



WORKING PAPER

ASSEMBLY — 41ST SESSION

TECHNICAL COMMISSION

Agenda Item 33: Other issues to be considered by the Technical Commission

A WAY FORWARD ON THE INTERNATIONAL AVIATION TRUST FRAMEWORK (IATF)

(Presented by Czechia on behalf of the European Union and its Member States¹,
the other Member States of the European Civil Aviation Conference², by Canada
and by EUROCONTROL)

EXECUTIVE SUMMARY

This working paper proposes a way forward on the International Aviation Trust Framework (IATF) discussions. It focuses on developing a regional/national multilayer approach that allows for more flexibility and for the use of existing systems. It also details how this would need to work in practice and what would need to be managed and developed at global level. In particular, it suggests that ICAO activities should be limited to ensuring network and digital identity interoperability between systems set up at local/State/regional level. An appropriate governance structure should be formulated only after an agreement has been reached on the scope of the measures at ICAO level.

Action: The Assembly is invited to take action as set out in paragraph 5 of this working paper.

<i>Strategic Objectives:</i>	This working paper relates to the following Strategic Objectives: Security and Facilitation; Safety; and Air Navigation Capacity and Efficiency.
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<i>Financial implications:</i>	No additional resources required.
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<i>References:</i>	
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¹ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

² Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and the United Kingdom.

1. INTRODUCTION

1.1 The setting-up of the International Aviation Trust Framework (IATF) will be an important milestone for ICAO and the aviation community. The IATF caters for the exchange of messages and information between aviation stakeholders in a safe environment and in particular protected from cyber threats. With this function, it is intended to support leveraging digitalisation and inter-connectivity of the aviation eco-system by contributing to the secure exchange of information by means of trusted and reliable network connectivity and digital identity management.

1.2 Aviation needs to keep pace with global technological development. It needs to ensure that it does not fall behind the technology affecting its safety, security and sustainability. In pursuit of this aim, the current ICAO environment established in 1944 by the ICAO Convention and embodied by the aviation authorities of the 193 ICAO Contracting States, which provides States with political and societal trust as regards aviation matters, has to evolve to ensure that the current trust persists in the digital world.

1.3 Discussions within the ICAO Trust Framework Study Group (TFSG) and the ICAO Council to adopt an operational model and an associated governance structure for the IATF have so far been inconclusive. To move discussions forward, this Working Paper is therefore including a proposal on the organisation and governance of the IATF, which is believed to meet States' expectations and takes into account ICAO constraints.

2. DISCUSSION

2.1 As long as ICAO States do not agree on the scope of the IATF – in other words, the extent that the framework needs to be managed at global level – it is unlikely that an agreement on governance of the IATF will be reached. Defining the governance of the IATF should therefore only be decided once the scope of the IATF has been agreed.

2.2 A centric approach – that is, one where a central (private) entity manages the entire trust framework at global level – is problematic for many reasons, including its impact on the sovereignty of States. Many States will be unwilling, for good reasons, to hand over a part of their security system for critical infrastructure to a (private) entity acting under foreign regulation. There are, in addition, uncertainties about the extent to which such an entity could ensure transparency and business continuity in the provision of such strategic services irrespective of its national law environment. Finally, depending on its mandate, such an entity could be empowered to declare States untrustworthy, thus directly affecting the air operations taking place over their territories.

2.3 Many regions and States have already invested in the development of network solutions or identity management frameworks to support securing the exchange of information at national or regional level. In the EU, a whole range of measures has already been developed. These include the eIDAS³ Regulation for the management of digital identities, adopted by the EU in 2014, the regional ultra-resilient network called NewPENS (New Pan-European network service) and the European Aviation Common PKI (public key infrastructure) with its associated policies and procedures for establishing a Trust Framework at regional level. In particular, NewPENS and the PKI will enable a secure interoperability with other Regions and States, as has been successfully demonstrated with trials organized with the US/Federal Aviation Administration.

