interiors. Airlines are also reducing or eliminating food and beverage service to minimize contact between passengers and crew, and multiple-use paper products – such as airline magazines and menus – have been removed. In addition, airlines are providing separated seating arrangements when occupancy rates allow it<sup>6</sup>.

These quick fixes have helped to assure passengers, but there is more “low hanging fruit” that could be harvested through the aggressive use of existing technology.

For several years now, the air travel industry has been exploring and, in fact, installing and using technologies designed to speed the flow of passengers through the airport. Biometrics, artificial intelligence, mobile applications, self-service features and other technology solutions are rapidly transforming the air travel ecosystem. These technologies provide passengers a much more enjoyable travel experience; they bring significant improvements in capacity, efficiency and profitability to airports and airlines; and they provide governments and regulatory agencies around the world greater border control and security.

It just so happens these same technologies also facilitate a passenger journey that is virtually free of human-to-human contact.



# BIOMETRIC IDENTITY MANAGEMENT

## A single-token passenger journey from curb to gate

A number of airports and airlines, for instance, have begun deploying SelfPass™, a biometric solution for passenger processing offered by Collins Aerospace. Despite the challenges brought about by the pandemic, Collins Aerospace is continuing to implement SelfPass for JetBlue at JFK in New York and at Haneda Airport, Japan, among other locations.

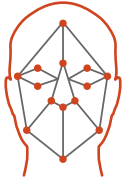
SelfPass relies on facial scans that are quickly matched to passport facial images in identity databases. When this system is in place, passengers – once enrolled – no longer need to present documents anywhere along the travel route. Their face becomes their identification and they are “known” from the moment they enter the airport and, at some point in the future, through the duration of their flight to their exit from the destination airport. This means there is no need to interact with airport or airline agents, transferring paper tickets, boarding passes, passports or driver’s licenses.

Other airport self-service systems, such as Collins’ SelfDrop™ – an automated baggage drop that enables passengers to process and tag their own luggage – further reduce the need for human

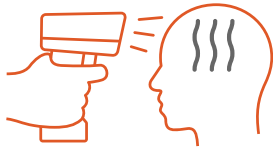


interaction. These systems add a measure of personal safety not only because they are self-administered but also because they reduce or eliminate the lines of people congregating at that particular checkpoint. Similarly, self-boarding gates, which Collins Aerospace has installed at JFK for JetBlue and in Las Vegas, for example, speed up the boarding process, reduce lines and congestion, and eliminate contact with a gate agent.

# CONTACTLESS PASSENGER JOURNEY



Biometrics can eliminate photo ID, passport and boarding pass



Passenger health monitoring



Virtual queuing apps for check-in and boarding

Prior to the pandemic, surveys of air travelers indicated the overwhelming majority would appreciate the sort of seamless, efficient, automated journey enabled by these technologies. Some would even like to see them incorporated into other trip-related activity, such as securing rental cars, ground transportation and hotel stays. In the pandemic's wake, travelers are even more likely to have a positive view of these solutions and the additional measure of safety they offer.



## More short-term, low-cost solutions

Airports and airlines that have already invested in biometric solutions can now easily add another layer of protection for passengers: health screening. Collins Aerospace will look to offer health screening, including temperature and other biomarkers that can be quickly and easily integrated into the facial scanning technology, enabling airports and airlines to identify passengers who are potentially ill and may require further medical checks before flying.

For airports and airlines that continue to rely on older technologies and are not yet ready to introduce biometrics, Collins Aerospace can integrate these health sensors into their existing passenger processing infrastructure via its SelfPass solution – no matter what that infrastructure looks like right now. In fact, these units can be placed anywhere along the passenger route.

Another way to reduce chances of infection is by taking some activity out of the airport. Collins Aerospace has been facilitating an evolution to remote passenger processing for some time. Systems, such as ARINC OnVoy<sup>SM</sup>, already enable travelers to check in and check bags from numerous remote locations, easing the pressure on busy airport terminals and providing maximum convenience and flexibility for airlines and their passengers.

Airports could also offer passengers a simple, dynamic wayfinding mobile app to identify areas of high congestion and provide alternate routes to avoid crowded “hot spots.” Such a solution would be quick and easy to implement at minimal cost because the technology already exists; it simply needs to be tailored to each airport.

Onboard solutions for contactless travel include a mobile app that would allow passengers to make in-flight food, beverage and entertainment purchases, reducing contact and dialogue with the cabin crew.

## Preparing for the new world to come: changes for the longer term

In addition to upending air travel, the pandemic has forever changed the traveler. Long after a vaccine is found and the worst effects of COVID-19 are over, passengers will remain wary of confined spaces, long lines and close interactions. They will come to expect an end-to-end journey that is basically self-styled, seamless and contactless.

