



International Civil Aviation Organization

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WORKING PAPER

SEVENTH WORLDWIDE AIR TRANSPORT CONFERENCE (ATCONF/7)

Montréal, HQ, 16 to 20 November 2026

- Agenda Item 2: Fostering aviation growth and air connectivity through investments in infrastructure, human capital and partnerships**
- 2.2: Investment for the development and modernization of civil aviation infrastructure**

SAFEGUARDING GLOBAL AVIATION GROWTH WITH AIRSPACE READINESS: ADVANCING AIRSPACE OPTIMIZATION THROUGH MINIMUM SERVICE LEVELS, ENHANCED AIRSPACE STRUCTURE, AND PROJECT 30/10

(Presented by the United Arab Emirates and Oman)

EXECUTIVE SUMMARY

Global air transport is growing at a pace rarely seen in the aviation history, accordingly, States and industry are investing in new aircraft, expanded airports and modernized systems, to accommodate it. **This growth cannot be taken for granted, and neither can the airspace needed to carry it.** Airspace infrastructure, particularly over the high seas and in several continental and domestic airspaces is still based on outdated legacy systems and operational procedures, and not being modernized to cope with this growth. The effective application of the principles reflected in Articles 12, 28 and 69 of the *Convention on International Civil Aviation* (Chicago Convention), together with the provisions of International Civil Aviation Organization (ICAO) Annex 2 and Annex 11, remains critical to ensuring consistent separation standards, the level of air navigation services and cooperation among States. **Left unresolved, this gap will not remain a minor technical matter for long: it is already narrowing the margin for safe, efficient and sustainable growth. Every year of delay increases the risk that today's substantial aviation investments will not be matched by the airspace capacity needed to support them.** This paper sets out urgent priorities that are essentials for initiating a globally coordinated approach for cross-border airspace optimization with main focus on the airspace over the high seas for the Conference's consideration: the development of harmonized Minimum Service Level Requirements (MSLR), to close persistent gaps in the levels of air navigation services provided, enhanced airspace structure supported by dynamic airspace management and the implementation of optimized air traffic services (ATS) route network or free route airspace and ICAO Project 30/10, endorsed through Recommendation 3.1/1 at the Fourteenth Air Navigation Conference (AN-Conf/14). These priorities should be accelerated as a coordinated global programme, applied consistently across both oceanic and continental airspace, with clear performance indicators and firm timelines. To ensure these priorities are pursued with the discipline the Conference expects, this paper proposes a three-track implementation roadmap with updates on the progress to be reported regularly by the appropriate ICAO bodies to the ICAO Council with clear governance. These priorities offer a credible and timely path to closing the gap between aviation's growth ambitions and the readiness of the airspace that must carry it.

Action: The Conference is invited to: - note the continued growth in global air transport demand and the scale of investment being undertaken across the aviation sector to accommodate it; - recognize that this growth and investment could be placed at increasing risk unless matched, without delay, by firm commitments to modernize airspace infrastructure and air navigation services over both the high seas and continental airspace; - request that ICAO prioritize, as a matter of urgency, the development of harmonized policies and standards on Minimum Service Level Requirements (MSLR) for airspace over the high seas; - request ICAO, through the planning and implementation regional groups, to accelerate the coordinated implementation of enhanced airspace structure and Project 30/10, across both oceanic and continental airspace, with defined key performance indicators and milestones; and - request ICAO to develop appropriate reporting mechanisms on MSLR, enhanced airspace structure and Project 30/10 implementation regularly to the ICAO Council, so that the pace of airspace modernization can be tracked against the pace of aviation growth.	
<i>Strategic Goal:</i>	This working paper relates to Strategic Goal: <i>The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All.</i>
<i>Financial implications:</i>	Initial coordination and policy development can largely be undertaken through existing ICAO mechanisms and regional bodies. Resource requirements for subsequent implementation of the MSLR framework, enhanced airspace structure and of Project 30/10 would be assessed progressively by ICAO and States as work streams and implementation plans are developed.
<i>References:</i>	Doc 7300, <i>Convention on International Civil Aviation (Doc 7300)</i> , Articles 12, 28 and 69 ICAO Annexes 2 and 11 Doc 9750, <i>Global Air Navigation Plan</i> IATA Long-Term Air Transport Passenger Demand Projections (2026) AN-Conf/14-WP/40 – <i>Minimum Service Level Requirements over the High Seas</i> AN-Conf/14 Recommendation 3.1/1 – Project 30/10 A42-WP/18 – <i>Cross-Regional Airspace Optimization to Enhance Safety, Capacity, and Efficiency Over the High Seas</i>

