

*International Civil Aviation Organization***Twenty Seventh Meeting of the Communications/  
Navigation and Surveillance Sub-group (CNS SG/27)  
of APANPIRG**

Bangkok, Thailand, 28 August – 01 September 2023

**Agenda Item 12:** Cybersecurity of CNS/ATM systems

## 12.1 Updates on ICAO International Aviation Trust Framework

**UPDATE ON TRUST FRAMEWORK ACTIVITIES**

(Presented by the Secretary of the Trust Framework Panel)

**SUMMARY**

This paper provides an update on ICAO's activities regarding the trust framework (TFP), focusing on the establishment of the Trust Framework Panel, its work programme, and the outcomes of the panels first meeting in April of 2023.

**1. INTRODUCTION**

- 1.1 In 2009, following Recommendation 5.4/1 from the 13<sup>th</sup> Air Navigation Conference, ICAO established the Trust Framework Study Group (TFSG) to begin exploring how ICAO could facilitate the establishment of a global trust framework to support the exchange of ground-ground, air-ground and air-air information.
- 1.2 During the 220<sup>th</sup> session of the Air Navigation Commission (ANC), the Commission formed the Trust Framework Panel (C-DEC 222/11 and AN Min. 220-16 refer). The approved Terms of Reference (TORs) for the new panel are presented in Appendix A.
- 1.3 Draft job cards were approved, subsequently amended by the panel and approved with some amendments during the 223<sup>rd</sup> ANC session (AN Min. 223-5 refers). The revised job cards are presented in Appendix B.

**2. DISCUSSION****First Meeting of the TFP**

- 2.1 The first meeting of the TFP was held in-person at ICAO Headquarters from 27-31 March 2023. A total of 49 representatives from Member States, International Organizations, advisers

to the panel as a whole and Secretariat participated. The report of the TFP/1 meeting can be found in Appendix C.

2.2 The panel was presented with a summary of work completed under the TFSG for its consideration, as well as briefings by the Secretariat, panel members and industry representatives on work or initiatives that may be of interest to the panel.

2.3 The panel also considered various working papers provided by members and the Secretariat that subsequently informed the review of the job cards.

2.4 The panel agreed to organize itself into three working groups, based on the job cards, to deliver on the work programme. Co-rapporteurs were selected for each of the working groups and initial membership was established to facilitate a quick start to each group's work.

### **Current Work of the Panel**

2.5 Within the scope of the respective job cards, each of the TFP's working groups has identified key deliverables to be progressed. In several cases, the TFP is working on documents in collaboration with other panels, or there are inter-panel dependencies for specific documents identified in the job cards.

2.6 The Working Group on Identity Management is focussing on reviewing the draft certificate policy (CP) developed by the TFSG so that it can be transformed into a reference CP. This work is currently ongoing and will also support the Communications Panel's Digital Communications Infrastructure Working Group (CP-DCIWG) through an inter-panel task force. Specifically, the task force will assist CP-DCIWG's Working Group on Internetworking (WG-I) in the development of *Doc 10095 – Manual of the Public Key Infrastructure (PKI) Policy for Aeronautical Communications* and in the development of *Doc 10090 - Manual of Security Services for Aeronautical Communications*. This close cooperation between the two panels will allow for the deliverables of the two expert groups to be aligned and that work is not duplicated.

2.7 The Working Group on Information Security is currently developing the Manual on Information Security. This document provides a set of security objectives that aim to assist states as they consider the development of their information security programmes with respect to safety and air navigation information. While being developed by the TFP, the document will be reviewed in consultation with other expert groups, notably the Cybersecurity Panel, to ensure alignment with terminology, scope and practices.

2.8 The Working Group on Trust Framework Considerations is currently reviewing the work produced by the TFSG, with the objective of producing a "road-show" to clearly and succinctly articulate the vision, description, scope and benefits of the trust framework for each identified stakeholder type.

### **Upcoming Meetings**

2.9 The TFP will meet as a working group of the whole from 30 October to 2 November 2023, and the second meeting of the TFP (TFP/2) is tentatively scheduled for April 2024.

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## Appendix A – Terms of Reference of the Trust Framework Panel (TFP)

<p><b>Background</b></p> <p><i>Describe the background of the panel including an outline of any changes to this current version.</i></p>	<p>The evolution of systems for data and information processing, raised concerns in the aviation community regarding the effectiveness of existing standards, procedures and processes to ensure the risks involved in the exchange of messages in a digital environment are kept at an acceptable level. Cyber-related events are recognized by the aviation community as capable of severely disrupting the safe and efficient provision of aviation services and the reduction of the cyber-attack surface of these systems is a common goal for all stakeholders.</p> <p>ICAO began exploring how to enable the secure, safe efficient, and resilient exchange of information in 2015, leading to AN-Conf/13 Recommendation 5.4/1 on Cyber Resilience. This led to the formation of the Trust Framework Study Group (TFSG) in the ANC's 210th Session of the ANC. The TFSG conducted six meetings to advance the work of facilitating the establishment of a global trust framework to enable the safe, secure and resilient exchange of information. Following the decision of the ICAO Council taken during the eleventh meeting of its 222nd Session regarding the governance of cybersecurity within ICAO (C-DEC 222/11), the ANC decided to evolve the TFSG into an independent panel (AN Min. 219-6 refers).</p>
<p><b>Scope</b></p> <p><i>Describe the boundaries of the panel in terms of aviation specialties and the work programme.</i></p>	<p>The panel:</p> <ul style="list-style-type: none"> <li>• Develop a common set of principles, policy and guidance, and a transition strategy for a globally harmonized framework that will enable trusted ground-ground, air-ground and air-air exchange of data and information amongst States, relevant stakeholders, airspace users, service providers and new entrants such as unmanned aircraft systems , remotely piloted aircraft systems , etc. with the level of resilience and interoperability needed to support increased capacity and efficiency for the continued safe operation of the civil aviation system; and</li> <li>• Consider and incorporate current and future needs for States, relevant stakeholders, airspace users, service providers and new entrants in the aviation system while ensuring the globally harmonized trust framework takes into account human-system interaction factors and relevant technologies, including the Internet infrastructure, for the exchange of information in support of air traffic management, airport operations and flight operations.</li> </ul>
<p><b>Required Competencies</b></p> <p><i>Detail the desired knowledge, skills, and experience of the panel members.</i></p>	<p>The panel should be composed of experts that provide the following competencies:</p> <ul style="list-style-type: none"> <li>• Aviation and non-aviation policy, technical and operational experts involved in the development and operation of identity management systems, information assurance policies and data exchange networks;</li> <li>• Familiarity with the interoperability requirements necessary to develop and sustain a global trust framework environment; and</li> </ul>

	<ul style="list-style-type: none"><li>• Technical and policy experts supporting systems enabling trusted information exchange, Internet governing bodies, and other technical standards organizations.</li></ul>		
<b>Objective(s)</b>  <i>The strategic objectives of the panel are to be clearly stated. Specific tasks shall be provided on individual job cards.</i>	<ul style="list-style-type: none"><li>• Develop, address and maintain provisions and guidance materials to support globally harmonized frameworks enabling the trusted exchange of data and information amongst States, relevant stakeholders, airspace users, service providers and new entrants.</li><li>• Ensure the needs and requirements of States, relevant stakeholders, airspace users, service providers and new entrants are duly considered in all deliberations, with a focus on converging to common integrated solutions and exploration of technological innovations.</li><li>• Explore and define operational and efficiency drivers, requirements and benefits of trusted systems.</li><li>• Develop governance principles, policy, procedures and requirements for establishing digital identities for a global framework that will support trusted exchange of information amongst States, relevant stakeholders, airspace users, service providers and new entrants, and to promote these concepts with all relevant stakeholders.</li><li>• Define a global architecture and principles for interconnecting networks allowing for scalable solutions applicable to stakeholders.</li></ul>		
<b>Specific Working Arrangements</b>  <i>Specific arrangements prescribed by the Air Navigation Commission.</i>	<p>As defined in Section 3.4.5.2 of ICAO Doc 7984, Directives for Panels of the Air Navigation Commission, the panel chairperson may establish additional working groups as necessary.</p> <p>The panel will coordinate their work with the various groups of experts responsible for other disciplines, as appropriate.</p>		
Initial issue date:	Date of assessment:	Date approved by Expert Group:	Date Approved by ANC:
-	-	-	22/06/2022

