This Case Study is based on a webinar presentation that I gave over Zoom, and it describes practices and procedures developed by airlines in response to the challenges posed by the Covid-19 pandemic. An earlier account of these challenges is provided in the 2020 Cabin Health Alerts Case Study.

2021 FLYING HEALTHY

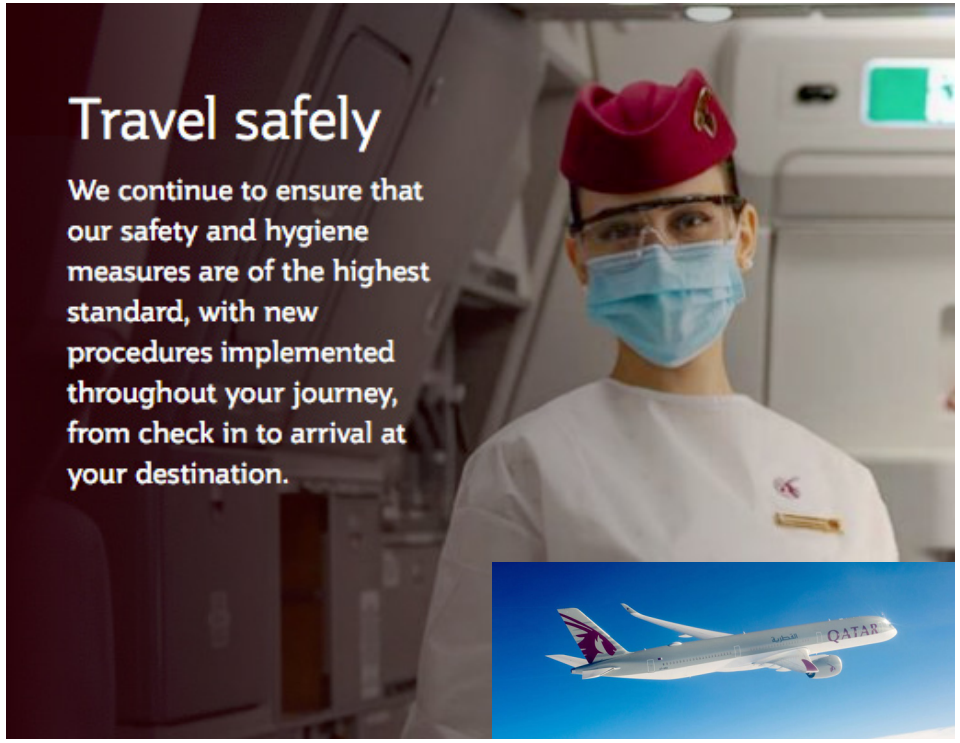
Attached to Chapter 9/Look Smart: Keep Clean

Vietjet Airbus A330

Vietjet. Covid-era air travel

COVID-ERA AIR TRAVEL

Philippine Airlines. Boeing B777



Qatar Airways. Airbus A350

The Covid-19 pandemic has had a devastating effect on aviation. But aviation is synonymous with innovation. I hope this Case Study will show how the air-travel sector has flown into action, to devise solutions to cope with the Covid crisis.

During 2020, some airlines kept flying, for example Philippine Airlines and Qatar Airways (in 2021, the winner of Skytrax's World's Best Airline award for the sixth time!). These are among the leading airlines that developed new hygiene standards for inflight passenger service. The Covid-combatting initiatives incorporated: hazmat suits, face masks, hand-sanitization positions, onboard temperature checks and Covid-era food and beverage provisioning.

AIRPORT SOCIAL DISTANCING: HEALTH CHECKS

Wall Street Journal, 04 November 2020, page A10

As shown in the *Wall Street Journal*, airports have developed new procedures to cope with social distancing and health checks. In 2021, it is hoped that Covid-vaccine programmes will provide relief from the suffering experienced over the past year. Analysts predict there will be an enormous, pent-up demand for air travel, principally in the leisure sector, during 2022. It's expected that business air travel could take longer to recover.

PPE FOR COVID-ERA AIR TRAVEL

At airports, instead of the usual popcorn and candy bars, vending machines now focus on providing personal protective equipment (PPE), as shown in Las Vegas, Nevada.

Las Vegas, NV, McCarran International Airport (LAS), subsequently renamed Harry Reid International Airport. Traditional airport vending machines have taken on a new look to fight against Covid-19.

PASSENGER HYGIENE

Formia

New-style PPE travel-hygiene packages contain: plastic gloves, face masks and sanitizer wipes. These accessories are designed by Formia and WESSCO International, two award-winning suppliers of airline amenity kits and personal wellness products. (There is more information about amenity kits in Chapter 7/Real-Feel Customer Touchpoints with hundreds of examples in the accompanying Amenity Kits Picture Gallery.)

During 2020, some countries developed national policies relating to the use of face masks and face shields — with mixed levels of success.

In East Asia, however, 'masking up' is second nature, not just for the wearer's own health but out of respect for others. 'Mask mandates are not necessary in East Asia,' said Daniel Baron, Managing Director of LIFT Aero Design, based in Tokyo and Singapore (he is featured in the Comments from the Specialists section in Chapter 7/Real-Feel Customer Touchpoints). 'People have been wearing masks for years, during flu seasons and the SARS epidemic. Science is trusted. People get the macro picture. And the group is more important than the individual.'

continued ➤

TravelShield by WESSCO International

PASSENGER HYGIENE (CONTINUED)

In the US during 2020 at the government regulatory level, there were no mandatory directives, and individual airlines had to make their own decisions about face mask requirements. Unfortunately, on some occasions, there were reports of onboard altercations between flight attendants and passengers who refused to wear face masks, as required by the airline. In the case of non-compliance, the only response an airline could make was to ban the passengers from future flying by adding their names to the airline's No-Fly List.

Furthermore, there were shocking reports of flight attendants being threatened and physically assaulted by Anti-Maskers. At last, in late December 2020, the Federal Aviation Administration (FAA) proposed civil penalties of US$15,000 and US$7,500 against two airline passengers who allegedly had interfered with, and assaulted, flight attendants who had given instructions that face masks should be worn.

And on 13 January 2021, FAA Administrator Steve Dickson announced a strict legal enforcement policy: 'Passengers who interfere with, physically assault or threaten to physically assault aircraft crew or anyone else on an aircraft face stiff penalties, including fines of up to US$35,000 and imprisonment ... Flying is the safest mode of transportation and I intend to keep it that way.'

On 21 January 2021, during his second day in office, President Biden signed an executive order mandating face mask coverings for all domestic modes of public transportation, including airports and commercial aircraft. This presidential-level directive has been greatly welcomed by both the airline community and the travelling public.