³ [Regulation \(EU\) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC](#)

3. **A WAY FORWARD MEETING THE AVIATION COMMUNITY EXPECTATION**

3.1 Considering the above, the most appropriate way forward appears to be to establish a global framework relying on a regional/national multilayer approach, building on regional/national solutions and providing secure interoperability between regions/States. This approach has to be understood as a global structure interacting with regional and national organisations and systems and allowing for the provision of various levels of trust depending on the case in question.

3.2 This approach is compatible with the key guiding principles for the management of the IATF that were presented to and supported by the ICAO Council during its 224th Session in October 2021. Among the advantages of this approach are:

- a) it allows regions and States to build upon solutions they have already invested in, mainly regarding network and digital identity interoperability at regional/national level;
- b) it allows States to organize the provision and oversight of trust services at the most appropriate level, aligned with international measures and according to their needs and means, and to local information and (existing) data management policies;
- c) the decentralization of the provision for trust services enhances the resilience of the overall system compared to a centric approach;
- d) the provision and oversight of multiple levels of trust allow for the addressing of the criticality of information exchange in a proportionate manner according to the associated risk;
- e) it supports the implementation of the ICAO “No Country Left behind” concept, providing States with an evolutionary path, and enabling those States that would initially deal with only limited levels of risk to participate according to their operational needs and abilities.
- f) it facilitates implementation by enabling a progressive deployment of trust services provision, according to the needs of regions, States and industry;
- g) it avoids reliance on globally imposed technical solutions (and thus commercial companies); and
- h) it ensures technical and economic viability as local investments are usable, commensurate with local needs and meet local security regulations.

4. **CONCLUSION**

4.1 It therefore seems appropriate that global efforts on establishing the trust framework should primarily focus on converging on the scope of the IATF, on reaching an agreement on the concept of operations and on what needs to be managed at global level before requesting ICAO Council to take any decision on IATF governance.

4.2 As set out above, this suggested approach would allow ICAO, States and regions to build upon already developed solutions at national or regional level. This would still necessitate the development by ICAO of measures to be followed by States, including technical specifications for a secure interoperability of network interconnectivity and digital identity (DI) management (for instance, DI-certificate policy, DI-certificate profiles, DI-interoperability criteria and methods, etc.), operational interoperability baselines (for instance, digital certificate validation and revocation, audit framework, etc.). As the framework could be used for decades, while underlying technology might evolve more rapidly, those specifications should be technologically agnostic to facilitate their maintenance in the long term.

4.3 With regard to the global implementation, a ramp-up approach, where a limited number of organisations (national or regional) would implement such measures and specifications before further expanding it and more formally establishing the IATF, seems an appropriate way forward. This would allow the whole community to learn from the lessons from early movers.

4.4 As part of this approach, ICAO, regions and States would need to manage the provision of the necessary capacity building efforts to ensure that that all States with operational needs associated to the IATF could be part of it, while safeguarding the security assurance levels.

5. ACTION TO BE TAKEN

5.1 The Assembly is invited to:

- a) recognize that a regional/national multilayer approach allowing for multiple levels of trust currently seems the most appropriate way forward on establishing the IATF;
- b) request ICAO to:
 - 1) ensure that the scope of the IATF, the associated concept of operations and what needs to be undertaken at global level is well understood and shared by States before looking for any decision by the ICAO Council on the matter of IATF governance;
 - 2) re-focus the efforts undertaken at global level (by the Trust Framework Study Group or the future Air Navigation Commission Panel currently being discussed) to develop measures with technical and technologically agnostic specifications, which ensure a secure interoperability of organizational and technical systems set up at State or regional level and which at minimum cover network interconnectivity and digital identity management;
 - 3) develop a plan identifying regions and States volunteering to be the first to implement these measures fully or partially so as to provide lessons learned from its early implementation; and
 - 4) identify and assess the capacity building options necessary to support States in meeting the further requirements to take part of the IATF.