### Appendix B – Approved Job Cards of the TFP

TFP.001.02	Identity Management	
Source	AN-Conf/13	
Problem Statement	Differences in implementation and use of identity management systems could lead to lack of interoperability among current and planned aviation systems and hinder the global digitalization of the aviation ecosystem, as well as lead to possible duplication of work in other technical areas requiring the use of digital identities.	
Specific Details	<p>Civil aviation lacks a common set of policies and procedures that can be used across multiple identity management systems wishing to interoperate. While the technical standards for implementing such systems are well understood, each stakeholder is free to interpret and implement them in their own way, leading to a fragmented information environment which adds complexity and cost when needing to interoperate with other airspace users or aviation stakeholders.</p> <p>A standardized set of policies, procedures and technical requirements (necessary for interoperability) that consider and build on existing national, regional and in-development identity management systems can align to are needed to allow these systems to successfully interoperate across multiple scenarios. Also, guidance materials and capacity building efforts associated to identity management, are needed</p>	
GANP/GASP Link	SWIM-B2/1, B2/4, B2/5, B3/1	
Expected Benefits	Reduced interoperability costs when linking identity management systems	
Reference Documents	Doc 9854 – Global ATM Operational Concept	
Primary Expert Group:	Trust Framework Panel (TFP)	
For Information purposes (to be completed by the Secretariat)		
Proposed Metric	Publication of identity management policies, procedures and technical requirements	
Interdependencies	SWIM, RPAS, SBAS, ATN/IPS	
Initial Impact Assessment	Impact on States	Net positive impact. Costs depend on current maturity/implementation status of identity management systems. For mature/existing systems, costs will be involved to correctly map existing policies and procedures to harmonized norms that will vary with the underlying complexity of the existing systems. States without identity management systems or those that have them in development can include the harmonized requirements into their initial design and simplify system integration in the future.
	Impact on Industry	Net positive impact. However, some costs are involved to map existing policies and enable system connectivity. Scale of effort will depend on the complexity of the underlying system and how easily it can be integrated
Secretariat Project Team	Secretariat Project Coordinator	Secretary TFP

		Secretariat Project Team Members	Secretary of CP-DCIWG, Secretary of NSP, Secretary of IMP, Secretary of RPASP					
		Regional Office Focal Points	TBD					
	WPE No.	Document Affected or Actions Needed	Description of Amendment proposal or Action	Supporting Expert Group	Status	Expected dates:		
						Delivery	Effective	Applicability
✓	10499	Actions	Review and amend, as required, reference Certificate Policy	NSP CP-DCIWG	On-schedule	Q3 2023	-	Dec 2024
✓	10497	Actions	Review and propose necessary consequential amendments to provisions related to the implementation and use of identity management, as required	RPASP IMP NSP CP-DCIWG	On-schedule	Q1 2025	-	Mar 2025
✓	10498	Actions	Develop guidance material to support capacity building initiatives for identity management.	RPASP IMP CP-DCIWG	On-schedule	Q4 2025	-	Dec 2025
✓	10496	New ICAO Document (Doc #####)	Guidance on best practices for implementing and supporting identity management.	IMP CP-DCIWG	On-schedule	Q4 2024	-	Dec 2025
For Information purposes (to be completed by the Secretariat)								
GLOBAL IMPLEMENTATION ACTIONS								
Status:			Priority:	Initial Issue Date:	Date Approved by ANC:	Session / Meeting:		
Approved			Medium	30 November 2022	25 May 2023	223-5		
RATIONALE								
<div>- AN-WP/9679: Dates added by Panel at TFP/1; Priority added (Ref AN Min. 222-8); WPE10497: change proposed from panel, WG/SRP suggested to be reverted to original text; WPE:10499: The certificate policy will be provided as a reference document, and TFSG product needs to be reviewed by TFP. Consequently, text is adjusted after the SRP</div> <div>- AN-WP/9658 (222-8): Minor update to reflect prioritization</div> <div>- AN Min 221-7</div>								
TFP.002.02		Considerations for International Aviation Trust Framework (IATF)						

Source	AN-Conf/13		
Problem Statement	Absence of consensus amongst stakeholders vis-à-vis the requirements for the development of the IATF or along with the absence of a conceptual transition plan for stakeholders wishing to be a part of the trust framework may jeopardize the implementation of an IATF and exposes a risk of limiting participation by stakeholders		
Specific Details	The establishment of an international aviation trust framework, knowing that it is not an entity, infers a number of prerequisites that must be met by ICAO, Member States and industry.		
	To address the problem statement, a description of the technical principles that define the IATF needs to be established; as well, the governance of the IATF. In particular, the various functions, relationships, roles and responsibilities of all concerned stakeholders (current or future), as well as principles, issues and concerns for governing bodies to consider in subsequent deliberations should be identified.		
	In addition, the need for the IATF has to be communicated clearly to stakeholders, and the conceptual transition process has to be described. This will help stakeholders gain an appreciation of the wide range of use cases which would benefit from IATF.		
GANP/GASP Link	TBD		
Expected Benefits	Facilitate secure interoperable digital information exchange across the aviation ecosystem.		
Reference Documents	Doc 9854 – Global ATM Operational Concept Doc 10039 – SWIM Concept		
Primary Expert Group:	Trust Framework Panel (TFP)		
For Information purposes (to be completed by the Secretariat)			
Proposed Metric	Considerations for an International Aviation Trust Framework		
Interdependencies	GANP SWIM RPAS		
Initial Impact Assessment	Impact on States	Overall positive, allowing for proactive budgeting. Implementation tasks and transition will involve some costs however easier and more robust interoperability is expected to be a net positive for States operationally and financially.	
	Impact on Industry	Overall positive. Transition costs would be a single expenditure and would allow for more seamless connectivity with other aviation stakeholders as required	
Secretariat Project Team	Secretariat Project Coordinator	Secretary TFP	
	Secretariat Project Team Members	Secretary of IMP, Secretary of CP-DCIWG, Secretary of RPASP	
	Regional Office Focal Points	TBD	

	WPE No.	Document Affected or Actions Needed	Description of Amendment proposal or Action	Supporting Expert Group	Status	Expected dates:		
						Delivery	Effective	Applicability
✓	10500	GANP (Doc 9750)	Develop needed inputs for the GANP	RPASP IMP CP-DCIWG	On-schedule	Q1 2024	-	Mar 2024
✓	10501	Actions	Describe IATF and determine the technical principles and governance considerations in consultation with and communicated to stakeholders.	CYSECP	On-schedule	Q4 2024	-	Dec 2024
✓	10504	Actions	Review existing use-cases and update as required	RPASP IMP NSP CP-DCIWG	On-schedule	Q3 2025	-	Sep 2025
✓	10502	Actions	Determine technical considerations for the IATF incorporating the needs of ICAO, States, industry and other stakeholders, and, as necessary, develop appropriate guidance to address them.	RPASP IMP NSP CP-DCIWG	On-schedule	Q4 2025	-	Dec 2025
✓	10503	Actions	Develop high-level roadmap indicating transition stages and milestones for enabling the implementation of IATF	RPASP IMP NSP CP-DCIWG	On-schedule	Q4 2025	-	Dec 2025
For Information purposes (to be completed by the Secretariat)								
GLOBAL IMPLEMENTATION ACTIONS								
Status:			Priority:	Initial Issue Date:	Date Approved by ANC:	Session / Meeting:		
Approved			Medium	30 November 2022	25 May 2023	223-5		
RATIONALE								



