



Agenda Item 4: Review of the process of Phase 2 of the transition from AIS to AIM and preparation for SWIM

FOLLOW-UP TO THE IMPLEMENTATION OF DIGITAL DATA SETS (DDS)

(Presented by the Secretariat)

SUMMARY	
This working paper presents the follow-up to the implementation of digital data sets.	
References	
<ul style="list-style-type: none">• SAM/AIM/15 meeting report• Report of the Teleconference to follow up on SAM/AIM/15 Conclusions and Recommendations• Report of the follow-up teleconference held with Bolivia, Paraguay, and Uruguay• Information provided by States on progress made in the implementation of Phase 2.	
ICAO strategic objectives:	<i>A – Safety</i> <i>B – Capacity and efficiency</i>

1. Background

1.1 The implementation of digital data sets is an essential element for the exchange of aeronautical information in electronic format.

1.2 The Secretariat conducts teleconferences to follow up on the recommendations and conclusions of SAM/AIM meetings.

1.3 The Secretariat reports on the status of implementation to GREPECAS and the PPRC.

1.4 The States make progress in the implementation of DDS and Phase 2 of the AIS-to-AIM transition roadmap.

2. Discussion

Implementation of TOD

2.1 The Secretariat monitors the implementation of TOD. According to information obtained through follow-up teleconferences, Brazil has completed the TOD implementation process.

2.2 In this same context, Paraguay has completed the survey of all obstacles and already has a terrain model, which is also provided in Google Earth-compatible format. Brazil is to provide support for

its digitisation and linkage with the e-AIP of Paraguay.

2.3 Uruguay, in the follow-up teleconference, reported the following in relation to TOD:

- i) For Area 1, DINACIA will publish a link in the AIP to the Aerospace Infrastructure Service (*Servicio de Infraestructura Aeroespacial - IDE*) of Uruguay;
- ii) Regarding Area 2, it will be published in the AIP in December.

2.4 The status of implementation of TOD is shown in **Appendix A** to this working paper.

Implementation of DDS (except TOD)

2.5 States have made progress in the implementation of Phase 2 of the AIS-to-AIM transition roadmap. In this context, the following States have reported progress in the implementation:

- Argentina
- Brazil
- Colombia
- Paraguay
- Peru
- Venezuela

2.6 Likewise, the following States have informed of plans to implement digital data sets:

- Chile
- Guyana
- Ecuador
- Panama
- Uruguay

2.7 The Secretariat is organising the formulation of implementation projects for Bolivia and Suriname, which show the greatest delay in the implementation of DDS.

2.8 The status of implementation is shown in **Appendix B** to this working paper.

2.9 The Meeting may wish to request States to review and update the data contained in Appendices A and B in order to reflect the current status of implementation.

2.10 The Secretariat reminds the Meeting that GREPECAS/19 urged States to complete the implementation of DDS by 2024 at the latest, so as not to delay the implementation of SWIM.

Preparation for SWIM

2.11 States are planning the implementation of SWIM. Brazil has made significant progress and Panama has a plan in this regard.

2.12 The Secretariat invites States to share their progress and good practices in the implementation of TOD, DDS and preparation for SWIM.

3. **Suggested action**

3.1. The Meeting is invited to:

- a) take note of the information contained in this working paper;
- b) review and update the tables contained in Appendixes A and B; and
- c) consider other actions it may deem appropriate.

Status of implementation of TOD
(Updated 18/07/2023)