1. INTRODUCTION

1.1 Air transport is expected to keep growing for decades to come. The International Civil Aviation Organization (ICAO)'s own statistics confirm that this growth is not a distant projection; it is already under way. In 2024, 4.7 billion passengers travelled on scheduled services, up 7.9 per cent from 2023, across 37.4 million departures. Passenger traffic (Revenue Passenger Kilometres (RPKs)) increased by 10.6 per cent, seat capacity grew by 9.1 per cent, and the global load factor reached 83.2 per cent. Fleet investment kept pace, with 1,114 new commercial aircraft deliveries and 1,380 net new orders in 2024 alone. Looking further ahead, ICAO projects 4.1 per cent annual RPK growth over the next twenty years, with passenger volumes rising from 4.6 billion in 2024 to approximately 12.4 billion by 2050, around 2.7 times today's level. **Growth at this pace leaves very little room for the airspace system to fall behind.**

1.2 The International Air Transport Association's (IATA) latest long-term demand projections show global passenger traffic, measured in RPK, rising from around 9 trillion in 2024 to somewhere between 19.5 and 21.9 trillion by 2050, depending on the scenario. This growth is expected to be strongest in Asia Pacific, Africa and the Middle East, three regions whose air travel markets are forecast to grow faster than the rest of the world through the middle of the century.

1.3 IATA's most recent near-term forecasts, updated to reflect higher jet fuel prices and this year's Middle East conflict, confirm that this growth is continuing in the near term as well, even after accounting

for these headwinds. Over the ten years from 2025 to 2035, global RPK is forecast to grow at a compound annual rate of between 2.7 and 3.8 per cent, and global passenger numbers at between 2.5 and 3.4 per cent, depending on the scenario. Growth in the Middle East, the region most directly affected by this year's regional tensions, is still forecast at 2.7 to 4.3 per cent annually for RPK and 2.2 to 3.5 per cent for passengers over the same period, while Asia Pacific is expected to grow even faster, at 3.5 to 4.6 per cent for RPK. Even in a more cautious near-term outlook, the direction of travel has not changed: demand is still rising, and rising quickly, in exactly the regions whose traffic depends most heavily on the high seas.

1.4 States and industry are responding with real commitment: aircraft orders, airport expansion and modernized systems, all built on confidence that this growth will materialize. Industry's modelling shows how closely that growth depends on continued investment: in its high-growth scenario, the number of active airports worldwide expands at 0.8 per cent a year, close to the 1.0 per cent already achieved between 2011 and 2024; but where investment lags, airport expansion nearly stalls, slowing to just 0.03 per cent a year. Demand will not wait for infrastructure, or airspace, to catch up.

1.5 This paper draws attention to the part of the system where that risk is most exposed: airspace infrastructure itself. The effective application of the principles reflected in Articles 12, 28 and 69 of the Chicago Convention, together with the provisions of ICAO Annex 2 and Annex 11, remains critical to ensuring consistent separation standards, levels of service provided and coordination among States, whether over the high seas or within continental and domestic airspace. The airspace over the high seas presents the more acute challenge, since no single State holds ultimate responsibility for that airspace and every improvement depends on cooperation and coordination between adjacent States. But continental airspace is not exempt: as national traffic volumes rise toward the levels ICAO and IATA are both projecting, capacity, staffing and technology pressures within domestic airspace will need the same degree of sustained attention.

1.6 The Conference is asked, in this paper, to treat both dimensions of this challenge as matters requiring action now, not further deferral. The paper sets out why airspace over the high seas needs Minimum Service Level Requirements (MSLR), why enhanced airspace structure and ICAO Project 30/10 should be accelerated and applied consistently across both oceanic and continental airspace, and why these initiatives, tracked separately but pursued together, offer the most credible way to close the gap between growth and readiness.

2. DISCUSSION

2.1 Why the high seas require particular attention. Airspace over the high seas does not belong to any State, but it still has to be managed by someone. In practice, this responsibility falls to States that accepted to provide air traffic services on behalf of the international community, often across boundaries drawn decades ago and rarely revisited as traffic patterns changed. Because there is no single owner, there is also no single authority that can decide unilaterally, to modernize separation standards or guarantee a consistent level of service across an entire oceanic region. Every improvement depends on States choosing to coordinate, and that coordination has not, to date, kept pace with what growth requires.

2.2 A gap that has been visible for years. At AN-Conf/14 in 2024, the United Arab Emirates, and at the 42nd Session of the Assembly in 2025, the United Arab Emirates and Oman, presented a papers setting out this problem in direct terms: in the absence of any unified approach to separation minima across flight information regions, large volumes of airspace over the high seas had become recognized bottlenecks, adding avoidable delay, fuel burn and environmental impact to international flights. The papers cautioned that leaving the issue unaddressed would not resolve it, but would instead shift the bottlenecks elsewhere and leave the system less able to absorb future traffic growth. They called on ICAO to build a cross regional framework, applied consistently across the high seas, standardizing separation minima, setting out clear

performance metrics, and ensuring every State and airspace user could rely on the same minimum level of service, regardless of which Flight Information Region (FIR) they happened to be flying through.