- AN-WP/9679: Dates added by Panel at TFP/1; Priority added (Ref AN Min. 222-8); Amended Problem Statement to reflect TFP/1 meeting view that stakeholder consensus is a key success factor; WPE 10501: The TFP/1 suggested to include the word “define” to ensure a common understanding amongst stakeholders. Supporting groups were limited to CYSECP only as an initial step in coordination. WG/SRP suggested to replace “define” by “describe”; WPE 10502: TFP/1 proposed to remove “implementation since using “implementation” constrains the focus of the task and other editorial changes. WG/SRP suggested to retain” ICAO, States, industry in order to avoid ambiguity; WPE 10503 TFP/1 proposed to change to “...milestones for enabling the implementation of...” , to reflect what steps would be required for enabling implementation of a trust framework

- AN-WP/9658 (222-8): Minor update to reflect prioritization

- AN Min 221-7

TFP.003.02	Information Security Framework	
Source	AN-Conf/12, AN-Conf/13, Doc 10039	
Problem Statement	<p>The evolution of the digital information integration of the aviation system during the 21st century has made of information security a critical factor as the loss of confidentiality, integrity or availability of the information poses a significant risk for the safety of flight operations in a more than ever interconnected aviation ecosystem.</p> <p>Furthermore, the non-harmonization of information security frameworks across systems and stakeholders creates challenges to support the increasing need for open and timely data exchange whilst at the same time respecting the legitimate information security concerns of all aviation stakeholders.</p>	
Specific Details	<p>Key to the philosophy adopted within the global ATM operational concept is the notion of global information utilization, management and exchange. This philosophy is supported in large part by the evolution to a holistic, cooperative and collaborative decision-making environment, which requires an increase in information exchanges, both in terms of the number of exchanges performed and the number of participants involved.</p> <p>Information security is key to system wide information management. The Trust Framework Study Group has developed an initial set of provisions for an information security framework (ISF). This framework addresses a common set of requirements and identity assurance to protect the information, however, the lack of harmonization may result in interoperability and efficiency issues.</p>	
GANP/GASP Link	SWIM B2/1, B2/5 and B3/1	
Expected Benefits	Improved safety through a harmonized approach to information security.	
Reference Documents	Doc 9854 – Global ATM Operational Concept Doc 10039 – SWIM Concept	
Primary Expert Group:	Trust Framework Panel (TFP)	
For Information purposes (to be completed by the Secretariat)		
Proposed Metric	Post-implementation survey results of Stakeholders information security posture	
Interdependencies	SWIM	
Initial Impact Assessment	Impact on States	Net positive impact on safety. Some impacts on States to evaluate current level of compliance with draft ISF provisions and to determine resolutions to any corresponding deficiencies
	Impact on Industry	Net reduction in integration costs. Some impacts to evaluate current level of compliance with draft ISF provisions and to determine resolutions to any corresponding deficiencies.
Secretariat Project Team	Secretariat Project Coordinator	Secretary TFP

		Secretariat Project Team Members	Secretary of IMP, Secretary of CP-DCIWG					
		Regional Office Focal Points	TBD					
	WPE No.	Document Affected or Actions Needed	Description of Amendment proposal or Action	Supporting Expert Group	Status	Expected dates:		
						Delivery	Effective	Applicability
✓	1050 7	New ICAO Document (Doc #####)	Guidance material to support the implementation of the information security framework	IMP CP-DCIWG PTLP CYSECP	On-schedule	Q2 2024	-	Jun 2024
✓	1050 6	Actions	Review and propose necessary consequential amendments to ICAO provisions as part of new proposed information security provisions, as required	FLTOPSP ATMOPSP SASP RPASP FSMP SP IMP DGP ATMRPP AIGP FLTOPSP- FLIRECSWG ADOP METP AIRP SMP NSP CP- OPDLWG CP-DCIWG IFPP FLTOPSP- SCGSWG ATMOPSP-	On-schedule	Q1 2025	-	Mar 2025

				WTSWG PTLP			
For Information purposes (to be completed by the Secretariat)							
GLOBAL IMPLEMENTATION ACTIONS							
Status:		Priority:	Initial Issue Date:	Date Approved by ANC:		Session / Meeting:	
Approved		High	30 November 2022	25 May 2023		223-5	
RATIONALE							
<div>- AN-WP/9679: Dates added by Panel at TFP/1; Priority added (Ref AN Min. 222-8); WPE 10506 change proposed from panel, WG/SRP suggested to be reverted to original text. Expert groups expanded; WPE 10507: Remove reference to PANS IM, description was altered after the meeting agreed that information security framework referred to information security controls. Expert groups expanded; WPE 10505: With the proposed changes to WPEs 506 and 505, the task under WPE 507 is effectively fully covered. Therefore, the TFP/1 agreed to propose removing the task to avoid duplication.</div> <div>- AN-WP/9658 (222-8): Minor update to reflect prioritization</div> <div>- AN Min 221-7</div>							



# International Civil Aviation Organization

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## TRUST FRAMEWORK PANEL

### FIRST MEETING

27 to 13 March 2023

**REPORT FOLDER**



## **TRUST FRAMEWORK PANEL (TFP)**

### **FIRST MEETING**

**Montréal, 27 to 31 March 2023**

### **GENERAL**

The attached constitutes the general part of the report and should be inserted at the appropriate place in the yellow folder.

**FIRST MEETING OF THE  
TRUST FRAMEWORK PANEL (TFP) (2023)**

**LETTER OF TRANSMITTAL**

To: President, Air Navigation Commission

From: Chairman, Trust Framework Panel (TFP) (2023)

I have the honour to submit the report of the first meeting of the Trust Framework Panel (TFP) which was held in Montréal, from 27 to 31 March 2023



Jean-Paul Moreaux  
Chairman

Montréal, 31 March 2023

**TABLE OF CONTENTS**

	<b>Page</b>
History of Meeting	
1. Duration	<b>ii-1</b>
2. Attendance	<b>ii-1</b>
3. Officers and Secretariat	<b>ii-2</b>
4. Agenda of the meeting	<b>ii-2</b>
5. Working arrangements	<b>ii-3</b>
Agenda Item 1: Opening session and administrative arrangements for the panel	<b>1-1</b>
Agenda Item 2: Level-setting for meeting participants	<b>2-1</b>
Agenda Item 3: Work programme of the TFP	<b>3-1</b>
Agenda Item 4: Working arrangements	<b>4-1</b>
Agenda Item 5: Any other business	<b>5-1</b>



**TRUST FRAMEWORK PANEL (TFP)****FIRST MEETING****Montréal, 27 to 31 March 2023****HISTORY OF THE MEETING****1. DURATION**

1.1 The first meeting of the Trust Framework Panel (TFP) was opened by Mr. Padhraic Kelleher, President of the ANC of the Air Navigation Commission in Montreal, at 0900 hours on 27 March 2023. The meeting ended on 31 March 2023.

**2. ATTENDANCE**

2.1 The meeting was attended by members and observers nominated by ten Contracting States and six international organizations, as well as by advisers and others as shown in the list below:

<b>Members</b>	<b>Advisers</b>	<b>Nominated By</b>
Cleiton Ataide	Marco Sernagiotto	Brazil
Olivia Williams	Dan Langlois	Canada
	Tom Bornais	
	Isabelle Rochette	
	Larry Stoddard	
Romain Buffry	Franck Steunou	France
	Erwan Hamon	
Hirofumi Abe	Naoki Kanada	Japan
Teun Muller		Netherlands
Kee-Vin Ho	Soo Guan Boo	Singapore
Juan David Nieto		Spain
Amornrat Jirattigalachote		Thailand
Youssif Al Awadi		United Arab Emirates
Robert Segers		United States
	Sarah Nabeel	ACI
Nick Whidborne		CANSO

Jean-Paul Moreaux		EASA
Patrick Mana	Dennis Hart	EUROCONTROL
Manon Gaudet	Ana Pascua Perez	IATA
	John Synnott	
Stefan Schwindt	Belkacem Bensadallah	ICCAIA
	Jonathan Graefe	
	Jerry Hancock	
	Laurel Matthew	
	Patrick Morrissey	
	Adrian Solomon	

#### **Advisers to the Panel as a whole**

Patrick Patterson	Carillon Information Security
Daniel Diessner	Embry-Riddle Aeronautical University
Alex Leadbeater	GSMA
Drew Van Duren	GSMA
Robert Moskowitz	HTT Consulting
Keith Ward	Transglobal Secure Collaboration Participation

### **3. OFFICERS AND SECRETARIAT**

3.1 Mr. Jean-Paul Moreaux (EASA) was Chairperson and Ms. Amornrat Jirattigalachote (Thailand) was Vice-Chairperson of the meeting.

