



Airport capacity

The impact of COVID-19 on **Operations**

Let's talk aeronautics



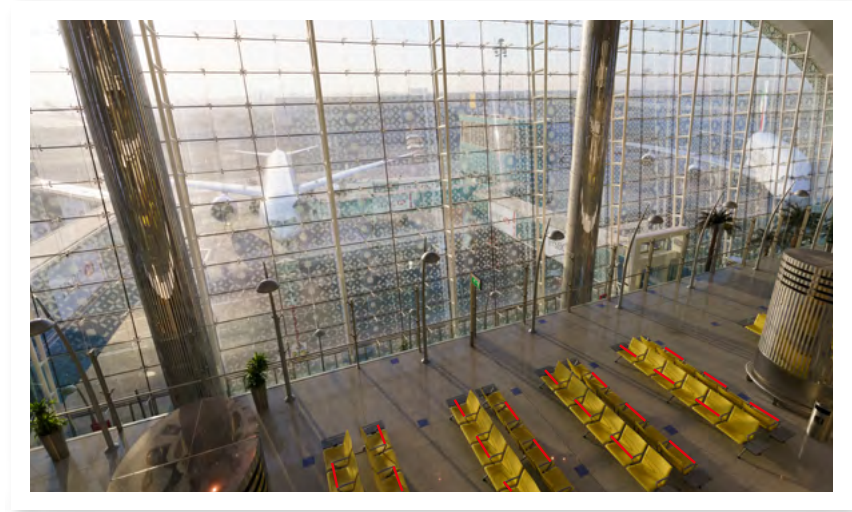


01/ How do new measures affect airport capacity?

In the same way that the September 11 attacks prompted regulatory changes that made flying safer, the COVID-19 crisis will make flying healthier as well.

In order to convince passengers to start flying again, a post-COVID-19 world will require measures that increase safety but at the same time, inevitably reduce capacity.

Measures that will reduce airport capacity include: social distancing, the implementation of new hygiene protocols, and the obligatory use of face masks.



Let's talk [aeronautics](#)

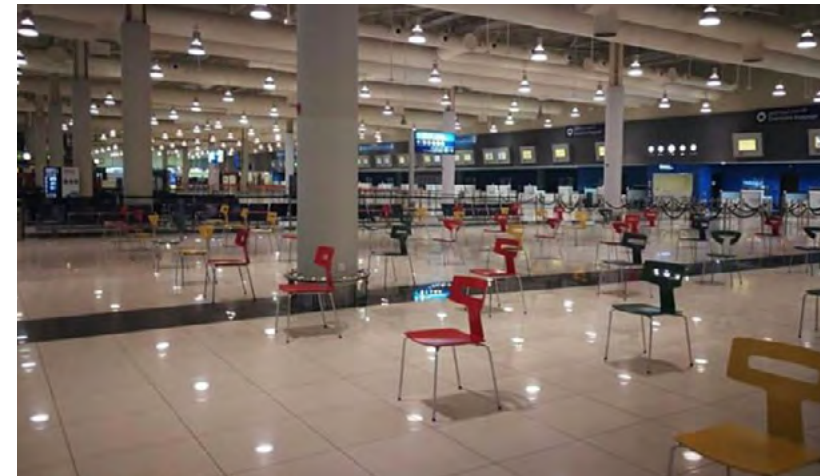




02/ New needs, new processes

Currently, some airports are already implementing new procedures that boost passenger trust in an attempt to keep sick passengers from flying; it is foreseen that these measures could continue in the future.

These procedures will be carried out mainly in the departures area for logistical reasons, and likewise to reduce the number of incidents involving passengers who are not approved to fly.



Let's talk [aeronautics](#)





03/ What are the new processes?



Passenger temperature checks

These take place in departures and arrivals to identify passengers who may have developed COVID-19 symptoms; this measure must be carried out by specific personnel, which requires a new queueing area.

Currently, the Abu Dhabi airport is testing kiosks that check temperatures, pulse, and blood oxygen levels.