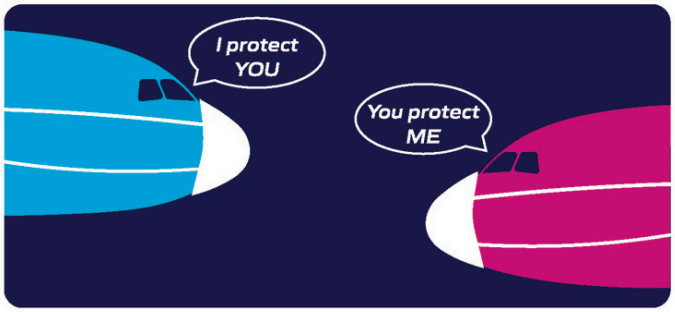
2021 ICAO 'YEAR OF SECURITY CULTURE'

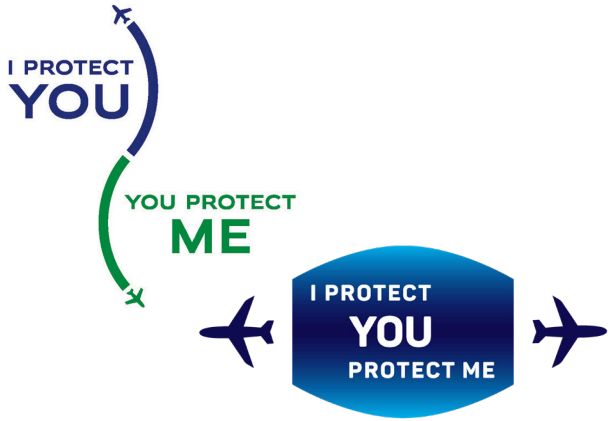
The International Civil Aviation Organization (ICAO), the aviation technical body of the United Nations, has designated 2021 as the 'Year of Security Culture.' For airlines and airports, security is the key to restoring passenger trust in the era of Covid.

Just as after the terrorist attacks in the US on 11 September 2001, airline passengers will want reassurance that they can 'Fly Safe & Feel Secure,' as currently advertised by Turkish Airlines.

Pre-Covid advertisements promised goodies such as: free champagne, stretch-out seats, five-course dinners. For Covid-era air travel the most important product feature and customer benefit the aviation business can offer is the guarantee of 'Wellness' and ***FLYING HEALTHY*** security and safety — with predictable and consistent regulations, standards and procedures.

As a *pro bono* initiative, LIFT Aero Design has produced an ingenious portfolio of aviation-themed graphics to help airlines communicate the two-way benefit of face masks. Three examples are displayed on this page. The collection has been designed for easy application on: mask packaging, websites, mobile apps, boarding passes, IFE screens, advertising, onboard placards or partitions on airplane seats etc. On its website the company explains that the graphic elements are available free of charge for any airline or aviation supplier; and LIFT grants the rights to use the data. The aim of the LIFT Aero Design programme is to foster more mindful and considerate travelling practices.



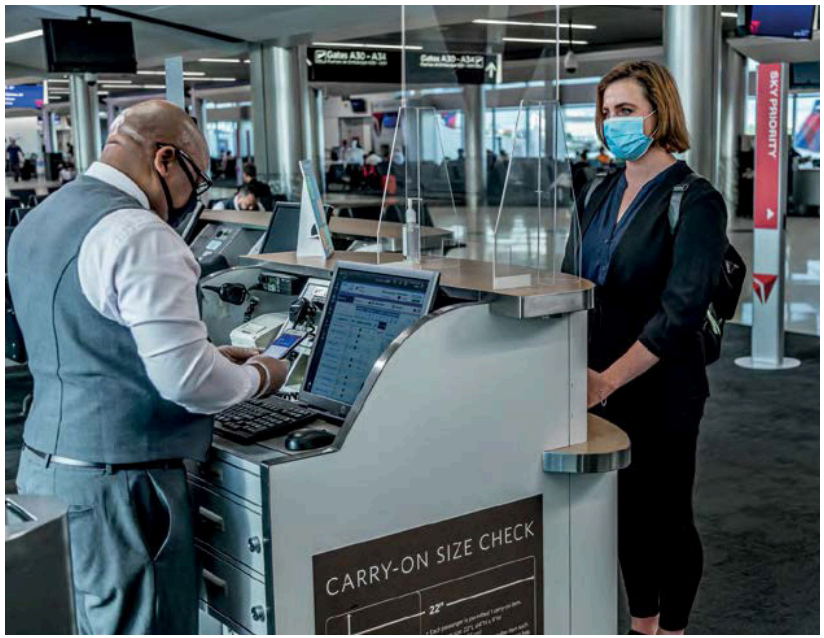


LIFT Aero Design

Turkish Airlines

NEW PROTOCOLS FOR CHECK-IN, DEPARTURES, ARRIVALS

Transparent divider screens



DELTA

One-way corridor systems

lonelyplanet.com

Airports and airlines are enacting strict new protocols for passenger handling. For example, transparent screen-guards and mandatory mask-use at check-in counters, as implemented at Delta terminals; and one-way, separate corridor systems, as shown by *Lonely Planet* — to avoid having passengers mixing face-to-face, coming from both directions, during arrivals and departures. Many airports have installed sanitizer dispensers at passenger-contact locations. And there are new-style deep-cleaning and disinfection programs for airport bathrooms.

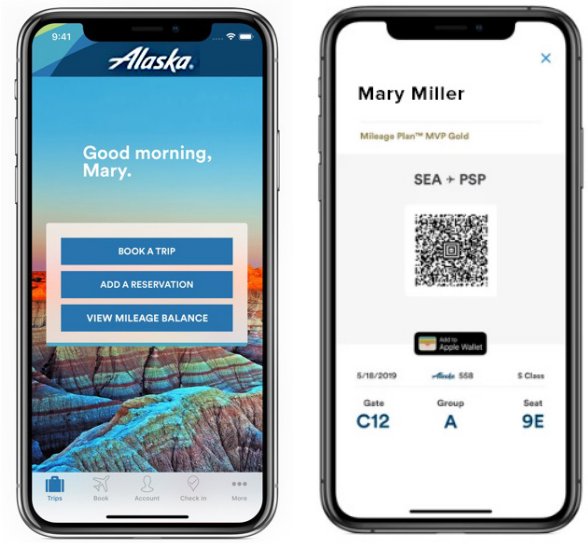
CONTACTLESS CHECK-IN & BOARDING PROCEDURES

Air Transport World,
November 2020

Air Transport World magazine predicts the steady evolution of contactless procedures for airline passengers. As 'Touch-Free Travel' becomes generally accepted, more and more airports will feature robot-type 'Welcome Kiosks' and biometric, facial-recognition identification systems, along with digital links to passengers' own personal electronic devices (PEDs).