3.2 The Secretary of the meeting was Mr. Michael Goodfellow, Technical Officer Global Interoperable Systems. He was supported by Mr. Saulo da Silva, Chief, Global Interoperable Systems, Mrs. Olga de Frutos, Technical Officer Air Navigation Systems, Mr. Anton Kornetskiy, Technical Officer Global Interoperable Systems, Mr. Philippe Morio, expert seconded from France and Mr. Zhang Baojiang, expert seconded from China, as well as other Officers from the Air Navigation Bureau (ANB) and the Air Transport Bureau (ATB).

### **4. AGENDA OF THE MEETING**

4.1 The agenda presented in WP/1 was approved by the meeting.

## 5. **WORKING ARRANGEMENTS**

5.1           The panel met as a single body. Discussions in the main meeting were conducted in English. Working papers were presented in English only.

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## **TRUST FRAMEWORK PANEL (TFP)**

### **FIRST MEETING**

**Montréal, 27 to 31 March 2023**

### **AGENDA ITEM 1**

The attached constitutes the report on Agenda Item 1 and should be inserted at the appropriate place in the yellow folder.

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**Agenda Item 1: Opening session and administrative arrangements for the panel****1.1 OPENING OF THE MEETING**

1.1.1 The meeting was opened by Mr. Padhraic Kelleher, President of the Air Navigation Commission (ANC), whose remarks are presented in Appendix A.

1.1.2 Mr. Kelleher noted that this was a new group, and that it was vital that all participants begin with a shared understanding of the purpose of the Panel, a shared understanding of goals, tasks and challenges, and a shared understanding of the Terms of Reference. In particular, he drew the panel's attention to the *Directives for Panels of the Air Navigation Commission* (Doc 7984) and the 'Standards for Standards' Document.

1.1.3 He reminded the group that the Council is establishing a cybersecurity Coordinating Committee and he reminded the meeting of the Cybersecurity Panel's Working Group on Cyber Threats and Risks which should inform the panel's work. He also noted other ANC panels that the TFP would be expected to work with such as the Communications Panel and Information Management Panel. He further invited the meeting review the Air Navigation Work Programme. Mr. Kelleher reminded the meeting of the approved job cards and looked forward to reviewing the panel's inputs to them.

1.1.4 He closed by wishing the meeting success for the work that lies ahead, noting that the trust framework is not just a complex and multi-faceted undertaking, but should also be a very significant enabler for our increasingly connected aviation system.

1.1.5 Mr. Stephen Creamer, Director, ANB, then addressed the meeting. He thanked all participants for attending, including those not normally involved in ICAO work. He assured the panel they have the full support of the ICAO Secretariat for their work.

1.1.6 Mr. Creamer noted that the TFP should build on the excellent work that the Trust Framework Study Group (TFSG) accomplished since 2019, and that the panel's work interconnects with many other ICAO panels and groups, and others outside of ICAO as well. He remarked that in many ways, this panel is responsible for evolving the implicit trust that the global aviation system runs on into a fully digital and increasingly automated environment.

1.1.7 He echoed Mr. Kelleher's comments on the keen interest of the panel's work within ICAO, and invited the meeting to consider how the technical matters being discussed can be concisely presented to a wide range of stakeholders, many with limited technical expertise.

1.1.8 The Secretary thanked Mr. Kelleher and Mr. Creamer for their opening remarks, and subsequently invited all participants to introduce themselves.

## 1.2 ELECTION OF OFFICERS

1.2.1 The Secretary provided the meeting with relevant information on the procedures and role of the Chairperson, as described in *Directives for Panels of the Air Navigation Commission* (Doc 7984). The meeting was informed that only panel members present would be able to proceed with the election process. Panel advisers were then requested to leave the room so that the election could proceed.

1.2.2 Mr. Teun Muller nominated Mr. Jean-Paul Moreaux as Chairperson of the panel. Mr. Moreaux's nomination was seconded by Mr Robert Segers, Ms. Olivia Williams, Mr. Romain Buffry, Mr. Stefan Schwindt and Mr. Patrick Mana.

1.2.3 Mr. Cleiton Ataide nominated Ms. Amornrat Jirattigalachote as Vice-Chairperson. Ms. Jirattigalachote's nomination was seconded by Mr. Robert Segers, Mr. Kee-vin Ho and Mr. Romain Buffry. The panel members congratulated Mr. Moreaux and Ms. Jirattigalachote on their election

1.2.4 Following the election, the meeting resumed with all attendees in plenary.

## 1.3 APPROVAL OF THE AGENDA AND ADMINISTRATIVE ARRANGEMENTS

1.3.1 The Secretary presented WP/1, containing the agenda and administrative arrangements of the panel. The meeting agenda was adopted without modification.

1.3.2 The Secretary then presented WP/9, which summarized the meeting documentation, schedule and order of business. The meeting approved the schedule, noting that it may be modified during the course of the meeting to facilitate discussions.

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## APPENDIX A

### OPENING REMARKS OF THE PRESIDENT OF THE AIR NAVIGATION COMMISSION

Good morning, everyone. I am so pleased to be with you for this, the first meeting of the new Trust Framework Panel. It is not often that the Air Navigation Commission launches a new Panel, so this truly is a rare and exciting moment.

I really want to thank each and everyone of you for agreeing to participate in the Panel and for your clear intention to support the work that lies ahead.

#### New team - new work programme

Today, you start a new team with a new programme of work. Some of you will already know each other. Some of you may have worked together in the Trust Framework Study Group that preceded this Panel. And some of you will be new to this subject and new to ICAO's working methods.

So today, you start a new team with a new work programme.

It is vitally important that everyone starts this journey with a shared understanding of the purpose of the Panel, a shared understanding of your goals, tasks and challenges, a shared understanding of your Terms of Reference. Your work this week needs to start building an environment that will ensure that each of you is engaged in the work, each of you is committed to the products that you develop and each of you is an advocate for the adoption of your products globally.

#### New team – working methods

There is a lot of supporting material on the TFP Portal that can help you. I draw your attention to two documents in particular: ICAO Document 7984 'Directives for Panels of the Air Navigation Commission' and the 'Standards for Standards Document'.

#### The wider team

I should also say something about the wider ICAO context in which your Panel will be working.

The ICAO Council is establishing a cybersecurity Coordinating Committee; I expect that your Panel Chair will be invited to join it alongside the Chair of the Cybersecurity Panel and others who can help the Council to direct ICAO activities linked to the ICAO Cybersecurity Plan.

Speaking of the Cybersecurity Panel, it has a working group on Threats to Aviation which should inform your work. And this is but one of a number of Panels and expert groups that you will need to work with; the Commission's Communications Panel and Information Management Panel, for example, want your input to products that they are working on. To see how your work links into that of other Panels, you need only go to the Portal and take a look at the Air Navigation Work Programme. This shows all of our work to allow ICAO to deliver its Global Safety and Global System Capacity and Efficiency objectives.

It is so important that you organise your resources so that you can properly play your part in this wider network and ensure everyone can move forward together in a coordinated manner.

#### Organising the work

And before I close, let me say something about structuring your work.

In addition to your Terms of Reference, the Air Navigation Commission has approved initial job cards that describe what we expect you to achieve. The job cards are a mechanism for you to communicate your progress to the ANC and to get agreement to amend your work programme should you believe that to be necessary. Please review the jobcards carefully this week; we are expecting to hear back from you about them and particularly about your assessment of the delivery timelines.

