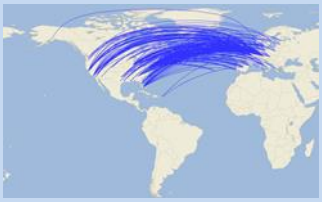
Impact of US ban on PEDs in aircraft cabin

- The US announced an aircraft cabin ban on Personal Electronic Devices (PEDs) on March 21st 2017 that on average impacts about 333 flights per week from the Middle East and North Africa.
- The ban would annually impact 4.8 million passengers by reducing their wellbeing by USD 178 million and increasing costs to industry by about 20 million.
- Expansion of the US cabin ban on PEDs to include flights from Europe (EU28, plus Switzerland, Iceland and Norway) would have significantly higher negative effects and on an annual basis would impact about 30.5 million passengers by reducing their wellbeing by about USD 1 billion and increasing costs to industry by about USD 160 million.
- If the US was to implement a ban on all international flights, an estimated 110 million passengers would be impacted with their wellbeing reduced by about USD 2.5 billion and increasing costs to industry by about USD 889 million.

	Annual passenger traffic	Annual impact on passenger wellbeing	Annual industry impact on cost
	1 in 45 international flights impacted Passengers: 4.8 mn Flights: 17 thousand	Business: $124 mn less productive, slower Leisure: $54 mn slower, inconvenience	Handling: $18 mn due to more screening Direct operating costs from delay: $2 mn
	1 in 5 international flights impacted Passengers: 30.5 mn Flights: 142 thousand	Business: $694 mn less productive, slower Leisure: $336 mn slower, inconvenience	Handling: $149 mn due to more screening Direct operating costs from delay: $11 mn
	All international flights impacted Passengers: 110 mn Flights: 786 thousand	Business: $1,210 mn less productive, slower Leisure: $1,290 mn slower, inconvenience	Handling: $825 mn due to more screening Direct operating costs from delay: $64 mn

Other impacts are also likely to be significant

- The additional screening requirements may change performance on minimum connection times, which as an immediate impact could lead to greater missed connections for passengers – further harming their wellbeing. Furthermore, if higher minimum connection times need to be applied this may require a re-optimization of aircraft schedules and positioning, leading to worse outcomes for industry.
- The impact on travel demand and passenger response to the PED ban is a critical component for assessing impacts. Travelers, particularly business travelers, may cancel trips or choose different routings given aversion to checking-in PEDs or due to loss of productive time. According to a Travelers Poll by Ketchum Global Research & Analytics the ban has high potential to impact travel plans, with 74% of business travelers indicating that the requirement to check-in their devices while flying would impact how they plan business travel and 15% indicating they would look to reduce the frequency of travel. The changes in demand may also impact route viability. This could have implications for future investment and business transactions in the wider economy.

Impact on passenger productivity and wellbeing

- Business passengers experience a relatively higher burden from the negative impacts of a ban of PEDs in the aircraft cabin. The two impacts assessed on business passengers are the loss of productive time and loss of time due to longer travel time. These impacts have been assessed based on bringing together market intelligence and expert insight to offer a conservative evaluation, summarized in Table 1.
    - Loss of productive time: the loss of productive time from not having personal laptops and tablets in the cabin will impose additional economic costs and adversely impact passenger wellbeing. The economic cost is calculated by taking a conservative estimate that only about 50% of business travelers use PEDs during flight and that for long-haul travel passengers choosing to work will do so on average of 50% of the flight time. A Travelers Poll by Ketchum Global Research & Analytics indicates that usage of PEDs may be even greater, as 80% of business travelers responded that they consider usage of PEDs to be important while flying and on average spend 50% of the flight time using a device.
    - Loss of time due to longer travel time: expert judgement, informed by the experience of the initial PED ban, is that travel times will on average increase by about nine minutes per passenger for flights within the scope of ban coverage.[1] There may also be adverse indirect impacts from propagation of delay impacts in the network but these are not covered in this impacts assessment.
- Leisure passengers experience negative impacts from the inconvenience of not having PEDs in the aircraft cabin as well as the loss of time due to longer travel time. These impacts have been assessed based on bringing together market intelligence and expert insight to offer a conservative evaluation, summarized in Table 2.
    - Inconvenience of no PEDs in aircraft cabin: Data obtained from the initial PED ban indicates that about 70-80% of travelers carry PEDs. Conservative estimates suggest that only about half of the travelers with PEDs have a strong need to use a PED during the flight - meaning 40% of all leisure travelers have a strong need to use a PED during the flight, this estimate is in line with findings from a Travelers Poll by Ketchum Global Research & Analytics. A review of the short term rental market in Europe for tablets and laptops for travelers shows that a conservative estimate of consumers willing to pay for one day rentals is USD 18.5 (not including delivery and insurance costs which are often more than the actual rental costs).
    - Loss of time due to longer travel time: same input parameters are used as described for business class passengers, however, value of time estimates are based on those recommended by US DoT for leisure travelers.