SAM STATES	ACTION PLAN	FOLLOW-UP
<i>Argentina</i>	<p align="center">Estimated date: 27 November 2019 Subject to the approval of the new budget. Argentina publishes terrain and obstacle data in its AIP. Argentina will publish in electronic format in October 2023.</p>	The Action Plan will be reviewed and corrections sent with more detailed information.
<i>Bolivia</i>	Start date of corrective action: A plan was submitted in response to the deficiency letter	To be followed up in accordance with the dates provided in the letter in response to deficiencies.
<i>Brazil</i>	<p align="center">2017 - 8 AD 2018 - 8 AD 2019 - 8 AD 2020 - 7 AD 2021 - 7 AD 2022 - 7 AD Will prepare the one for 2023 to complete the process.</p>	Brazil has completed the TOD implementation process.
<i>Chile</i>	<p align="center">Completion scheduled for 2022. According to the report presented at the ePPRC/3 meeting, it is delayed due to the pandemic. No completion date available for the two remaining airports.</p>	<p>Obstacle survey completed for 5 airports and one in progress, but delayed due to the pandemic. Also working to make data available through a portal being developed with ESRI, but no date of implementation has been defined yet. Chile responded to the letter on deficiencies, noting that only two airports were pending.</p>
<i>Colombia</i>	Has not submitted a plan.	The Procedure Design Group is in charge of this area.
<i>Ecuador</i>	<p align="center">Has not submitted a plan. No changes. Expected for 2023.</p>	<p>Working in the obstacle survey using drones and with the advice of IFAIMA experts. No fixed plan yet. Still planning to work with a drone. IFAIMA provided support for the survey at the Latacunga airport. They will continue to work with the drone in 2022. IFAIMA to provide support with the methodology.</p>
<i>French Guiana</i>	Has not submitted a plan.	
<i>Guyana</i>	<p align="center">Estimated start date: April 2017. By now, the first seven points of the Action Plan presented should have been completed. No definitive timeline on implementation</p>	They are in the early stages. The process started when one of its officials attended the ICAO CAR/SAM seminar on e-TOD in

		<p>Mexico City in 2015. Last year (2019), COCESNA provided theoretical training in PANS/OPS and RNAV/RNP design procedures to several officials. At present, on-the-job-training is being discussed with the company.</p> <p>Pans-Ops on the job (practical) training to be conducted in first half of 2023. E-Tod Survey to be conducted after first half of the year but only for the two main international aerodromes (SYCJ and SYEC). There are no plans in place at the moment to capture and publish e-TOD data for local aerodromes in the country.</p>
<i>Panama</i>	Has not submitted a plan.	<p>Tocumen S.A. has completed the obstacle survey for the Tocumen and Panama Pacific airports. This data has been delivered to the civil aviation authority of Panama. No progress made in the other international airports.</p> <p>The complete data of Tocumen S.A. is not yet available. No date defined because it is in the hands of AGA.</p>
<i>Paraguay</i>	<p>Data collection completed for Areas 2a, b, c, d. Other e-TOD-related activities foreseen for the period between 2016 and 2019.</p> <p>No e-TOD module available, but can obtain SRTM terrain data that meets the requirements for Area 1 but not for Area 2.</p> <p>For man-made obstacles, a process is available, as defined by DINAC, which has surveyed about 3,000 obstacles. However, there is no software to make it available in electronic format.</p>	<p>No progress reported.</p> <p>No progress made. There are very few experts and most of them are focused on AIXM implementation.</p> <p>The obstacle survey process has been completed and a digital terrain model is already available.</p>
<i>Peru</i>	<p>Has not submitted a plan.</p> <p>CORPAC is coordinating with Horizon to resume the obstacle survey project at the Cuzco airport.</p>	<p>The e-TOD project in Cuzco could not be completed due to noncompliance by the provider. A DGAC-CORPAC work team is being established to define, in this first phase, the new date of implementation, which will last until October. In a second phase, aerodrome operators will be summoned to formulate the plan, which is expected to be completed by November and then delivered to ICAO.</p> <p>The Plan contemplates 2024. Coordination has taken place with aerodrome operators.</p>

<i>Suriname</i>	Has not submitted a plan.	
<i>Uruguay</i>	<p>Has not submitted a plan.</p> <p>Work on Area 1 is underway with the company, which has already surveyed all the terrain, and data is being requested for its publication.</p> <p>Work is underway with the operators for those airports given in concession. Area 1 and TOD data will be published in late 2023.</p>	<p>Meetings are being held with raw e-TOD data providers. Working groups have been established with companies conducting obstacle surveys, and a bidding process is being organised to purchase a system to process the data.</p> <p>No progress made due to the pandemic. There is an obstacle database in place.</p> <p>Process completed. Only pending publication in the AIP.</p>
<i>Venezuela</i>	<p>Work on terrain and obstacle data will start on the second half of 2017.</p> <p>Work is underway on Type A obstacle chart. To be published on 29 December 2022 (Josefa Canejo – Paranejo)</p> <p>Maracaibo has been completed, awaiting approval by INACO.</p> <p>Data on other international airports is expected to be published by 2023.</p>	<p>An automated, interoperable system is in place with an obstacle and terrain database capable of being exported in AIXM, HTML or Shape File format, if so required by the user.</p> <p>Obstacles for SVMI, Puerto ORDaz, Valencia, Maracaibo, Barcelona, Paraguana and Margarita are expected to be published in the amendment on the last quarter. Amendment scheduled for December. Will be available in electronic format. To be completed in 2024. 2022: 3 to 4 per year.</p>

