



WORKING PAPER

**SEVENTH WORLDWIDE AIR TRANSPORT CONFERENCE
(ATCONF/7)**

Montreal, HQ, 16 to 20 November 2026

**Agenda Item 4: Emerging technologies, new business models and other associated aspects
4.1: Economic regulatory frameworks on emerging technologies**

**PROGRESSIVE IMPLEMENTATION OF NEW TECHNOLOGIES IN STATES WITH
DIFFERENT LEVELS OF AVIATION DEVELOPMENT**

(Presented by Venezuela (Bolivarian Republic of) and supported by 17 LACAC Member States²)

EXECUTIVE SUMMARY

This paper proposes that the International Civil Aviation Organization (ICAO) develop a Framework for the Progressive Implementation of Emerging Technologies that allows each State to move forward according to its level of institutional, technological and economic readiness. The approach would encompass artificial intelligence (AI), digitalization, advanced air mobility (AAM) and other technologies, and be implemented in four stages: capacity assessment; pilot projects; regulatory and operational integration; and international interoperability. This paper advocates against uniform adoption which could widen the technology gap between States with different levels of aviation development. Venezuela (Bolivarian Republic of) proposes that this framework incorporate principles of technological neutrality, data protection, cybersecurity, transparency, human oversight, fair competition and equal opportunity. Such a framework would also foster technical cooperation, specialized training, regional sharing of experience, and assistance to developing States. The aim is for the technological transformation of air transport to advance in a gradual, coordinated and inclusive manner, in line with the ICAO principle of *No Country Left Behind*.

Action: The Conference is invited to:

- a) recognize that differences among States in terms of institutional capacities, digital infrastructure, human resources, and access to financing should be considered when formulating economic policies for the incorporation of emerging technologies;
- b) recommend that ICAO develop guidance for progressive implementation of emerging technologies based on national readiness and capacities;
- c) promote mechanisms for technical cooperation, training, knowledge transfer and pilot projects, in particular for developing States;
- d) encourage the regional sharing of experience and best practices on AI, digital transformation and other emerging technologies; and
- e) request that future ICAO policies on these technologies preserve international interoperability, fair competition and equal opportunities among States.

¹ Spanish version provided by Venezuela (Bolivarian Republic of).

² Belize, Bolivia (Plurinational State of), Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay and Uruguay.

<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; Every flight is safe and secure, Aviation Delivers Seamless, Accessible, and Reliable Mobility for All and No Country Left Behind.</i>
<i>Financial implications:</i>	Use of existing technical cooperation mechanisms, regional programmes, pilot projects and partnerships with States, industry, academic institutions and international organizations.
<i>References:</i>	Assembly Resolution A42-26 – <i>Consolidated statement of continuing ICAO policies in the air transport field</i> ICAO Strategic Plan 2026–2050

1. INTRODUCTION

1.1 Digital transformation is gradually changing the provision, management and regulation of air transport services. Artificial intelligence (AI), automated data analysis systems, advanced air mobility (AAM) and other technological developments present new opportunities to improve planning, efficiency, connectivity and experience of air transport users.

1.2 Item 4.1 of the ATConf/7 agenda expressly recognizes that AAM, AI, suborbital and commercial space transportation, and digital transformation are reshaping aviation, prompting discussion as to how these aspects can be integrated within existing economic regulatory frameworks.

1.3 The draft Ministerial Declaration also recognizes the potential of emerging technologies, and notes that their integration into existing economic frameworks requires coordinated responses at the global level.

1.4 Venezuela (Bolivarian Republic of) believes that, in undertaking global coordination, it must be recognized that States are at different stages of technological and institutional readiness. A uniform, time-bound approach for all could widen existing gaps and keep some States from participating fully in the transformation of air transport.

2. DISCUSSION

2.1 The incorporation of emerging technologies depends on factors that vary greatly across States, including digital infrastructure and connectivity; the availability and quality of aeronautical data; institutional and regulatory capacity; the availability of specialized personnel; access to technologies and suppliers; financial capacity for the authorities and industry; digitalization of airports, airlines and service providers; and the characteristics and size of the national air transport market.

2.2 These differences should not become a barrier to the participation of States in the technological transformation of aviation. The aim should be to establish common international principles that allow progress towards interoperable systems, while maintaining sufficient flexibility for each State to determine the pace and sequence of implementation in accordance with national circumstances.

2.3 This approach is consistent with the International Civil Aviation Organization's (ICAO) goal that no country should be left behind, and would help avoid a technology gap affecting the connectivity and competitiveness of certain markets.

2.4 Venezuela (Bolivarian Republic of) proposes that ICAO consider developing a Framework for the Progressive Implementation of Emerging Technologies to serve as voluntary guidance for States. This framework would not establish an international classification of States or mandatory deadlines. Its purpose would be to provide a self-assessment and planning methodology for identifying national capacities, needs and priorities.

2.5 The framework could be structured in four stages:

- a) **Stage 1. Institutional and technological readiness:** A national roadmap could be defined, to avoid unnecessary investments that do not meet the identified needs. The State should carry out an initial assessment of its existing digital infrastructure, the quality and availability of data, applicable legislation and regulations, technical and regulatory capacities, and training needs; cybersecurity risks and information protection; and priority technologies according to national needs.
- b) **Stage 2. Pilot projects and controlled environments:** Pilot projects would serve to assess benefits, costs, regulatory needs, technological requirements and risks before scaling up. States could develop pilot projects before rolling out new technologies.
- c) **Stage 3. Operational and regulatory integration:** Once the results of the pilot projects have been assessed, States could progressively incorporate the selected technologies into their national systems. In this stage, common principles should be considered such as transparency, institutional accountability, adequate human oversight, data protection and governance, and cybersecurity.
- d) **Stage 4. Interoperability and international cooperation:** National systems could be integrated into the international aviation ecosystem. Interoperability should be a core principle. The existence of different providers, platforms and technological levels should not create unnecessary barriers to international operations.

2.6 ICAO would have an important role in promoting common principles and guidelines that facilitate this interoperability.

2.7 The gradual up-take of emerging technologies requires stronger cooperation among States. It is important to consider creating regional programs to share regulatory experiences, pilot projects, software and tools where feasible, evaluation methodologies, results of technological projects, and good practices.

2.8 ICAO Regional Offices and regional civil aviation organizations could serve as coordination mechanisms to identify common needs and organize cooperation projects. Universities, research centers, industry and technology providers should also be encouraged to participate, with the States retaining responsibility for public policies and regulatory decisions.

2.9 Cooperation efforts should focus in particular on the training of national experts. Continued reliance on external providers would limit the institutional capacity of authorities and could hinder digital transformation processes.

3. CONCLUSION

3.1 AI and emerging technologies should contribute to the development of international aviation, and not create new inequalities among States. Future international guidance should be based on the following principles:

- a) progressive implementation in accordance with national circumstances;
- b) technological neutrality that does not favor specific suppliers or solutions;
- c) system interoperability;
- d) national capacity building;
- e) data protection and cybersecurity;
- f) transparency in automated processes;
- g) human oversight and institutional accountability;
- h) fair competition and equal opportunity;
- i) technical cooperation and knowledge transfer, and;
- j) special consideration for the needs of developing States.

3.2 These principles would make it possible to combine innovation and regulatory stability, making it easier for States to move towards technological transformation without compromising their ability to properly exercise their regulatory responsibilities.

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