The experts say 'Touch-Free Travel …' but, of course, passengers will certainly be touching their own PEDs. Look, there's Mary, clicking on an interactive app on her iPhone to verify the departure gate and seat assignment for her flight on Alaska Airlines.

It's all very well for the 'tech-savvy,' yes. But what about those passenger groups that might not be accustomed to navigating endless series of 'techie-type' screen pop-ups? In these circumstances, there is a need for ground handling staff and check-in agents to be prepared to offer assistance, to overcome the challenges of the technical hurdles that confront, for example, senior citizens who might not have experience using computer terminals.



Alaska Airlines

COVID-19 TESTING: IATA & WHO

JetBlue

Airlines are developing working partnerships with major medical and scientific organizations, for example: JetBlue with Northwell Health, and United Airlines with Clorox and the renowned Cleveland Clinic. Many airlines now require passengers to undergo pre-flight Covid testing.

Big question: Could pre-flight Covid testing and vaccination-passport, health declaration systems become the mandatory standard practice at all airports, worldwide? Well, think about the security searches that were introduced after the terrorist attacks on 11 September 2001. At first, it felt uncomfortable to walk through metal detectors and to submit to body pat-downs and inspections of personal possessions. But now, everyone takes this process for granted. It's considered normal. After all, who (apart from terrorists) would want to board an aircraft if the other passengers had not gone through mandatory, anti-terrorism security checks?

In earlier decades, it's worth remembering, international travellers had to carry with them yellow cardboard certificates showing evidence of individual vaccinations for then-dreaded diseases such as polio, yellow fever and small-pox.

As with all official registration systems, there is always the worry that there might be opportunities for fraud. However, looking ahead to the prospect of future, Covid-free air travel, we might indeed see a new certification scenario, with, perhaps, digitized vaccination records.

continued ➤

JetBlue

COVID-19 TESTING: IATA & WHO (CONTINUED)

This year, the International Air Transport Association (IATA) has announced the development of the IATA Travel Pass, described as: 'a mobile app to help travelers easily and securely manage their travel in line with any government requirements for Covid-19 testing or vaccine information.' The IATA announcement explains that the Travel Pass is being developed in conjunction with the International Civil Aviation Organization (ICAO) and the World Health Organization (WHO). ICAO standards will be used to verify passenger identity and to create the digital travel credential. And WHO is developing standards for government-recognized passenger tests, vaccination information and authorized certificates. The announcement states that there will be a registry of health requirements for specific air journeys and a registry of authorized testing locations, vaccination centres and laboratories.

United. Boeing B787 Dreamliner


United

IATA has emphasized that its 'digital passport' is designed to provide full data privacy and security for individual passengers, in a paper- and contact-free way.

This is a major attempt to get everyone flying again. Just as the airlines of the world came together to ban smoking onboard aircraft during the late 1990s, it is hoped there will be full global cooperation across the aviation sector to mitigate the impact of the Covid-19 pandemic.

TOWARDS FLYING FREE OF COVID-19

Etihad Airways. Airbus A380

In January 2021, Etihad Airways, the national airline of the United Arab Emirates, announced that it will be one of the first airlines in the world to use the Travel Pass developed by the International Air Transport Association (IATA) and the WHO.

At Abu Dhabi Airport (AUH), starting on 01 October 2020, the Covid-19 Polymerase Chain Reaction (PCR) test became a mandatory requirement for all departing passengers.

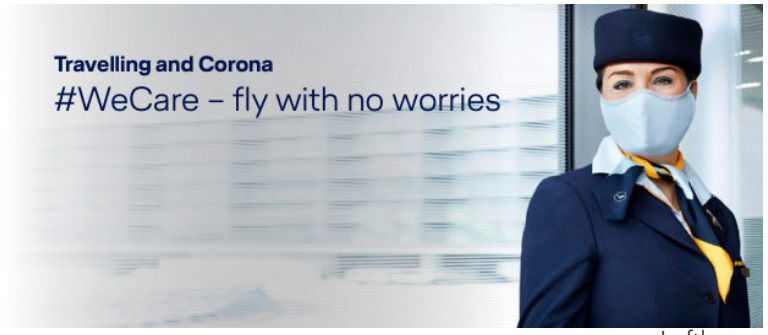
In its advertisements, Etihad states that all passengers/'guests' must test Covid-negative before they fly and that face masks must be worn throughout the flight (except when actually eating or drinking).

In a Passenger Experience Conference Webinar, in 2020, Linda Celestino, Etihad's Vice President Guest Service and Delivery, explained that with flight tickets for many of the airline's routes, the Covid-19 PCR screening is included free of charge, with results available within 24 hours. Additionally, Etihad guarantees global wellness insurance coverage: if Etihad guests are diagnosed with Covid-19 while they are travelling, the airline will cover their medical expenses and quarantine costs.

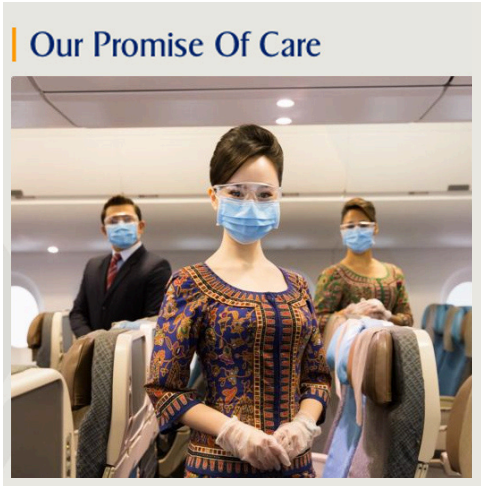
If guests test positive for Covid-19 or they are unable to provide proof of a negative Covid-19 test, they are not permitted to travel from Abu Dhabi. In this case, flights on Etihad can be re-arranged free of charge. This is an inspiring *and* practical way to handle the problems created by the Covid-19 pandemic.

Etihad Airways

PASSENGER WELLNESS WEBSITE DISPLAYS



Lufthansa



Singapore Airlines


China Eastern. Comac C919

Leading airlines are now displaying Covid-related information on their websites.

For example, Lufthansa is advertising: 'Fly with No Worries.' Singapore Airlines is emphasizing: 'Our Promise of Care.' And China Eastern Airlines, headquartered in Shanghai with a secondary hub at Wuhan, the original Covid-19 epicenter, lists a number of safety and hygiene announcements under the webpage entitled: 'Caring More About You.'

In some cases, airline web-pages do not provide details relating to passengers with disabilities or special needs. This is an area of air travel that is evolving, but not as rapidly as we would hope. For example, vision-impaired passengers could encounter difficulties when dealing with new-style digital and touch-screen communications, both at the airport and onboard the aircraft; and mobility-restricted passengers might have problems manipulating hand-sanitization pumps and sprays, plastic safety gloves and face masks, and wrapped, boxed meals.

