

WS4 : Oceanic Working Group – Action Items (Als 1, 2, & 5)

Implementation of free route airspace (FRA) : IATA

Implementation of Continuous Climb and Descent Operations : AAI

Development of ATM system interoperability : SEAC (French Polynesia)

Utilising space-based ADS-B /Very High Frequency (ADS-B/VHF) : AAI

AI1: Implementation of Free Route Airspace

Aim : Expand airspace available for free route operations

Deliverables:

1. Signing of Lol – completed Q4 2023 – SLOI signed by Australia 8 July 2024
2. Establishment of Project Control Group – 1st meeting held - 2nd pending
3. Commence trial – 5 August 2024
4. Mid-trial review and identification of expansion opportunities – Q1 2025
5. Evaluation of trial and operationalization for day-to-day use – part of post implementation review and discussion today

AI1: Implementation of Free Route Airspace

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Reported benefits:

- NB: the data collated represents total savings achieved for UPR vs fixed routes for the restricted set of city-pairs used in the trial
- It is not the incremental saving from the trial itself as much of the UPR efficiencies existed already in Indonesia and Australia
- It represents what can be achieved in total when multiple States work in cooperation
- The trial city-pair flights are only a small component of total UPRs that can be accessed in the participating States
- Data only collected from 3 of 4 participating airlines so represents lower savings.

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Reported benefits - Airline 1:

Month	Total No. of Flights on UPR	Total UPR Fuel Savings	Total UPR CO ₂ Savings*
Aug 2024	160	24T	75.8T
Sep 2024	154	29T	91.6T
Oct 2024	152	19T	60.0T
Nov 2024	147	26T	82.2T
Dec 2024	151	20T	63.2T
5-Month Trial	764	118T	372.8T

*CO₂ emissions = 3.16 x fuel consumed (ICAO CORSIA CO₂ emissions factor)

- Participation was approx 35% flights, with average fuel saving 150kg per flight
- Flight time and track mile differences were not tracked however estimated to be below 5 minutes (average flight time saving) and 25NM (average track mile saving).

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Reported benefits - Airline 2:

	Time Savings per flight	Total UPR Fuel Savings	Total UPR CO ₂ Savings*
City Pair (out)			
Single leg	6 mins	864kgs	2,730kgs
Weekly (x4)	24 mins	3,456kgs	10,921kgs
City Pair (return)			
Single leg	7 mins	839kgs	2,651kgs
Weekly (x4)	28 mins	3,356kgs	10,605kgs
Weekly Total	52 mins	6,812kgs	21,526kgs
5-Month Total (~x 20 Weeks)	~1,040 mins	136,240kgs	430,518kgs

*CO₂ emissions = 3.16 x fuel consumed (ICAO CORSIA CO2 emissions factor)

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Reported benefits - Airline 3:

	Total UPR Fuel Savings	Total UPR CO ₂ Savings*
Dry Season (6th Aug 24 to 13th Sep 24) - 37 days of data		
(from city-pair averages)	46,685kgs	147,525kgs
Average participation 32%		
Wet Season (1st Nov 24 to 3rd Jan 25) - 64 days of data		
(from city-pair averages)	314,041kgs	992,370kgs
Average participation 48%		
Totals	360,726kgs	1,139,895kgs

*CO₂ emissions = 3.16 x fuel consumed (ICAO CORSIA CO2 emissions factor)

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Total reported UPR city-pair benefits from $\frac{3}{4}$ participating airlines:

Total UPR Fuel Savings	Total UPR CO ₂ Savings*
614,966kgs	1,394,134kgs

NB: calculations are full UPR vs fixed-route – not solely the incremental change from pre-trial UPR availability.

*CO₂ emissions = 3.16 x fuel consumed (ICAO CORSIA CO₂ emissions factor)

AI1: Implementation of Free Route Airspace

General Airline Feedback:

- Early days: it took airlines a period while to get started. Some faced system setup challenges and change management issues, but once they began, participation and tracking became more consistent.
- Participation: Average rates are relatively low to medium, but as noted above, it took some time to get going, and some sectors rarely showed gains. In these cases, it wasn't worth participating as there was no gain.
- Fuel savings: The flights to/from Indonesia had the least opportunity to benefit, and even some SIN services didn't show significant benefit, whereas the overflying traffic could take full advantage. There were some significant savings for HKG city-pair (averages of around 2000kg).

AI1: Implementation of Free Route Airspace

General Airline Feedback:

- Administration: Airlines request that the manual processes (e.g., email and commentary on the FPL) be removed as these have an impact on participation. The reality is that a busy dispatch centre will choose the path of least resistance in times of high workload rather than go through these manual steps.
- Next steps: Airlines support making this trial BAU. Jetstar was proposed as a new participant as they have Thailand and Vietnam destinations that can achieve significant benefits.

Next steps?

- The meeting discussed options for the future of the trial including ceasing as per current date (30 Apr 2025), extending under current arrangements and collecting further data, or extending trial offering new entrants
- It was agreed to extend the trial adding new entrants (possibly PNG, Fiji, Cathay, Eva, Fiji Airways) and additional city-pairs.
- Japan also expressed interest in joining. Philippines updated on their separation rules.
- This would be the only extension and trial would cease after further 6 months (end Oct 2025) after further data collation and reporting
- The group would convene again prior to 30 April to confirm details and participation arrangements

AI2: Implementation of Continuous Climb and Descent Operations:

Aim : Expand Continuous Climb and Descent Operations

- The meeting was informed that there are no States conducting CDO activities under the AAC program
- An update was given on a similar Predictive Sequencing trial in Melbourne. Australia agreed to provide any advice to States that may wish to initiate such work.
- Singapore and Japan gave summaries of previous trials that did not yield positive operational outcomes
- It was agreed that this action would be closed

AI3: Development of ATM system interoperability (SEAC – AAI – Airways - JCAB)

Aim : Explore room for collaboration on common interoperability

- **Deliverable** : Document proposing some core common oceanic ATM systems' specifications to facilitate future interoperability – Guideline for Oceanic ATM system's specifications
 1. Oceanic ATM system's Core Specifications: Required specifications to ensure interoperability amongst oceanic ATM systems.
 2. Oceanic ATM system's non-core specifications: Specifications facilitating, without being absolutely essential, the interoperability of oceanic ATM systems.
 3. Oceanic ATM system's optional specifications: Specifications, out of the scope of the interoperability purpose, but could be useful for the definition of an actual or future oceanic ATM system.

AI3: Development of ATM system interoperability (SEAC – AAI – Airways - JCAB)

Aim : Explore room for collaboration on common interoperability

- To ensure the Oceanic ATM system's core specifications are in line with the ATM system's vendors, this document has been reviewed by some vendors worldwide.
- Current version 20 of the document synthesizes all States' viewpoints
- Formal review and approval is now sought from the members of WS4 and then submission to AAC.
- Review and approval require to occur quickly as some WS4 ANSP so as to use this document for future Oceanic ATM systems bid issuance.

AI5: Utilising Space-Based ADS-B / Very High Frequency (SB ADS-B/VHF)

Aim : Expand space-based ADS-B /Very High Frequency (ADS-B/VHF) for spacing reduction

- The meeting was informed that there are no States conducting SB ADS-B / VHF separation activities under the AAC program
- An update was given on a similar trial in the Arabian Sea
- An update was also given on separation reduction efforts in the Bay of Bengal involving IATA, India and Malaysia
- PNG agreed to provide a paper to AAC5 on their experience implementing and using SB ADS-B.