2.3 This concern has not diminished with time. Three years since An-Conf/14, there is still no ICAO framework standardizing service levels or separation minima over the high seas. States and air navigation services providers (ANSPs) have made isolated, uncoordinated efforts, and some have made none at all. The result is a patchwork of separation practices and service expectations across oceanic airspace that no airline, and no passenger, can reliably predict, and the longer this patchwork persists, the harder it will become to unwind.

2.4 Continental airspace faces a related, though distinct, pressure. Unlike the high seas, continental and domestic airspace generally falls under the clear responsibility of a single State, which removes the coordination problem described above. But it does not remove the capacity problem. As national traffic volumes grow toward the levels projected by both ICAO and IATA, and as the updated near-term forecasts in Section 1 confirm for fast-growing global aviation, many States will need to expand surveillance coverage, air traffic control staffing, sector capacity and cross-border coordination arrangements simply to keep pace domestically.

2.5 Existing airspace structure in many areas continues to rely on fixed, legacy ATS routes with wide spacing buffers, underutilizing modern airborne and ground-based navigation capabilities. Transitioning toward dynamic airspace management and the progressive implementation of free route airspace is necessary to optimize route efficiency, expand system capacity, and support user-preferred trajectories.

2.6 Project 30/10 scope extends beyond the 30 nautical mile oceanic target to call for separation of 10 nautical miles or less elsewhere, including continental airspace, wherever it is safe and operationally supported. Progress on this continental dimension deserves the same degree of attention and urgency as progress over the high seas, since a bottleneck within a single State's airspace can just as easily disrupt a global network as one over open ocean.

2.7 What is at stake if this is not addressed. This is not a distant risk confined to efficiency statistics. If separation standards and service levels, over the high seas or within busier continental airspace, continue to lag behind the traffic growth both ICAO and IATA are projecting, congestion could become significantly more frequent across the network. That would mean longer routings, higher fuel burn and emissions, and delays that will keep millions of passengers stranded rippling through airline schedules well beyond any single flight information region. It would also mean shrinking margins for error in airspace being asked to carry far more traffic than it was designed for. **Left unaddressed for much longer, this trajectory would move beyond a question of efficiency and become a question of safety, with the continuity of safe and predictable operations placed under real and growing pressure.**

2.8 The cost of getting this wrong. States and industry are investing at an exceptional scale to prepare for the growth described in Section 1, on the assumption that the airspace connecting their investments, over the high seas and within domestic networks alike, will be there to support them. That assumption cannot be taken for granted. If airspace modernization does not progress at a comparable pace, while also taking into consideration the increased demand for higher airspace operations (HAO) and new entrants of airspace, the mismatch will not stay hidden for long: it will surface as underutilized capacity, unpredictable operations, and a widening gap between what the industry has invested and what the airspace can actually deliver. Every year this gap persists increases the risk that today's record levels of aviation investment will not be matched by the airspace capacity needed to realize their full value.

2.9 Three complementary priorities, not one. MSLR, enhanced airspace structure and Project 30/10 address the same underlying problem from different, and equally necessary, angles. MSLR would establish the foundation for consistent, ICAO-led framework of air traffic management procedures, separation minima, coordination and reporting obligations, harmonized across every FIR extending over the high seas process, in a manner that respects the sovereign responsibility of each State for its own airspace. Project 30/10, gives States and ANSPs a mandate to collaborate regionally and reduce separation, both over the high seas and, through its 10 nautical mile target, within continental airspace. What Project 30/10 needs now is acceleration: a stronger structure, with parallel work streams, clear performance indicators and firm delivery timelines, so that voluntary regional collaboration turns into measurable, timely progress across both airspace domains.

3. CONCLUSION

3.1 These air navigation matters are brought to the attention of the Air Transport Conference due to their direct impact on economic development and the environment, taking into account the global air traffic growth and the industry response with exceptional wave of investment. That investment cannot be assumed secure. It depends on airspace, over the high seas and within continental networks alike, being modernized at a matching pace, and on firm commitments from the States responsible for managing that airspace. The warning signs were set out plainly at AN-Conf/14 in 2024 and A42 in 2025, and progress since then has been limited. The longer this gap persists, the sooner it will translate into serious operational strain, and the greater the risk that continuous aviation safety, and the substantial investments this Conference exists to safeguard, could be placed in jeopardy.

3.2 **This is not a case for further study; it is a case for parallel action, tracked separately and reported clearly.** MSLR, enhanced airspace structure and Project 30/10 are complementary, not competing priorities, which deserve the Conference's sustained attention: one to establish a harmonized minimum standard for the high seas, the others to accelerate coordinated implementation across both oceanic and continental airspace. Keeping the three tracks distinct, each with its own milestones and its own reporting line to the Council, will make it possible to see clearly whether progress is being made on each front, rather than allowing one to obscure the other.

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