Going forward, there is an important need to re-examine all elements of the Covid-era flying experience from the perspective of passengers with disabilities, both visible and non-visible. (There is more information on this topic in Chapter 8/Accessibility: Special Needs and the attached EXPO 2019: Special Needs Case Study.)

China Eastern

ELECTROSTATIC SPRAYING & UV-C LIGHTS

American Airlines

GermFalcon Honeywell

Let's move to the aircraft interior. How are airlines working to re-build passenger confidence? As implemented by American Airlines, electrostatic spraying provides a 'fogging' disinfectant mist. And the Honeywell GermFalcon robot — pushed along the aisle by a human — disinfects the cabin using hospital-grade UV-C lighting.

The frequency of these programs has to be carefully organized, for example, in the hangar on aircraft overnights or between flights during the daytime because of the 'dwell time' of toxic fumes.

Will there ever be a safe-to-inhale disinfectant that could be used after passenger boarding? Perhaps, one day, yes — according to aviation research scientists.

And there are other long-term questions. How well will cabin fabrics, fittings and finishes survive constant disinfection treatments? What sort of damage will be sustained following the repeated use of Covid-fighting sprays, UV-C lights and chemical wipe-downs? To what extent should airlines invest money in disinfection hardware and stocks of chemical cleansers if there are Covid-19 vaccination programmes on the horizon?

CABIN AIR QUALITY

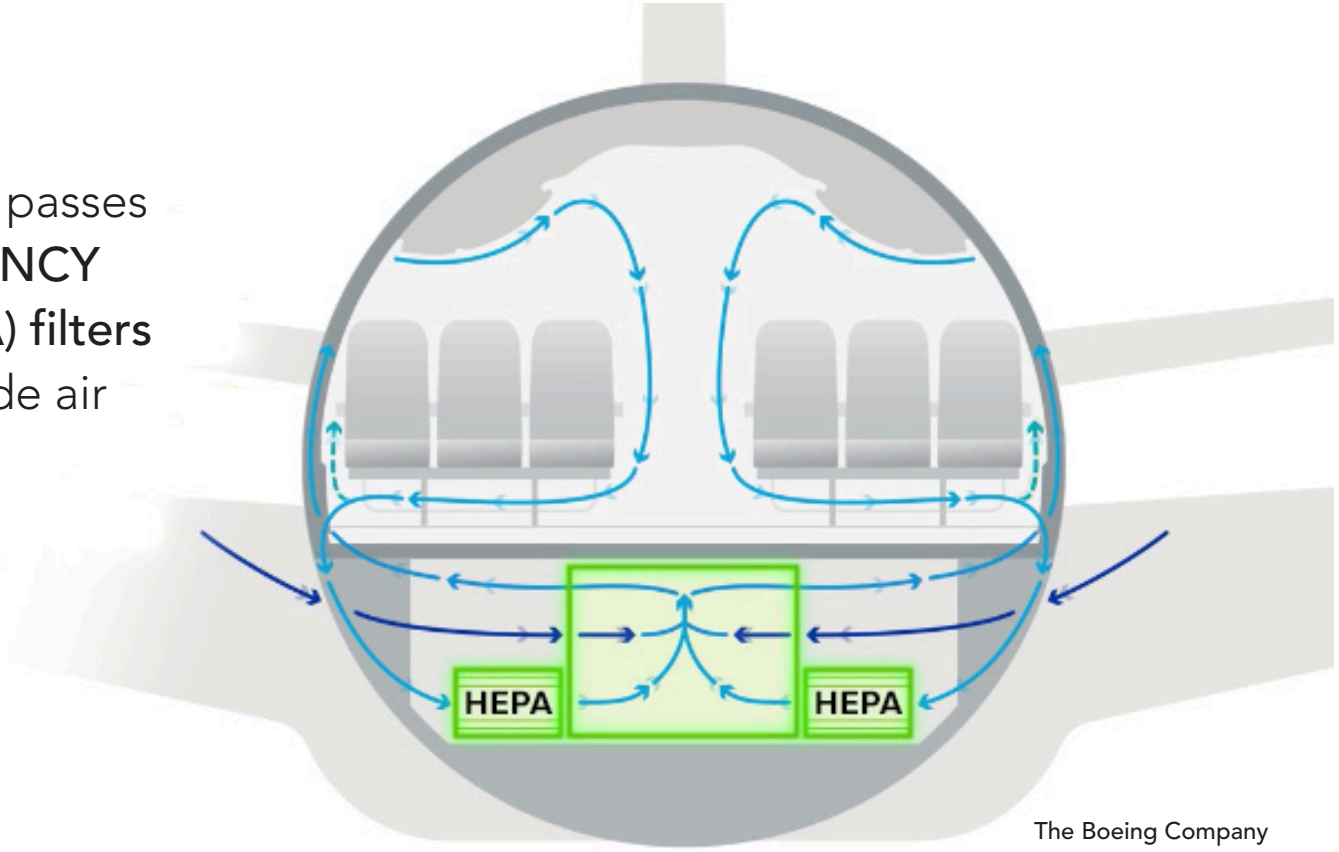
Building type (ranked by most to least safe air quality)	Average number of times air changes per hour	Average minutes required for 99.9 per cent removal of air
Commercial Aircraft	30	2 min
Hospital operating room	20	3 min
Grocery store	5	62 min
Office	5	83 min
Home	0.25	240 min

Harvard
T.H. Chan School of Public Health

Cabin air quality is front-page news these days. This analysis from Harvard confirms that the aircraft cabin is a substantially safer location than retail, business or residential environments. Inside aircraft cabins the change of air takes place every 2 to 3 minutes. This is hospital standard, far faster than in everyday locations.

CABIN AIR FILTERS

Air returning to the cabin passes through **HIGH EFFICIENCY PARTICULATE AIR (HEPA) filters** and is mixed with outside air



The Boeing Company

This Boeing diagram shows how air enters the aircraft cabin through nozzles positioned in the ceiling panels. The air is directed vertically down to floor level. Every two minutes or so, at about ankle level, the cabin air moves out through vents located below the cabin windows. The cabin air then passes through High Efficiency Particulate Air (HEPA) Filters. And this air is mixed with the intake of sterile new air from outside. Modern aircraft have flown HEPA Filters for many years. These filters have a microbial removal efficiency of greater than 99.99 per cent of particles, including bacteria and viruses.

I hope this information will be reassuring for everyone who's thinking about flying in the future.

RETHINKING THE AIRCRAFT SEAT: PARTITIONS, HOODS

Aviointeriors Glassafe

RAS Interiors

For additional protection, jetliner designers are re-thinking aircraft seats, for example face-level partitions, and head-level hoods, from RAS Interiors and Aviointeriors.