And when you are clear about the work you need to do, I am guessing that you set up some working groups within the Panel to help focus and drive key components of your work. I urge you, please, to choose a structure that works best for this team and this work programme. You are not required to continue with the working groups of the Trust Framework Study Group.

#### Close

Let me close by wishing you all the very best for the work that lies ahead. The trust framework is not just a complex and multi-faceted undertaking, it should also be a very significant enabler for our increasingly connected aviation system. The Air Navigation Commission and the ICAO Council will be following your work with keen interest.

I wish you every success as you set up your new team and take on your new programme of work. I am so very happy that you have all committed yourselves to this Panel. Thank you and I very much look forward to hearing about your progress.

Thank you





## **TRUST FRAMEWORK PANEL (TFP)**

### **FIRST MEETING**

**Montréal, 27 to 31 March 2023**

### **AGENDA ITEM 2**

The attached constitutes the report on Agenda Item 2 and should be inserted at the appropriate place in the yellow folder.

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**Agenda Item 2: Level-setting for meeting participants**

2.1 The Chairperson remarked that there were many new individuals in the meeting, including those who had never previously been involved in ICAO or its expert groups. He then invited the Secretary to show participants slides providing an overview of ICAO, its organization, its mission and values (PPT/1).

2.2 The Secretary then proceeded to give a briefing on how panels of the ANC operate, highlighting certain differences between Secretariat Study Groups such as the Trust Framework Study Group and the new panel (PPT/2).

2.3 The Secretary also presented the Terms of Reference (TORs) to the meeting, noting that these were approved by the ANC. A member inquired if there was an expectation by the ANC that the meeting alter the TORs, and subsequently the job cards. The Secretary recalled P/ANC's opening remarks that the meeting is expected to review the job cards, and any changes to the TORs would have to be submitted to the ANC for approval. A member did note that the terms "interoperability" and "resilience" were missing from the TORs, which could be considered for incorporation at a later date.

2.4 Some members discussed the need to alter the TORs, however the Secretariat cautioned against them at such an early stage of the first meeting, and specifically to be cautious of incorporating any language that is already covered by the normal functions of a panel or that could artificially constrain its work.

2.5 A member expressed that the new panel would need to take into account the needs of various other panels and groups, and where it was more efficient to work independently versus in coordination. The Secretariat clarified that coordination between groups was identified in the work programme elements of the job cards, and a member noted that a further discussion could be held under agenda item 4.

2.6 An adviser asked if only members were able to serve as Rapporteurs of panel working groups. The Secretariat clarified that any participant could serve as a Rapporteur and that only the Chairperson and Vice-Chairperson need to be members.

2.7 The Chairperson then invited Mr. Rashad Karaky, Aviation Cybersecurity Officer, to provide the meeting with an overview of the cybersecurity work of the Air Transport Bureau and more specifically the new Cybersecurity Panel (PPT/5). The presentation also provided a high-level overview of the placement and role of the Ad-hoc Cybersecurity Coordination Committee.

2.8 The Secretary provided the meeting with a high-level vision of the trust framework (PPT/2), illustrating the key challenges for a digital transformation of the aviation ecosystem and what role the trust framework could play in this process.

2.9 One member questioned whether digital transformation should be added to the TORs, however there was no consensus on the matter.

2.10 A member inquired if the term IATF was in reference to the trust framework as a concept, or any notional entity which may arise in the future. The Secretary clarified that the content of the presentation was exclusively focused on the concept of the trust framework.

2.11 The Secretary then provided the meeting with an update on the work of the TFSG (PPT/4), including TFSG history, the use cases developed, identity management deliverables and information security framework documents.

2.12 A member questioned the terminology surrounding the use of the word trust. There was some discussion regarding the use of trust types versus trust levels, and whether the term “trust domain” would be more descriptive in this context. Trust domain was generally well received however no consensus on the terminology was reached.

2.13 Regarding the catalogue of digital identity use cases, a member questioned how many of those listed were current. An adviser clarified that approximately 70% of those listed were already deployed and in-use.

2.14 With respect to the TFSG’s work on the information security manual, a member highlighted that coordination with the Cybersecurity Panel (CYSECP) would be needed. The Secretariat clarified that work in this area would be closely coordinated with the CYSECP.

2.15 A member asked what was the role of the Aviation Security Panel (AVSECP) with respect to Standard 4.9.1 of Annex 17. The Secretariat clarified that the AVSECP is primarily concerned with cybersecurity events related to physical security outcomes.

2.16 Mr. Ciaran Carolan, Programme Officer, Public Key Directory, provided the meeting with a briefing on the ICAO Public Key Directory (PKD) for e-Passports (PPT/6).

2.17 A member asked if it was possible to revoke a single document certificate from the PKD, however the Secretariat clarified that this was not possible, and that only batches of documents could be declared invalid. The Secretariat further clarified that individual passports needing revocation are handled through an INTERPOL system and are not within the scope of the PKD.

2.18 An adviser asked how quickly a document certificate could be revoked, to which the Secretariat commented that the need to revoke a document was rare, and therefore the certificate revocation list did not require immediate updates. A member further commented that even with a revoked certificate, a passport remains a physical document that can be checked.

2.19 A member questioned who was responsible for the oversight and auditing of the PKD. The Secretariat clarified that the system operated on bilateral trust, and that there was an internal audit performed annually with oversight from the PKD board.

2.20 Mr. Patrick Patterson provided a briefing on considerations for post-quantum cryptography for the meetings attention. It was noted that while not an immediate effect, the emergence of a quantum-capable computer suited for defeating cryptography was a possibility, however crypto-agility should be emphasised rather than selecting any particular cypher.

2.21 Mr. Robert Moskowitz presented slides in support of WP/5 in order to explain the concept in more detail to the meeting. It was remarked that the proposed solution had merit, and that it would possible to integrate it into existing identity management solutions.

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2.22 A question was raised concerning the need for a dedicated IP address block to realize the solution. It was clarified that this was not the case. The meeting was reminded that Mr. Moskowitz's proposal would be further considered during the discussion of WP/5.

2.23 Mr. Robert Segers and Mr. Patrick Mana jointly presented the summary of the FAA/EUROCONTROL proof of concept for exchanging of information using trust framework principles. While the presentation was well received, it was remarked that the non-technical aspects of the trust relationship would need to be captured as well.

2.24 The meeting discussed how, even with a digitally signed information packet, ultimate trust in the information received still resides with the recipient. Therefore, it should be noted that the capabilities provided by the demonstration support the ultimate decision by the recipient of whether to trust the information or not.

2.25 Mr. Segers noted that the presentation was supplemented by a video demonstration of the proof of concept operating across various test cases. The Secretary agreed to upload the video to the portal for participants to view at a later date.

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## **TRUST FRAMEWORK PANEL (TFP)**

### **FIRST MEETING**

**Montréal, 27 to 31 March 2023**

### **AGENDA ITEM 3**

The attached constitutes the report on Agenda Item 3 and should be inserted at the appropriate place in the yellow folder.

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**Agenda Item 3: Work programme of the TFP**

3.1 The Secretary briefly introduced WP/6 on the TFP work programme. He noted that the intent of the presentation was not to begin a discussion now, but to remind the meeting that any deliberations in the upcoming leading to additional work would have to be accurately reflected in the job cards and tasks of the panel.

3.2 Mrs. Olga de Frutos presented WP/3, which presented the TFSG work on the Manual on Information Security, its current status, and further development. The Secretariat highlighted the planned coordination with the CYSECP on the manual, and noted that the content would need to be provided to the CYSECP by 13 April to be considered at the upcoming CYSECP/2 meeting.

3.3 A member questioned whether the panel would need to amend the existing job cards to accommodate this task, however it was clarified that there was already a work programme element in the approved job cards dealing with this.