Biological passport or health certificate controls

These are for passengers who have developed COVID-19 antibodies.

These passengers could be processed in a different flow without the need to take health or social distancing measures, therefore speeding up the processes.



Rapid-testing passengers for COVID-19 before flight

In Dubai Airport, Emirates Airline is rapid-testing passengers prior to boarding. This requires more space in the boarding area as passengers spend more time in these areas.

Hong Kong International Airport, on the other hand, is testing all passengers arriving, and this is taking place in the arrival areas.

Let's talk [aeronautics](#)



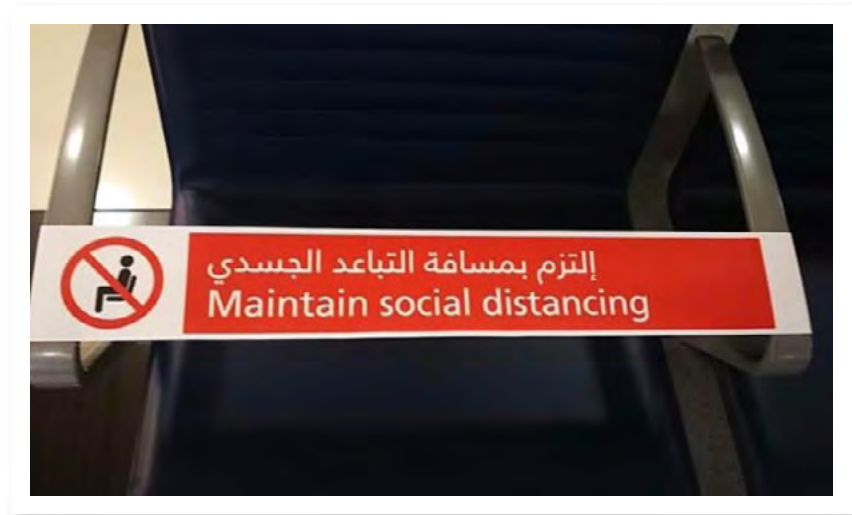


04/ New rules for passengers

The increased surface area requirements are directly related to the need to inform passengers about precautions to take and rules to follow during their time in the airport via additional signage located in passenger flow, queuing and waiting areas, to aid circulation.

Another area that must be analysed is the need for a variety of passenger hygiene stations, with hand sanitizers or vending machines for selling face masks and/or gloves.

Finally, healthcare facilities may need to be enlarged due to possible increase in personnel and a rise in the number of patients. Space will also be necessary for isolating passengers that health checks identify as possible COVID-19 cases.



TIP
Expand health facilities and informational signage to speed circulation



Let's talk **aeronautics**





05/ More social distance, more surface area required in the terminal

The need to maintain a distance of more than 1.5 meters between passengers implies the need to increase surface area available in all airport facilities that involve queuing, circulating, or waiting.

In some instances it will be necessary to increase the space available for queuing, but this surface area may not be available, in which case, the solution would involve striking a balance between the queuing area and the number of stations or check points for managing each process. An increase in the number of stations/check points demands an increase in personnel.

In the check-in area, for example, where each passenger still arrives with baggage, while the current recommended surface area is 1.8 m²/pax, this will need to increase to 7 m²/pax.



TIP
Enlarge airport surface area and number of stations/check points to reduce wait times