RAS Interiors

INNOVATIVE SEATING DESIGNS

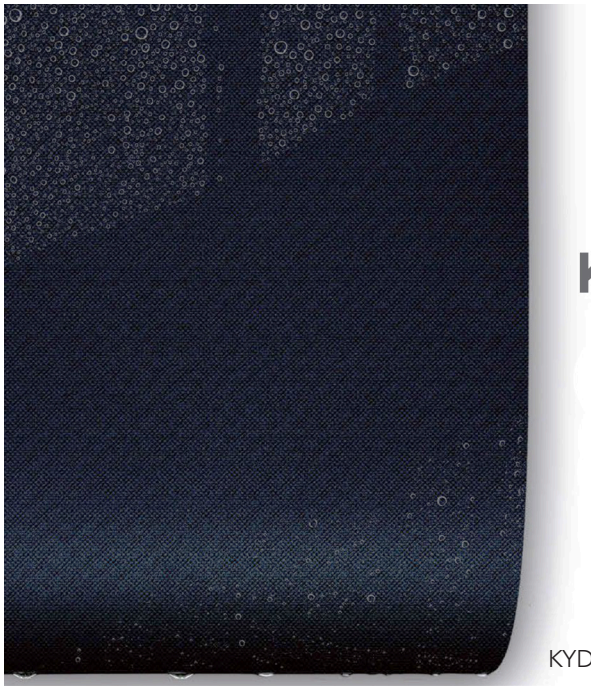
Factorydesign. Economy Class – Blocked Centre Seats & Dividers

For social distancing, some airlines have been blocking middle seats. For the Economy Class cabin, Factorydesign is proposing full-length dividers, attached to the seat-back panels. For sleeper seats in the Premium Class cabin, PriestmanGoode is proposing aisle-side drapes to provide privacy and insulation.

PriestmanGoode. Premium Class – Privacy Drapes

AVIATION-GRADE ANTIMICROBIAL FABRICS, THERMOPLASTICS

Tapis Corporation



KYDEX

KYDEX®

Antimicrobial

Chemical & Stain Resistant

UV-C Resistant

For many years, Tapis Corporation has supplied silver-ion-infused, antimicrobial fabrics for aircraft seat covers (as described in Chapter 15/Green Advances: Superior Interiors). Tapis also supplies ambulance- and hospital-grade artificial leather. The synthetic 'UltraLeather' has a non-porous surface (unlike genuine leather, which has a porous surface). This means that 'UltraLeather' can be cleaned systematically, using bleach-based and other sanitization products (as described in Chapter 10/Durability).

Similarly, KYDEX provides antimicrobial and cleanable thermoplastic product lines for mass transit, including aircraft-cabin installations and fittings such as bulkhead divider panels, armrests and side panels.

AVIATION-GRADE ANTIVIRAL ADHESIVE FILM

ADHETEC

We're now seeing advanced, aviation-grade Antiviral materials, such as this adhesive film from ADHETEC, used to cover tray-tables and work surfaces.

'Aviation-grade' means certified to fly. Before any item can be accepted for installation in an aircraft cabin, there are rigorous testing cycles, as required by the Federal Aviation Authority (FAA) in US, the European Union Aviation Safety Agency (EASA) in Europe, and other comparable authorities in other parts of the world. There are stringent standards relating to flammability, toxicity, smoke and heat release (as described in Chapter 13/Upgrades: Refurbishing Aloft).

COPPER-BASED ANTIVIRAL FINISHES

ActronMFGINC.com

This slide shows everyday, frequently touched hardware items treated with Actron's copper-based Antiviral Shield, the first product of its kind to be approved by the US Environmental Protection Agency (EPA). This is an exciting ***FLYING HEALTHY*** advance.

Copper is biostatic, meaning bacteria and other life forms will not grow on it. For example, on the underwater hulls of ships, the copper-bottomed sections do not get befouled by accumulations of barnacles or marine life. Copper cladding, first used by the British Navy in 1761, on H.M.S. Alarm, gave ships great advantage of speed compared with ships that had enormously heavy growths of marine weed across their underwater surfaces.

As used in hospitals and biomedical facilities such as The Francis Crick Institute, in London, researchers have demonstrated that copper and copper-alloys can kill pathogens on contact. On other commonly used surfaces such as stainless steel or glass, pathogens can remain infectious for several days

For surfaces of high-touch aircraft-cabin items, for example: door handles, storage-bin latches, pull-knobs, call buttons, grab bars, slide panels and support-rails, copper finishes can provide a 90 per cent reduction in the number of live bacteria, viruses, yeasts and fungi.

continued ➤

COPPER-BASED ANTIVIRAL FINISHES (CONTINUED)

Copper-finish protection is continuous. It never wears off, even after repeated, subsequent contaminations. Traditionally, for their cabin furnishings, airlines have used silver-coloured metals such as steel, chrome and aluminium for decorative accessories such as door handles, hinges and latches. Perhaps, in future years, it would make more sense to use copper and copper-based-treated onboard accessories?

As the Professor of Environmental Healthcare at University of Southampton, England, Bill Keevil, stated in one of his published articles: 'Copper … disinfects merely by being there.'

And, in a press interview, the Professor of Microbiology and Immunology at the Medical University of South Carolina, Michael G. Schmidt, stated: 'Copper is truly a gift from Mother Nature in that the human race has been using it for over eight millennia.'

Well, this statement rang a bell for me. Some years ago, as part of a business group, I was fortunate to visit Chuquicamata, the giant Codelco copper mine in north Chile (visible from outer space). Little did I think, at that time, that I would, one day, write about the use of copper for disinfection of aircraft interiors. It was fascinating to learn about archaeological findings from thousands of years ago that provide evidence of the use of copper to cure medical problems, for example: by doctors in Ancient Egypt, Babylonian soldiers, Chinese physicians and Indian Ayurveda pharmacologists. Also, by the 'father of modern medicine' himself: Hippocrates, in Classical Greece — in more recent times, of course, the fourth century BC.

Now, fast forward to our own 21st century and the era of Covid-19: In New York City convenience stores there are racks of 'Copper Clean Keys' with advertisements stating: 'The safe way to avoid contaminated surfaces', 'Stay clean, stay protected' and 'Avoid touching shared surfaces'. The accompanying sales cards explain that 'contactless' copper-alloy keys can limit the user's exposure to contaminated surfaces. For example, the keys can be used to disinfect computer touch-screens and safely activate point-of-contact control buttons on elevators, ATM machines and other technical appliances.