3.4 There was concern raised with respect to potential overlap with the Cybersecurity Panel (CYSECP), and coordination with the CYSECP was emphasized. One member questioned why the scope was limited to SWIM, as regulations such as Part-IS are broadly applicable and is not limited to any particular domain. It was clarified by the Secretariat that while the intention of the original materials was broad, coordination within the ICAO Secretariat resulted in a more limited scope. A member commented that a future version of the material could be fully harmonized with the CYSECP, to which the Secretariat remarked that while the CYSECP had not contributed to the drafting thus far, if they wished to provide their help it would be welcomed.

3.5 With regards to the sharing of the current draft document with other industry groups, several members asked if the materials could be made available for wider comment in organizations such as RTCA and EUROCAE. The Secretariat informed the meeting that the material was free to distribute, and further informed the meeting that ICAO had an agreement with several Standards Making Organizations (SMOs) to have limited access to their materials for the purposes of developing provisions. It was further clarified that while the materials could be referenced, they could not be reproduced into ICAO documents.

3.6 An adviser questioned if the timelines proposed in the document were reasonable and what if any considerations were discussed to meet the demanding schedule. The Secretariat commented that while the timeline was aggressive, it was felt the document could be provided for review in parts to allow the panel to comment on the latest material as it becomes available.

3.7 The meeting discussed the actions presented in paragraph 3.1 of the paper, and resolved that while actions a) and c) were duly noted, while for actions b) and d) the meeting would provide the Secretariat additional time to circulate the document amongst the panel members for comment, and to revisit the overall schedule while still meeting the deadlines imposed for submitting papers for the CYSECP/2 meeting.

3.8 Mr. Robert Moskowitz presented WP/5 on a concept for remote unmanned aerial systems (UAS) remote identity. The paper was supported due to the unique operating conditions of bandwidth limitation that small drones typically operate in.

3.9 The participants engaged in a discussion on the technical aspects of the proposal, and discussed ways in which the panel and ICAO could engage with this work.

3.10 The meeting agreed to note the paper, referring the request for new Object Identifiers (OIDs) to the Communication Panel's Data Communications Infrastructure Working Group, and further invited all interested panel participants to engage with Mr. Moskowitz directly for additional information.

3.11 Mr. Robert Segers and Mr. Patrick Mana jointly presented WP/4, which offered a proposal on prioritization of work for the TFP into four elements, namely: digital identity; Information Security Management Systems (ISMS); a common audit framework for digital identity and ISMS; and capacity building regarding the trust framework.

3.12 Support for the capacity building initiatives described in the paper was noted, however one member expressed concerns about training for auditors. It was remarked that other bodies such as the European Civil Aviation Conference (ECAC) were working on training materials which could be of use to the panel, and that the CYSECP was also developing training information.

3.13 With regards to the paper's comments on ISMS, the Secretariat reminded the meeting that the ANC had classified the Information Security Framework job card as high priority. A member noted that terminology was being overlapped, and that information security policy operates at the organizational level, while information security controls are at the operational domain level. There was some discussion regarding the required coordination with the CYSECP on this matter, as previously discussed during the presentation of WP/3. In that regard, a member commented that while they support the notion of ISMS as described in the paper, the CYSECP should address ISMS frameworks at a high level while the TFP focuses on information security controls. This notion was generally supported by the meeting.

3.14 Regarding the paper's comments on auditing, several questions were raised concerning the scope of the proposed activity, what the activity would provide, and whether this could be accomplished through common criteria. An adviser clarified that using common criteria would not be operationally feasible or scalable, and that similar initiatives were already operating at the international level. Another member noted that common criteria were intended for validating products, while another noted that common criteria may not be sufficient in the use cases described for the trust framework.

3.15 With respect to the items recommended to be considered out of scope, there was general consensus on the proposal. However, the Secretariat cautioned that there were other initiatives who would be dependent on some of the topics presented in the paragraph (e.g. IPv6 address block) and that this would have to be coordinated with the concerned expert groups.

3.16 In conclusion, the meeting agreed with actions a) and d), and with b) noting the above comment in paragraph 3.13 concerning scope. The meeting also supported action e). With respect to action c), the meeting noted that further input would need to be provided for the associated job cards.

3.17 Mr. Bruno Ferreira, Technical Officer, Communications, Navigation and Surveillance, presented WP/7, which highlighted areas of coordination between the CP-DCIWG and the TFSG that should be continued with the TFP. The paper noted the close coordination between the two groups on the development of the *Manual on Public Key Infrastructure (PKI) Policy for Aeronautical Communications* (Doc 10095), and the *Manual of Security Services for Aeronautical Communications* (Doc 10090). He noted that while development of Doc 10095 was mostly complete (approximately 80%), development of

Doc 10090 was only just underway and the TFP was being asked to support this work (Job Card CP-DCIWG.007.05 refers).

3.18 The meeting agreed that the ongoing coordination between the groups was important, and that the actions proposed in the paper were agreed to. The Secretary noted that he would engage with Mr. Ferreira to begin the establishment of the TFP/CP-DCIWG task force.

3.19 Mr. Robert Segers presented WP/2, which requested the review and approval of several changes to the draft certificate policy created by TFSG. This was supported by updates provided in Flimsy #1.

3.20 The meeting proceeded to review the suggested amendments to the certificate policy, noting that several changes would require more in-depth discussion than could be accomplished in a plenary setting. Therefore, the meeting agreed that it noted the proposals and advised further discussions to be referred to an appropriate working group of the panel.

3.21 Mrs. Crystal Kim, Technical Officer, Airspace Management and Optimization, presented WP/8 on the connected aircraft concept. The presentation included a brief history of the Air Traffic Management Requirements and Performance Panel (ATMRPP) and its work on trajectory based operations and the Global ATM Operational Concept.

3.22 The concept was well received by the meeting, and resulted in several questions being raised, in particular with respect to the use of Electronic Flight Bags and what safety risks they may pose through connections with the aircraft. A member noted that use cases similar to the ones presented in the paper were already in use today, and that there were multiple uses for the term “connected aircraft” by also meaning those airplanes that were considered e-enabled. Subsequently, the meeting noted that this subject required close coordination with CP-DCIWG.

3.23 A member noted that the concept should perhaps be forwarded to the CYSECP for comment, in particular by the Working Group on Cyber Threats and Risks. In response, another member remarked that the material being presented to the meeting was not a technical solution, and not all material brought to the TFP for review would need to be automatically forwarded to the CYSECP as the TFP had the resources to provide comment on the concept.

3.24 In conclusion, the meeting noted that while the paper asked for feedback from the meeting under a compressed deadline, the Chairperson and Secretary would collaborate on how to best return comments to ATMRPP within the allotted timelines noting that comments may arrive after the date requested (Job Card ATMRPP.007.03 refers).

3.25 The Secretary formally presented WP/6, which informed the meeting of the three approved job cards for the panel, requested the panel to consider the four job cards for which the TFP was listed as a supporting expert group, and a list of work items to be transitioned from the TFSG to the TFP as inputs for consideration. This paper was supplemented by Flimsies #2 and #3.

3.26 Mr. Robert Segers presented Flimsy #2, which suggested the TFP should proactively engage with other ANC panels to determine how the TFP could assist them and provide input to their deliberations as early as possible. The proposal was well received by the meeting, and it was subsequently agreed to consider this in the panel’s list of tasks.



3.27 Mr. Patrick Morrissey presented Flimsy #3, which proposed to limit the scope of ISMS provisions and guidance in order to better meet the imposed deadlines resulting from the work from WP/3. The meeting noted that while much coordination had been done under TFSG, the study group had been superseded by TFP, and there was an approved job card on the matter with high priority. With due respect to the views raised in the flimsy, the Chairperson noted that there was no consensus for its proposal and could not be accepted.

3.28 The meeting then proceeded to review the TFP job cards, in particular reviewing the problem statements for accuracy and then each work programme element in turn. The results of the discussion can be found in the Appendix.