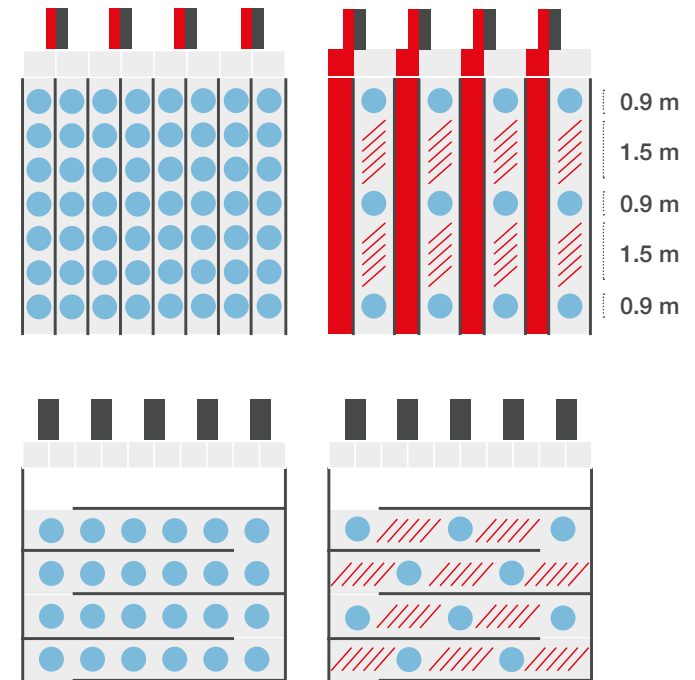
Let's talk **aeronautics**



05/ More social distance, more surface area required in the terminal

Clearly, the solution will be different depending on the airport's configuration of check-in counters (dedicated or universal counters), queues per check-in counter or general queues, as well as the airport's geometric layout.

It is estimated that these measures will reduce check-in area capacity by around 60%.





06/ Increase in airport's processing times

Processing times will increase as a result of the challenges involved in managing passengers who are complying with safety measures, and in keeping a safe distance between airport personnel and passengers.

Processes such as security checks, where the process itself involves a great deal of interaction between passengers and personnel will have to reduce the number of manual checks. This, in turn, will increase the number of passengers who must be inspected again, increasing processing times and reducing capacity.

It is estimated that, on average, security check-point capacity will be reduced by 70%.



TIP

Strike a balance between the increase in queuing area and the number of stations/check-points



Let's talk [aeronautics](#)



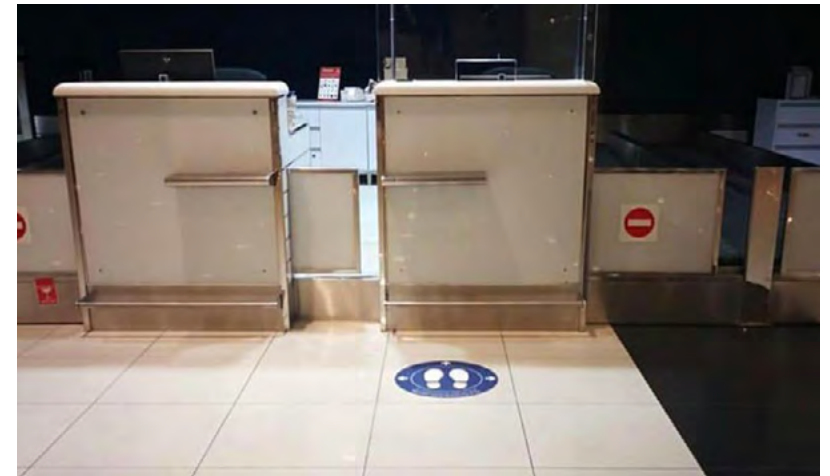
07/ Increase in aircraft turnaround time

Boarding areas can be a critical point in passenger processing. Analysis of the boarding area capacity must take into consideration both the number of boarding gates and the available surface area. Increasing the passenger processing time during boarding and deboarding will increase the turnaround time, reducing the terminal's capacity in terms of the number of aircraft that can be processed in a given time.

The boarding area's capacity will be reduced by the need for a greater number of m²/pax and by increasing time spent in those areas. Furthermore, the levels of service will be reduced as all available seats cannot be occupied, and if the seats are redistributed, capacity will probably be further reduced because the current layout is the most capacity-efficient.

It is estimated that the boarding area capacity will be reduced by around 65%.

The aircraft stands will also be affected, significantly reducing their capacity.