Table 1: Annual impacts on business travelers to US

	Inputs	ME/NA	EU+	World
# of pax to US, mn		0.5	4.1	8.7
Productivity loss				
Value of time/hr, $	64.6			
% of pax working	50%			
Avg flight length, hrs		14	9	5.5
Avg hrs work/flight, hrs		7	5	4
Productivity loss, $ mn		*119*	*655*	*1,125*
Longer travel times				
Extra time/pax, min	9			
Time loss, $ mn		*5*	*39*	*85*
Total impact business travelers, $ mn		**124**	**694**	**1,210**

Sources: IATA, US DoT – value of time, Airline inputs.

Table 2: Annual impacts on leisure travelers to US

	Inputs	ME/NA	EU+	World
# of pax to US, mn		4	26	102
Inconvenience				
Value of time/hr, $	35.4			
% of pax using PED	40%			
Value PED/flights, $	18.5			
Inconvenience, $ mn		*31*	*195*	*539*
Longer travel times				
Extra time/pax, min	9			
Time lost, USD mn		*23*	*141*	*751*
Total impact leisure travel, $ mn		**54**	**336**	**1,290**

Sources: IATA, US DoT – value of time, Airline inputs.

Impact on airline cost

- Data obtained as part of the airline response in addressing the first round of PED bans indicates that airlines incur additional costs from having to provide supplemental screening and purchase of packaging. Furthermore, airlines will experience higher costs due to delays. This assessment combines information on observed delays from the initial PED ban with cost of delay as per EUROCONTROL recommended values from the latest Standard Inputs for Cost Benefit Analyses. This partial impact on direct airline costs is summarized in Table 3.

Table 3: Annual impacts on airline costs

	Inputs	ME/NA	EU+	World
# of flights to US, thsd		17	142	786
Extra handling costs				
Extra staff/flight, unit	7			
Cost extra staff/flight, $	100			
Misc. extras per flight, $	350			
Extra handling/flight,$	*1050*			
Extra handling, $ mn		*18*	*149*	*825*
Direct airline ops costs				
Extra cost/min, USD	81			
Avg. delay/flight, min	1			
Direct cost delay, $ mn		*2*	*11*	*64*
Total impact on airline costs[2], $ mn		**20**	**160**	**889**

Source: IATA, EUROCONTROL, Airline inputs.

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George Anjaparidze
IATA Economics

economics@iata.org

[1] On departure an additional 5 minutes is estimated, this evaluation combines the behavioral response of passengers to the additional screening requirement and the lost time to passengers from the actual screening. On arrival, passengers will on average be expected to lose an additional 3 minutes to recover their PEDs. Furthermore, an additional 1 minute of flight delay can be expected. Airlines impacted by the first round of PED bans have reported that about 15% of their flights experienced delays specifically due to implementing the PED ban with the average delay being about 7 minutes per flight (this means on average about 1 minute for all passengers).

[2] Impact on airline costs could be higher if the longer travel times experienced by passengers, for example due to longer screening times in the terminal, results in more on the ground aircraft usage for example due to the longer time required to complete passenger boarding. The additional 8 minutes (see footnote 1 above, reference to on-departure and on-arrival impacts on travel time) would translate to an additional cost of $86 million per year for the global ban, $15 million per year for the European ban and $2 million per year for the initial ban.