3.29 Upon review of job card TFP.001.01, the meeting agreed on the following:

3.29.1 WPE 10497: description was altered to indicate that there should be an evaluation the need for new provisions ahead of proposing any, and that an action proposing new provisions and consequential amendments could be added to the job card in the future, pending the results of the evaluation;

3.29.2 WPE 10499: action was changed to new document as the certificate policy would be published. Subsequently, the meeting amended the description to reflect the certificate policy's intended status as a reference document. Expected dates were amended to align with the expected delivery of the *Manual on Public Key Infrastructure (PKI) Policy for Aeronautical Communications* (Doc 10095); and

3.29.3 Other dates were amended based on meeting consensus.

3.30 Upon review of job card TFP.002.01, the meeting agreed on the following:

3.30.1 The problem statement was altered to reflect group consensus of the job card purpose;

3.30.2 WPE 10501: include the term "define" to ensure a common understanding amongst all stakeholders. Furthermore, the supporting expert groups were limited to the CYSECP as an initial step;

3.30.3 WPE 10502: remove "implementation" as the meeting felt the word constrained the focus;

3.30.4 WPE 10503: reflect what steps would be required for enabling implementation of a trust framework;

3.30.5 WPE 10500: editorial changes; and

3.30.6 Expected dates were amended;

3.31 Upon review of job card TFP.003.01, the meeting agreed on the following:

3.31.1 WPE 10506: description was altered to indicate that there should be an evaluation of the need for new provisions ahead of proposing any, and that an action proposing new provisions and consequential amendments could be added to the job card in the future, pending the results of the evaluation;

3.31.2 WPE 10507: description was altered after the meeting agreed that information security framework referred to information security controls. Supporting expert groups were expanded; and

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3.31.3 WPE 10505: WPE was deleted as this item was effectively covered by the above-amended WPEs.

3.32 The Secretary noted that the amended job cards would have to be submitted to the ANC for their approval, noting that the 223<sup>rd</sup> session in particular was very constricted on ANC availability.

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**APPENDIX**  
**REVISED TFP JOB CARDS**

<b>TFP.001.01</b>	<b>Identity Management</b>
<b>Source</b>	AN-Conf/13
<b>Problem Statement</b>	Differences in implementation and use of identity management systems could lead to lack of interoperability among current and planned aviation systems and hinder the global digitalization of the aviation ecosystem, as well as lead to possible duplication of work in other technical areas requiring the use of digital identities.
<b>Specific Details</b>	<p>Civil aviation lacks a common set of policies and procedures that can be used across multiple identity management systems wishing to interoperate. While the technical standards for implementing such systems are well understood, each stakeholder is free to interpret and implement them in their own way, leading to a fragmented information environment which adds complexity and cost when needing to interoperate with other airspace users or aviation stakeholders.</p> <p>A standardized set of policies, procedures and technical requirements (necessary for interoperability) that consider and build on existing national, regional and in-development identity management systems can align to are needed to allow these systems to successfully interoperate across multiple scenarios. Also, guidance materials and capacity building efforts associated to identity management, are needed</p>
<b>GANP/GASP Link</b>	SWIM-B2/1, B2/4, B2/5, B3/1
<b>Expected Benefits</b>	Reduced interoperability costs when linking identity management systems
<b>Reference Documents</b>	Doc 9854 – Global ATM Operational Concept
<b>Primary Expert Group:</b>	Trust Framework Panel (TFP)
<b><i>For Information purposes (to be completed by the Secretariat)</i></b>	
<b>Proposed Metric</b>	Publication of identity management policies, procedures and technical requirements

<b>Interdependencies</b>		SWIM, RPAS, SBAS, ATN/IPS						
<b>Initial Impact Assessment</b>		Impact on States	Net positive impact. Costs depend on current maturity/implementation status of identity management systems. For mature/existing systems, costs will be involved to correctly map existing policies and procedures to harmonized norms that will vary with the underlying complexity of the existing systems. States without identity management systems or those that have them in development can include the harmonized requirements into their initial design and simplify system integration in the future.					
		Impact on Industry	Net positive impact. However, some costs are involved to map existing policies and enable system connectivity. Scale of effort will depend on the complexity of the underlying system and how easily it can be integrated					
<b>Secretariat Project Team</b>		Secretariat Project Coordinator	Secretary TFP					
		Secretariat Project Team Members	Secretary of CP-DCIWG, Secretary of NSP, Secretary of IMP, Secretary of RPASP					
		Regional Office Focal Points	TBD					
	WPE No.	Document Affected or Actions Needed	Description of Amendment proposal or Action	Supporting Expert Group	Status	Expected dates:		
						Delivery	Effective	Applicability
✓	10497	Actions	<del>Review and propose necessary consequential amendments to</del> Evaluate the need for provisions related to the implementation and use of identity management, as required.	RPASP IMP NSP CP-DCIWG	On-schedule	Q1 2025	-	
✓	10498	Actions	Develop guidance material to support capacity building initiatives for identity management.	RPASP IMP CP-DCIWG	On-schedule	Q4 2025	-	
✓	10499	New ICAO Document (Dox #####)	<del>Review and propose amendments to draft</del> Develop reference Certificate Policy	NSP CP-DCIWG	On-schedule	Q3 2023	-	Q4 2024

✓	1049 6	New ICAO Document (Doc #####)	Guidance on best practices for implementing and supporting identity management.	IMP CP-DCIWG	On-schedule	Q4 2024	-	Q4 2025
For Information purposes (to be completed by the Secretariat)								
GLOBAL IMPLEMENTATION ACTIONS								
Status:			Priority:	Initial Issue Date:	Date Approved by ANC:	Session / Meeting:		
Approved			To be determined	30 November 2022	30 November 2022	221-7		
RATIONALE								
- AN Min 221-7								

<b>TFP.002.01</b>	<b>Considerations for International Aviation Trust Framework (IATF)</b>
<b>Source</b>	AN-Conf/13
<b>Problem Statement</b>	Absence of consensus amongst stakeholders vis-à-vis the requirements for the development of the IATF or along with the absence of a conceptual transition plan for stakeholders wishing to be a part of the trust framework <del>leads to delay of</del> <b>may jeopardize</b> the implementation of an IATF and exposes a risk of limiting participation by stakeholders
<b>Specific Details</b>	<p>The establishment of an international aviation trust framework, knowing that it is not an entity, infers a number of prerequisites that must be met by ICAO, Member States and industry.</p> <p>To address the problem statement, a description of the technical principles that define the IATF needs to be established; as well, the governance of the IATF. In particular, the various functions, relationships, roles and responsibilities of all concerned stakeholders (current or future), as well as principles, issues and concerns for governing bodies to consider in subsequent deliberations should be identified.</p> <p>In addition, the need for the IATF has to be communicated clearly to stakeholders, and the conceptual transition process has to be described. This will help stakeholders gain an appreciation of the wide range of use cases which would benefit from IATF.</p>
<b>GANP/GASP Link</b>	TBD

Expected Benefits		Facilitate secure interoperable digital information exchange across the aviation ecosystem.							
Reference Documents		Doc 9854	–	Global	ATM	Operational	Concept		
Doc 10039 – SWIM Concept									
Primary Group:	Expert	Trust Framework Panel (TFP)							
For Information purposes (to be completed by the Secretariat)									
Proposed Metric		Considerations for an International Aviation Trust Framework							
Interdependencies		GANP SWIM RPAS							
Initial Impact Assessment		Impact on States	Overall positive, allowing for proactive budgeting. Implementation tasks and transition will involve some costs however easier and more robust interoperability is expected to be a net positive for States operationally and financially.						
		Impact on Industry	Overall positive. Transition costs would be a single expenditure and would allow for more seamless connectivity with other aviation stakeholders as required						
Secretariat Project Team		Secretariat Project Coordinator	Secretary TFP						
		Secretariat Project Team Members	Secretary of IMP, Secretary of CP-DCIWG, Secretary of RPASP						
		Regional Office Focal Points	TBD						
	WPE No.	Document Affected or Actions Needed	Description of Amendment proposal or Action		Supporting Expert Group	Status	Expected dates:		
							Delivery	Effective	Applicability
✓	10501	Actions	Determine Define IATF and determine the technical principles and governance considerations for the IATF in consultation with and communicated to stakeholders.		RPASP IMP NSP	On-schedule	Q4 2024	-	