TIP

Allocate boarding gates in ways that reduce the impact on capacity during boarding





08/ Increase in number of checked baggage

In order to reduce the possibility of infection and reduce passenger boarding and deboarding times, carry on baggage is expected to be reduced, which will increase the number of bags in the hold.

This, in turn, will create problems by increasing requirements in the baggage claim area. In the 11th Edition of the ADRM, IATA calculated baggage claim area requirements in two possible scenarios:

- In scenario one, baggage reaches the carousel **before** the passengers
- In scenario two, baggage reaches the carousel **after** the passengers



TIP

Reduce to a minimum (or eliminate) the use of baggage carts to avoid infection and comply with social distancing requirements



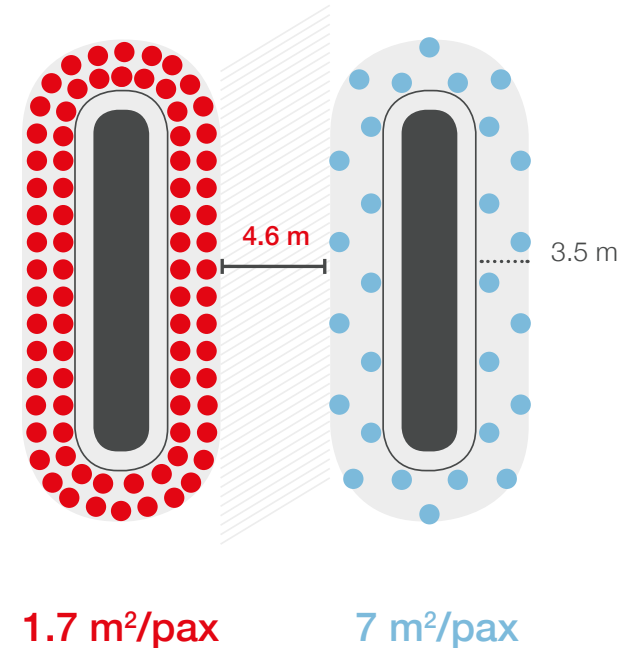
Let's talk **aeronautics**



08/ Increase in number of checked baggage

- **Baggage reaches the carousel before the passengers**
In this case, baggage carousels will need to be longer than in the “pre-Covid era” as more bags are checked.
- **Baggage reaches the carousel after the passengers**
In this case, the problems arise in the baggage collection area. Consider that even if the airport has a very large baggage claim hall, the actual collection area is limited to the 3.5 meters surrounding the baggage carousel.

The current recommended space is 1.5 to 1.7 m²/pax. This will need to increase to 7 m²/pax in order to maintain the recommended safety distance; **this implies a 65% reduction in capacity for the baggage collection area.**





09/ Forecast reductions in airport capacity

Departures Hall	Checked Baggage	Check-in	Security Controls	Passport Controls	Shopping & Restaurants	Boarding Times	Baggage Claims	Health Checks	Arrivals Hall
Drastic reduction (even prohibition) of companions in departures	Checked baggage per passenger will increase	Includes protective separation screens and protection measures	Increase in processing times and space for queueing	Increase in processing times and space for queueing	Reduction in capacity due to social distancing	Impact on boarding areas, number of gates, and stands	Increase in checked bags, need for more carousels and more space	Increased need for surface area for various health checks	Drastic reduction (even prohibition) of companions in arrivals
↓ -43%	↓ -60%	↓ -60%	↓ -70%	↓ -65%	↓ -50%	↓ -65%	↓ -65%	↑	↓ -50%

The progressive recovery of air traffic demand must not be impaired by the limited capacity of airports due to new requirements. The key is to prepare for this situation, analyse capacity values, identify new bottlenecks, and define the best possible personalised solutions for each airport.

Let's talk **aeronautics**



An enormous challenge for
air transport and engineering.
What's the next step?



For more information:

aertecsolutions.com/en/aviation-postcovid





Aerospace & Aviation

EUROPE
LATIN AMERICA
MIDDLE EAST
NORTH AMERICA

aertecsolutions.com