Table: Follow-up to the implementation of the e-AIP, DDS, information exchange models and data catalogues

N°	State	Action Plan	Status of implementation				
			DDS (does not include TOD)	Exchange model	e-AIP	Data catalogues	SLA
1	Argentina	There is an action plan in place.			Published on a web site, but not in digital format (subject to payment of software maintenance fee)	Coordination with EANA S.E. Will send the information	Signed SLAs again with data providers
2	Brazil	Implemented	100%	100%	100%	100%	They do not sign SLAs. They issue an ICA with the rules to be followed by information providers (agreement following meeting with providers)
3	Bolivia	No progress made because the provider was changed.			Not until they have automated systems in place	For 2024 (fourth quarter)	They have SLAs but they do not include data catalogues
4	Chile	The project is under discussion to see if it can be implemented in 2023.					Nonexistent because they are all included in the QMS.
5	Colombia	e-AIP and DDS processes completed (except TOD).	90% No TOD	90%	95%	80%	90%
6	Ecuador	Project submitted to the Planning Secretariat and awaiting approval by 2023	Not available	Not available	Currently available in HTML and PDF format as per Eurocontrol standard	Available in Excel format. Expected to be available by the first half of 2022; 75%	Working on the SLAs with the information providers.

7	Guyana	The civil aviation authority has made budget allocations for 2023 to provide training in AIS-to-AIM transition. A national strategy will be applied for the conduction of workshops with all raw data providers during the first quarter of 2023 through the AIS regulator.	Dependent on training. Will be gradually implemented as training is provided to personnel in these areas.	Dependent on training. Will be gradually implemented as training is provided to personnel in these areas	Dependent on training. Will be gradually implemented as training is provided to personnel in these areas.	Dependent on training. Will be gradually implemented as training is provided to personnel in these areas.	LOAs have been established with the two main airports for the supply of raw data for publication by AIS. All other raw data is supplied through the Ministry of Public Works, which oversees national civil aviation at national level.
8	Panama	-DDS workshops are expected to start on the third quarter of 2022. - Regarding data catalogues, they are waiting for AISR to inform the dates of the seminar-workshop. No progress made due to activities for QMS certification. A DDS implementation planning meeting will be held on 16 January. There is some delay in AIS regulation. The first workshop on data catalogues will be held during the first quarter. The SWIM project includes all DDS.	No progress made.	100%	100%	No progress made.	
9	Paraguay	e-AIP in beta version.	Database fully completed	100%	100% in beta version	In a transition stage to understand the	In the process of dissemination

			but not yet available in digital format.			data catalogue.	n among internal and external users, but no SLA has been signed yet.
10	Peru	With the signing of the contract for the purchase of the integrated aeronautical information system in June 2021, Peru, through the AISP, is in the process of implementing the eAIP, which will be available in the last quarter of 2022, in compliance with the requirements established in our regulatory documents, Annex 15, PANS AIM and its respective amendments. In February, the integrated aeronautical information system was acquired (PER 20810). They will review all data. The timeline covers from 2023 to 2024 (initially October or November 2024 but this will be revised) (probably by the first quarter of 2025)	10% They will send the assessed information for the four parameters. The system was assessed with one airport. Progress made in the uploading of data for the main international airports of Peru, but this will be modified, since changes will be made to data uploading in 2023.	10%	10%	10 to 15%	A plan is in place to carry out reviews with information providers.
11	Suriname						
12	Uruguay	Awaiting the results of discussions for the adoption of actions following migration to AMHS (August 2022) Migration to					Completed

		<p>AMHS completed. In the process of acquiring AIXM system by 2023.</p> <p>A call for bids for its implementation is being prepared, which will probably take place in the last quarter of 2023.</p>					
13	Venezuela	Files will be sent following the meeting	<p>25% AIXM 5.1 100%</p>	Working on DDS implementation (60%)	<p>100% implemented and updated. Published on the INAC page. The new tools would be published by the first quarter of 2023.</p>	<p>25% Contained in the database.</p>	They are working on it, and will meet with providers during the first quarter of 2023 to sign the letters of agreement.