KeySmart

Copper-alloy CLEANKEY

ANTIMICROBIAL, ANTIVIRAL COATING

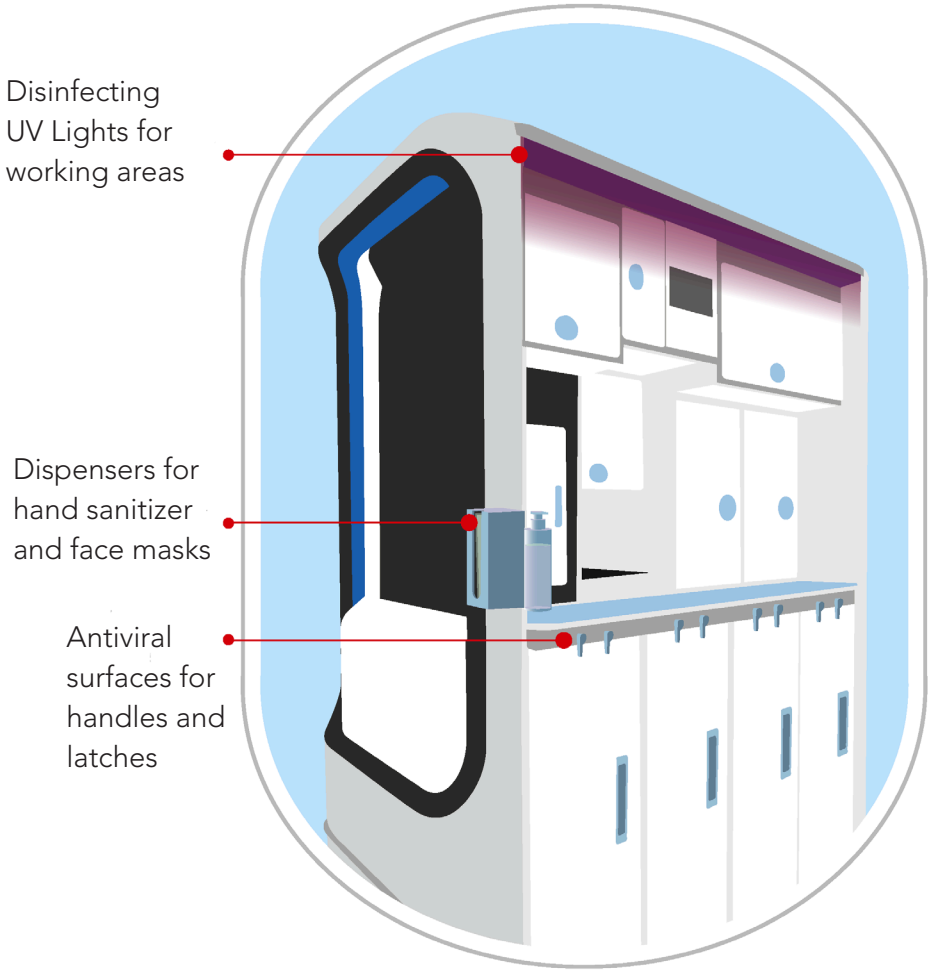
MicroShield 360

There is another exciting approach to providing biostatic protection. MicroShield 360 is advertised as a unique coating system. For an entire year, with one coating, it can prevent pathogens from living on the treated areas, including surfaces used for direct food contact. It's the first-ever product in this category to be registered by the US Environmental Protection Agency (EPA) and approved by the US Food and Drug Administration (FDA). MicroShield 360 can be electrostatically sprayed on all surfaces, with 360-degree coverage, to kill 99.9 per cent of pathogens, 24/7, 365 days of the year. Those pathogens include: bacteria, viruses, mould, mildew and fungi. Additionally, the coating resists the effects of tobacco smoke on exposed surfaces.

The MicroShield product technology is based on specialized bonding agents and suspension agents. The system works by mechanically puncturing a pathogen and applying a positive charge which, in turn, disrupts the pathogen's ability to function. As this coating does not use poison to infect and kill, antimicrobial resistances cannot be formed against the coating. MicroShield 360 is advertised as being colourless, odourless, non-toxic and hypoallergenic. This truly innovative development could be of great benefit, potentially, not just to the airline business but to all modes of transportation.

ANTIVIRAL AIRCRAFT GALLEY

Fly safe, with Bucher's new antiviral kit.



Hey! What's cooking in this Bucher Galley? Note the UV disinfection lights at the top and the Antiviral surfaces in the touchpoint locations.

Going forward, we can expect to see continued development of jetliner galleys that are quieter, stronger and lighter-weight (to provide savings on jet-fuel usage, with the consequent reduction in carbon emissions). New-style fabrication processes will incorporate materials that are 'greener' and recyclable, along with high-efficiency ventilation and air-purification systems. And to provide upgraded hygiene standards for flight-attendant work routines, there is a need to increase the number of automated and Touch-Free features.

In recent years, particularly on their twin-aisle aircraft, some airlines launched creative design initiatives to develop the use of their galley space to accommodate passenger-socializing activities. Sadly, in the Covid-19 era, it looks as though serendipity galley gatherings will no longer be permitted.

TOUCHPOINTS SANITIZATION CHECKLIST

Cabin
- Bin surfaces
- Bin latches
- Monument edges
- PSU

Seats
- Seat cover
- Headrest
- Seat belt
- Stowage
- Reading light
- Remote
- Seat controls
- Table
- Console
- Tray
- Lit pocket
- Monitor
- Coat hook

Lavatories
- Toilet
- Vanity
- Counter
- Mirror
- Door
- Latches
- Dispensers

Similar to an Automotive Maintenance Report

J. Lampela,
Director of Design,
BMW Group Designworks

For cabin sanitization, BMW Group Designworks advocates transparency and clarity, similar to an official Automotive Maintenance Report. In a Passenger Experience Conference Webinar, in 2020 (which I had the honour of moderating), Mr Johannes Lampela, Director of Design, explained that Report Lists can be passed to airline passengers as proof of an airline's scheduled cleaning programmes.

Important touchpoint areas that need special attention are: armrests, tray-tables, tops of seat backs and lavatories, because of repeated physical contact during the flight. Many airline passengers use sanitization wipes to clean these areas before settling into their assigned seat rows.

AIRCRAFT LAVATORY HYGIENE

HAECO Cabin Solutions

Foot-Pedal Flush

Mobile UV-C lamp for 44-second lavatory disinfection

Lufthansa Technik

Here are two developments in the design of aircraft lavatories. This innovative, portable UV-C lamp, from Lufthansa Technic, can disinfect an aircraft lavatory in under one minute. Interestingly, the HAECO Foot-Pedal is similar to the flush system used for decades in the rail-travel and marine-travel sectors.