Preparing for this new, post-pandemic world requires planning and investment for the longer term. For organizations ready to commit to this new vision of travel, Collins Aerospace offers the following recommendations gained from its experience in providing these new technologies – particularly biometric solutions – to multiple airlines and airports.

- A single end-to-end solution drives economies of scale
- Make sure the solution is technology agnostic
- Anticipate technology upgrades
- Have a robust plan for staff training and passenger engagement
- Think mobile
- Be sensitive to privacy concerns

# BIOMETRICS AND SELF-SERVICE TECHNOLOGY HELP IMPROVE OPERATIONS AND EASE CONGESTION

## SAVINGS FROM REDUCED COSTS

**30%**



less time  
boarding  
a 777

## Self-service



reduces reliance  
on agent staffing

## Biometrics at the boarding gate

- Less than 15 minutes to board a Boeing 777
- 20 minutes to board 350 Airbus A380 passengers
- Faster boarding = less congestion

## A single end-to-end solution drives economies of scale

Ideally, to maximize the value of biometric solutions, a complete end-to-end solution is recommended. Many airports and airlines are doing trials with single-point solutions – such as a self-service biometric bag drop or biometric boarding – and doing them with different suppliers. These are useful tests, but to achieve maximum value, airports and airlines should work together to find a solution that can be implemented across the board. Having different, independent solutions throughout the airport reduces overall efficiency and economies of scale because the differing solutions may not work together optimally.

## Make sure the solution is technology agnostic

The solution you choose must “sit above” the touchpoints rather than being embedded into them. Imagine, for instance, choosing to buy boarding gates with a built-in, stand-alone biometric feature. If that boarding gate cannot be integrated into the larger system, or work with all the other components of the system, you will be looking at replacing them at some point in the future – an expensive proposition. On the other hand, when you choose a solution that is managed from the cloud, it can be changed, updated or removed from that touchpoint as needed, protecting your investment in the physical infrastructure.

It is equally important that the system is able to tie into all the airlines’ departure control systems. Your solution must be able to “talk” with all these systems to be able to handle all the airlines within an airport.



## Anticipate technology upgrades

Right now, facial recognition is the preferred biometric solution in most places around the world. That’s because photos are embedded in passports and the facial scan must match the facial image from the passport. However, there is increasing interest in other modalities, such as iris scans, fingerprints and vein scanning that are likely to be incorporated at some point in the future. It’s important to choose a provider that has broad capability with biometric solutions and will be able to add these new features easily if they are required.

## Have a robust plan for staff training and passenger engagement

As attractive as biometric solutions are, people don’t just automatically start using them once they’re installed. Both passengers and staff need to be educated about the new technology, and the supplier you choose should have a strategy for providing that education. Very often, the best way to introduce a new concept to passengers is by targeting frequent travelers. They are often the early adopters that can help lift new technologies into wider use.



## Think mobile

More and more, people expect to be able to do just about everything from their phones, and that includes opting into a biometrics application. While there will always be a need to allow passengers to enroll in such a program at the airport from a kiosk or service desk, your biometric solution should always have mobile enrollment as an option.

## Be sensitive to privacy concerns

Some travelers feel reluctant to opt in to a biometrics program because they are concerned about the privacy of their data. In some parts of the world, very stringent privacy laws have been enacted to address these concerns – the European Union’s General Data Protection Regulation is a good example. Passengers need to be assured that their data is secure and know that the system they are using complies with the laws in their own countries. The biometric solution you choose should have the flexibility to comply with all privacy laws around the world and should also allow passengers to choose where their data is kept and whether that data is stored or erased. For instance, passengers should have the option of deciding if their data is stored with an airline for repeated use, stored on their own phone or other personal device and presented as needed, or used once then erased.

Accelerating the recovery of the air travel industry will require speedy implementation of the best, most innovative solutions. It will require collaboration and partnership among all of the industry’s stakeholders – airports, airlines, suppliers and government. But most importantly, it will require a long-term vision of air travel, a roadmap for the evolution of the industry in the decades to come.

While the pandemic has certainly wreaked short-term havoc on the industry, it has also illuminated a brilliant path forward: By leveraging technologies that offer passengers a contactless journey, airports and airlines are automatically creating additional benefits that will serve their future interests. In a fortuitous intersection of demands, the very solution airlines and airports require for passengers to experience a contactless journey is the same technology used to improve the quality and efficiency of air travel overall. By investing in this technology now, the industry will not only satisfy these dual goals, it will reap the rewards – economic and otherwise – for years to come.

As a leading provider of aerospace technology, Collins Aerospace, a unit of Raytheon Technologies, is uniquely positioned to help airports and airlines make the contactless journey a reality. With decades of experience and proven expertise in airport operations, baggage systems, passenger processing, airport cybersecurity, cloud solutions, in-flight connectivity and much more, Collins Aerospace is the only provider that can offer the full range of technology solutions to create a seamless, end-to-end, contact-free passenger journey.



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