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 4: Emerging technologies, new business models and other associated aspects
4.3: Leveraging air transport data and the digital ecosystem for seamless, secure and resilient operations

MODERNIZATION OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION'S (ICAO) STATISTICAL DATA MANAGEMENT SYSTEMS

(Presented by Chile and supported by 19 LACAC Member States [2])

EXECUTIVE SUMMARY

Civil aviation is a dynamic and constantly evolving industry, which requires timely and reliable data for decision-making and strategic planning by States, but the methods currently used by the International Civil Aviation Organization (ICAO) to gather this information from its Member States afford significant opportunities. It is essential for ICAO to move ahead with the modernization of its data management tools and standards if it is to meet today's demands in the field of information technology, data science and artificial intelligence.

The text below presents a formal proposal to exploit these opportunities, and invites ICAO and its Member States to undertake a full-scale modernization of their data management systems. Recommendations are made to revise information-gathering methodologies, update technological tools prioritizing open standards, and develop a common framework that ensures the interoperability of data between States, with the aim of strengthening analysis and strategic planning in the aviation industry.

Action: The Conference is invited to:

a) revise methodologies for gathering data requested from Member States, adopting the best practices used in data science;
b) update data reporting tools and communication channels for the delivery of information by Member States to ICAO, prioritizing the use of open-source software or open technological standards;
c) work on the development of a standard that allows data to be compatible, comparable and interchangeable across countries; and
d) establish a methodology that enables reporting countries or designated focal points to have free access to ICAO's databases.

Strategic Goal:	This working paper relates to Strategic Goal: *The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All*.

[1] Spanish version provided by Chile.

[2] Argentina, Belize, Bolivia (Plurinational State of), Brazil, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

Financial implications:	None
References:	Doc 9060, *Reference Manual on the ICAO Statistics Programme* (5th edition, 2013)

1. INTRODUCTION

1.1 The International Civil Aviation Organization ICAO has historically been the international agency responsible for the collection, analysis and publication of aviation industry data, as was evidenced at the Tenth Session of the Statistics Division in 2009.

1.2 In this context, ICAO requests its Member States to submit periodic information on commercial air carriers, airports, air navigation services and en-route facilities, among other civil aviation statistics.

1.3 At the 42nd ICAO Assembly in 2025, Chile submitted Working Paper A42-WP/462 on this subject, which received broad support from States across different regions. In the Report of the Economic Commission on Agenda Item 26, the Commission supported the recommendations made in our working paper to continue working on the modernization of ICAO data management standards and tools to meet current requirements in respect of information technology, data science and artificial intelligence. It also agreed that States' focal points should have free access to ICAO's data platforms.

1.4 Seeking to maintain States' interest in this important matter and turn to ICAO to promote concrete activities in furtherance of the proposal, Chile again presents its vision, now to the attention of the Conference, on the need to modernize ICAO's data management framework.

2. DISCUSSION

2.1 The aviation industry is characterized by rapid evolution and constant innovation. Making decisions that drive the industry forward requires timely, high-quality information.

2.2 ICAO recognizes the value of aviation information through its statistics programme, which asks its Member States to report their statistics on Air Transport Reporting (ATR) Microsoft Excel forms and emailing them to sta@icao.int. According to the fifth edition of the *Reference Manual on the ICAO Statistics Programme* (Doc 9060, 2013), the forms must be filled out rigorously, taking care not to alter their structure or adding values in formats other from those requested.

2.3 Recent years have seen a rapid modernization of data-processing methods, the tools that rely on those data and the frequency with which information is generated, with a clear preference for open-source tools and process automation, with the result of information processing and delivery times being cut down to a minimum.

2.4 At the same time, the airline industry requires process compatibility to ensure that aviation can develop safely, despite language differences. This has been achieved by creating global common standards and practices.

2.5 However, the way air transport statistics are gathered today varies greatly from State to State, hampering standardization and comparability. This makes it difficult for Member States to share and

compare statistical information. In addition, it is difficult to generate information for groups of countries or geographical areas, since the approaches used in compiling data are generally not compatible across countries.

2.6 Difficulties also arise for air operators, as they need to adapt their systems to deal with each request they may receive from individual entities (such as governments, international organizations, unions and associations).

2.7 Improving processes, automating data processing and standardizing information would yield more and better information, providing important input for decision makers. This would also make it possible to generate better projections for air transport and reduce the time between publications with more frequent updates.

2.8 Additionally, such modernization would generate more revenue for ICAO through the sale of information and more frequent and comprehensive reports that are of interest to the aviation industry.

2.9 By way of illustration, the methodology for collecting basic information on commercial air traffic from Member States could be revised by replacing Excel forms A, A-S, B and C with more up-to-date tools, such as centralized data systems, standardized information, open-source software, direct connections to Member States' databases and standardized information excerpts.

2.10 That being said, it is important to recognize the valuable work done by the Organization in developing the Application Programming Interface (API) Data Service platform to provide modernized, flexible and quick access to the various data sources that ICAO compiles and makes available for a fee.

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