INFLIGHT CONNECTIVITY: DIGITAL EXPERIENCES

Touch Screen

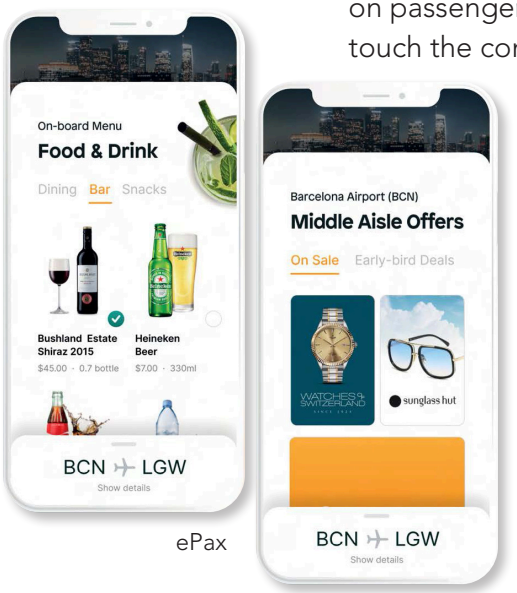
PXCom

Time for technology. Seat-back screens provide inflight entertainment (IFE), including: movies, TV news, flight information and gaming contests. And now, increasingly, seat-back screens are displaying many *other* options, for example: the flight-attendant call button; and, as shown on this Slide, in the top left-side quadrant, lavatory-access requests. The aim here is to prevent groups of passengers from forming lavatory queues and congregating in the aisles of the aircraft.

The seat-back screen is another high-touch surface that passengers usually clean, using tissues or sanitization wipes.

Over the past decade, to achieve onboard weight savings, digital displays have replaced heavy paper items such as: shopping catalogues, menu cards, newspapers and magazines. (Detailed information about aircraft-cabin weight-saving programmes and carbon-emissions reduction can be found in Chapter 15/Green Advances: Superior Interiors.) The digitization trend is now accelerating because of the effects of the Covid-19 pandemic. In many cases, the airline's digital programmes can be accessed on passengers' own PED screens. So there's no need for these passengers to physically touch the common-use seat-back screens.

Communications Programmes for Passengers' PEDs



ePax

As with the automated airport check-in procedures shown earlier in this Case Study, flight attendants would need to be ready to provide assistance for passengers who are not accustomed to navigating airline screen displays or who might find it difficult to process data inputs and message responses in, possibly, their second or third foreign language.

BOXED MEALS: PRE-PACKAGING


AIM

South African Airways

To combat customers' Covid-19 fears, many airlines are serving Boxed Meals, for example at South African Airways and British Airways. The AIM picture shows the hygienic onloading of Boxed catering supplies.

Suppliers who are in the Boxing Business must be overwhelmed with work orders as a result of the Covid-19 pandemic.

British Airways

For many years, premium-class passengers on the major airlines have been able to pre-select their preferred dining menus. And because of the Covid-19 situation, we can expect to see an extension of this product feature. By asking passengers to place their orders online, in advance of their flights, and by providing stackable meal packages, flight attendants will not have to personally handle open meal trays or individual dining components. This procedure will serve to minimize crew and passenger contact during meal services.

BRANDING

Customer surveys confirm that airline passengers feel reassured when they see branding displays that are familiar and respected. On the shoulders of the Philippine Airlines personnel, the colourful corporate logo is a clever signature touch, offering immediate visual communication. And the Emirates presentation box has been purpose-designed to match the flight attendant's hat.