				CP-DCIWG CYSECP				
✓	1050 2	Actions	Determine technical implementation considerations for the IATF incorporating the needs of ICAO, States, industry and other stakeholders, and, as necessary, develop appropriate guidance to address them.	RPASP IMP NSP CP-DCIWG	On-schedule	Q4 2025	-	
✓	1050 3	Actions	Develop high-level roadmap indicating transition stages and milestones for implementing enabling the implementation of IATF	RPASP IMP NSP CP-DCIWG	On-schedule	Q4 2025	-	
✓	1050 4	Actions	Review existing use-cases and update as required	RPASP IMP NSP CP-DCIWG	On-schedule	Q3 2025	-	
✓	1050 0	GANP (Doc 9750)	Develop needed inputs for the GANP related to trust framework implementation.	RPASP IMP CP-DCIWG	On-schedule	Q1 2024	-	
For Information purposes (to be completed by the Secretariat)								
GLOBAL IMPLEMENTATION ACTIONS								
Status:			Priority:	Initial Issue Date:	Date Approved by ANC:	Session / Meeting:		
Approved			To be determined	30 November 2022	30 November 2022	221-7		
RATIONALE								
- AN Min 221-7								

TFP.003.01		Information Security Framework					
Source		AN-Conf/12, AN-Conf/13, Doc 10039					
Problem Statement		The evolution of the digital information integration of the aviation system during the 21st century has made of information security a critical factor as the loss of confidentiality, integrity or availability of the information poses a significant risk for the safety of flight operations in a more than ever interconnected aviation ecosystem.  Furthermore, the non-harmonization of information security frameworks across systems and stakeholders creates challenges to support the increasing need for open and timely data exchange whilst at the same time respecting the legitimate information security concerns of all aviation stakeholders.					
Specific Details		Key to the philosophy adopted within the global ATM operational concept is the notion of global information utilization, management and exchange. This philosophy is supported in large part by the evolution to a holistic, cooperative and collaborative decision-making environment, which requires an increase in information exchanges, both in terms of the number of exchanges performed and the number of participants involved.  Information security is key to system wide information management. The Trust Framework Study Group has developed an initial set of provisions for an information security framework (ISF). This framework addresses a common set of requirements and identity assurance to protect the information, however, the lack of harmonization may result in interoperability and efficiency issues.					
GANP/GASP Link		SWIM B2/1, B2/5 and B3/1					
Expected Benefits		Improved safety through a harmonized approach to information security.					
Reference Documents		Doc 9854	–	Global	ATM	Operational	Concept
Primary Expert Group:		Trust Framework Panel (TFP)					
For Information purposes (to be completed by the Secretariat)							
Proposed Metric		Post-implementation survey results of Stakeholders information security posture					
Interdependencies		SWIM					
Initial Impact Assessment		Impact on States	Net positive impact on safety. Some impacts on States to evaluate current level of compliance with draft ISF provisions and to determine resolutions to any corresponding deficiencies				



		Impact on Industry	Net reduction in integration costs. Some impacts to evaluate current level of compliance with draft ISF provisions and to determine resolutions to any corresponding deficiencies.					
<b>Secretariat Project Team</b>		Secretariat Project Coordinator	Secretary TFP					
		Secretariat Project Team Members	Secretary of IMP, Secretary of CP-DCIWG					
		Regional Office Focal Points	TBD					
	WPE No.	Document Affected or Actions Needed	Description of Amendment proposal or Action	Supporting Expert Group	Status	Expected dates:		
						Delivery	Effective	Applicability
✓	10506	Actions	Evaluate the need for additional provisions for information security framework as required	All	On-schedule	Q1 2025	-	
✓	10507	New ICAO Document (Doc #####)	Guidance material to support the implementation of the information security framework.	IMP CYSECP PTLP CP-DCIWG	On-schedule	Q2 2024		
<b>For Information purposes (to be completed by the Secretariat)</b>								
<b>GLOBAL IMPLEMENTATION ACTIONS</b>								
<b>Status:</b>			<b>Priority:</b>	<b>Initial Issue Date:</b>	<b>Date Approved by ANC:</b>	<b>Session / Meeting:</b>		
Approved			To be determined	30 November 2022	30 November 2022	221-7		
<b>RATIONALE</b>								
- AN Min 221-7								



## **TRUST FRAMEWORK PANEL (TFP)**

### **FIRST MEETING**

**Montréal, 27 to 31 March 2023**

### **AGENDA ITEM 4**

The attached constitutes the report on Agenda Item 4 and should be inserted at the appropriate place in the yellow folder.

**Agenda Item 4: Working arrangements**

4.1 The Secretary proposed establishing working groups primarily focussed on key deliverables resulting from the high prioritization of job card TFP.003.01, as well as a joint work item with CP-DCIWG from CP-DCIWG.007.05.

4.2 Upon further discussion with the group, consensus was reached around the establishment of three working groups aligned to the approved job cards, namely identity management, trust framework considerations and information security framework.

4.3 Co-rapporteurs were nominated for each working group as follows:

4.3.1 Identity Management: Mr. Patrick Mana and Mr. Keith Ward;

4.3.2 Trust Framework Considerations: Mr. Nick Whidborne and Mr. Daniel Diessner; and

4.3.3 Information Security Framework: Mr. Robert Segers and Mr. Jerry Hancock.

4.4 Volunteers were requested for each working groups. The initial composition of the working groups can be found in the Appendix.

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**APPENDIX****WORKING GROUPS OF THE TFP AND THEIR COMPOSITION****Working Group on Identity Management**

- Hirofumi Abe
- Yousif Al Awadi
- Erwan Hamon
- Patrick Mana \*
- Patrick Patterson
- Robert Segers
- Marco Sernagiotto
- Adrian Solomon
- Franck Steunou
- Keith Ward \*
- Olivia Williams

**Working Group on Trust Framework Considerations**

- Hirofumi Abe
- Yousif Al Awadi
- Cleiton Ataide
- Daniel Diessner \*
- Jonathan Graefe
- Erwan Hamon
- Jerry Hancock
- Amornrat Jirattigalachote
- Patrick Mana
- Patrick Morrissey
- Stefan Schwindt
- Robert Segers
- Adrian Solomon
- Franck Steunou
- Nick Whidborne \*

**Working Group on Information Security Framework**

- Hirofumi Abe
- Cleiton Ataide
- Yousif Al Awadi
- Belkacem Bensadallah
- Amornrat Jirattigalachote
- Jonathan Graefe
- Erwan Hamon

- Jerry Hancock \*
- Patrick Mana
- Patrick Morrissey
- Teun Muller
- David Nieto
- Ana Pascua Perez
- Stefan Schwindt
- Robert Segers \*
- Remzi Seker
- Franck Steunou
- Nick Whidborne

\*Co-rapporteurs



## **TRUST FRAMEWORK PANEL (TFP)**

### **FIRST MEETING**

**Montréal, 27 to 31 March 2023**

### **AGENDA ITEM 5**

The attached constitutes the report on Agenda Item 5 and should be inserted at the appropriate place in the yellow folder.

**Agenda Item 5: Any other business**

5.1 Mr. Teun Muller presented Flimsy #4, requesting an amendment to the Terms of Reference (TORs) of the panel. While the panel welcomed the spirit of the proposal, consensus on the precise wording was not reached, and the Secretary undertook to engage with the flimsy authors to further develop a proposal to present to the Air Navigation Commission with their support.

5.2 The meeting discussed its plans for future meetings, the intended frequency of panel meetings and the proposed dates. The meeting agreed that it would plan for a working group of the whole in the third quarter of 2023 to advance its work, with the Second Meeting of the Trust Framework Panel tentatively scheduled for the second quarter of 2024.

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