Philippine Airlines

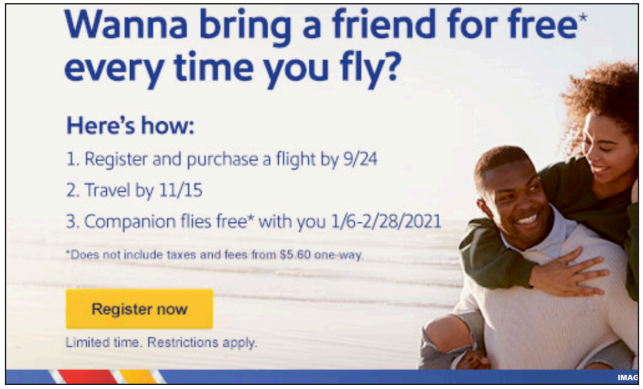
Philippine Airlines

Emirates

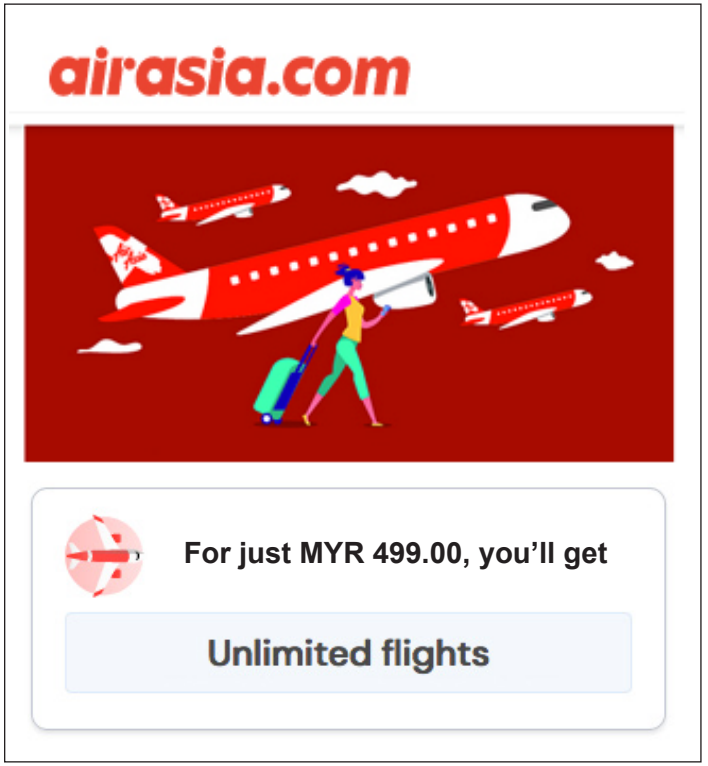
SPECIAL OFFERS

Ryanair

Virgin Atlantic



Southwest Airlines

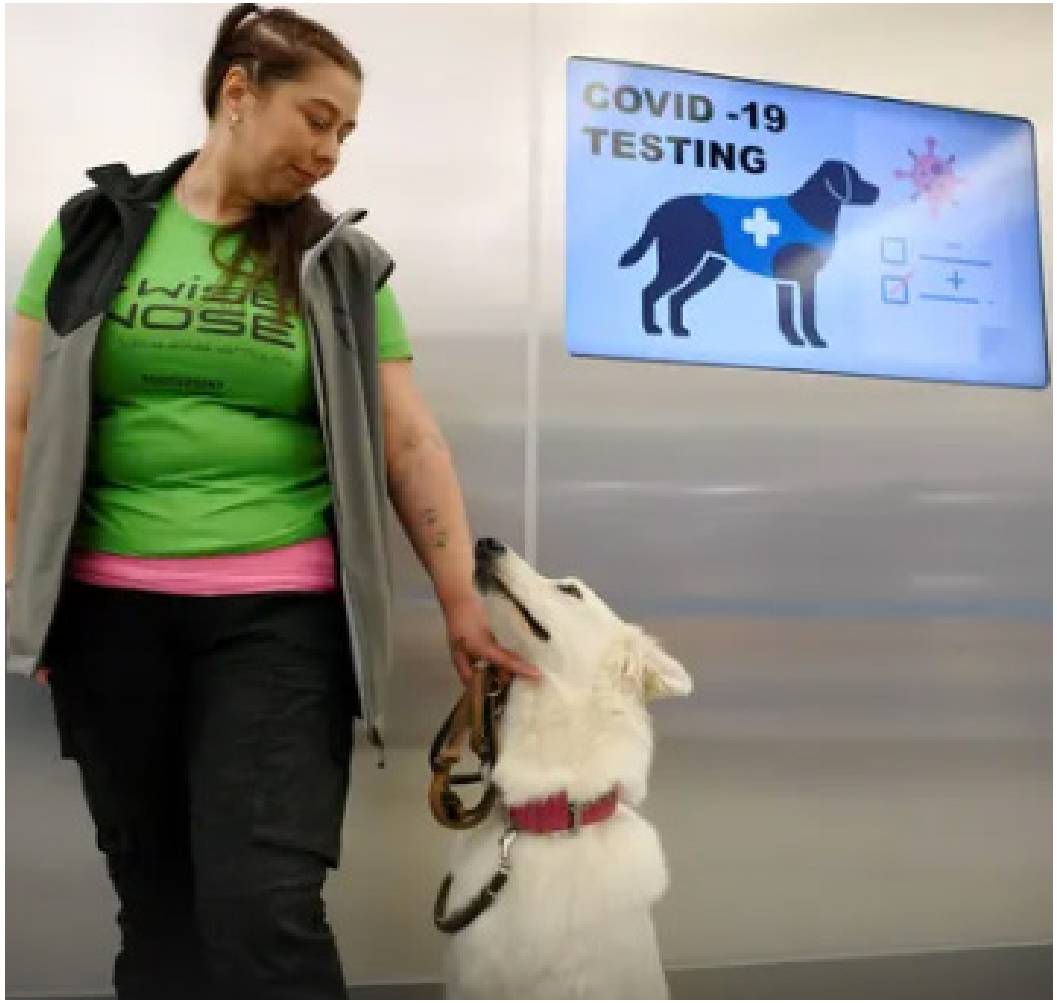


AirAsia

Airlines are longing for us all to fly again. With news of upcoming vaccines, they're rolling out enticing Special Offers. On Virgin Atlantic: free Covid-19 insurance. On AirAsia: unlimited flights over defined time-periods, all for the equivalent of about US$120. Southwest is advertising Free Companions. And you can see some really wild, discounted fares at Ryanair.

COVID-SNIFFING DOGS AT AIRPORTS! WHATEVER NEXT?

‘Close to 100 per cent accuracy’: Helsinki Airport uses sniffer dogs to detect Covid



In closing, what do you think about this recruitment picture? Look, jobs available — for applicants with FOUR legs. Airport dogs can detect cocaine, heroin, firearms, meat and fruits, all in passengers’ suitcases. Earlier this year, Dubai International Airport (DXB) inaugurated a Covid-Sniffing programme, and there are Covid-Training classes for dogs in France. Already in full use at Helsinki-Vantaa Airport (HEL), Finland, these Covid-Sniffing dogs operate with, as reported by *The Guardian* newspaper: ‘Close to 100 per cent accuracy.’

Special thanks to Daniel Baron and to Philippine Airlines for their contributions to this Case Study.

- Jennifer Coutts Clay

MORE INFORMATION

Published Articles about Covid-19 Pandemic Air Travel featuring comments from Jennifer Coutts Clay

In Conversation with JETLINER CABINS' Jennifer Coutts Clay
by Melissa Moody, *Aviation Business News*, 22 September 2021
Aircraft cabins pre-, during-, and post-Covid
Read the article

Jennifer Coutts Clay on Overcoming the Challenges of Covid in Aviation
by Marisa Garcia, *Runway Girl Network*, 05 March 2021
How the Covid pandemic impacts the aviation sector,
and opportunities for airlines to adapt and improve through innovation
Read the article

Panasonic Tables Active Surfaces to Support Hygienic Design
by Marisa Garcia, *Runway Girl Network*, 03 March 2021
Practical development of active surfaces in the aircraft cabin
Read the article

CONTACTS MENTIONED IN THIS CASE STUDY

(Listed Alphabetically)

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Actron

ADHETEC

AIM Altitude

Air Transport World

AirAsia

Airways magazine

Alaska Airlines

American Airlines

Aviation Business News

Aviointeriors S.p.A.

Daniel Baron

BMW Group Designworks

British Airways

British Royal Navy

The Bucher Group

China Eastern Airlines

Chuquicamata Copper Mine

Cleveland Clinic

The Clorox Company

The Francis Crick Institute

Delta Air Lines

Dubai Airports

Emirates Airline

ePax

Etihad Airways

European Union Aviation Safety Agency (EASA)

Factorydesign

Formia

GermFalcon Honeywell

The Guardian

HAECO Cabin Solutions

Harvard - T.H. Chan School of Public Health

Helsinki-Vantaa Airport

International Air Transport Association (IATA)

International Civil Aviation Organization (ICAO)

JetBlue Airways

KeySmart

Las Vegas, NV, McCarran International Airport (LAS)

LIFT Aero Design

Lonely Planet

Lufthansa

Lufthansa Technik (AG)

Medical University of South Carolina, USA

MicroShield 360

Northwell Health

Passenger Experience Conference

Philippine Airlines

PriestmanGoode

PXCom

Qatar Airways

RAS Interiors

Runway Girl Network

Ryanair

Sekisui Kydex

Singapore Airlines

Skytrax

South African Airways

Southwest Airlines

Tapis Corporation

The Boeing Company

Turkish Airlines

United Airlines

University of Southampton, England

US Environmental Protection Administration (EPA)

US Federal Aviation Administration (FAA)

US Food & Drug Administration (FDA)

Vietjet Air

Virgin Atlantic

Wall Street Journal

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World Health Organization (WHO)

Zoom Video Communications, Inc.

Delta Air Lines. Boeing B767

www.jetlinercabins.com

Acknowledgements

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