SAM/AIM/16

INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE

RLA/06/901
SIXTEENTH MULTILATERAL WORKSHOP/MEETING OF THE SAM REGION FOR THE TRANSITION OF AIS TO AIM (SAM/AIM/16)

FINAL REPORT

Lima, Peru, 14 to 18 August 2023

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HISTORY OF THE MEETING

ii-1 PLACE AND DURATION OF THE MEETING

The Sixteenth Multilateral Workshop/Meeting of the SAM Region for the transition of AIS to AIM (SAM/AIM/16) was carried out in hybrid form 14 to 18 August 2023.

ii-2 OPENING CEREMONY AND OTHER MATTERS

Mr. Jorge Armoa, ICAO Regional Officer, ANS Implementation (AIM/MET) welcomed all State delegates and representatives of organizations and industry. He also expressed his appreciation for the continued support to regional activities undertaken by the Regional Office.

The Secretariat has sought alternatives to continue supporting the States in preparing for the implementation of Phase II of the "Roadmap for the transition from AIS to AIM", and to follow up on the Implementation Plans for Aeronautical Information Management, which has undergone an unprecedented change in the global scenario, and considered using the technologies applicable to real-time communication in multimedia format and held this meeting in virtual mode as well.

The Meeting appreciates the contribution made by the industry (GroupEAD and NGA) through the presentations that made mention to the Digital NOTAM, Digital Data Set, Training, and GAP Analysis for the AIM and SWIM implementation).

ii-3 SCHEDULE, ORGANISATION, WORKING METHODS, OFFICERS, AND SECRETARIAT

The Meeting agreed to hold its sessions from 08:30 to 15:30, with appropriate breaks.

Mrs. Ivette Iturrado acted as president and moderator of the Workshop/Meeting and Mr. Jorge Armoa Cañete, AIM/MET Regional Officer, of the ICAO South American Regional Office, acted as Secretary.

ii-4 WORKING LANGUAGES

The working language of the Meeting was Spanish, with simultaneous interpretation into English. The documentation was presented in both languages.

ii-5 AGENDA

The following agenda was adopted:

Agenda Item 1:	Follow-up on Conclusions of Previous Meetings, Global NOTAM Campaign and SNOWTAM Implementation
Agenda Item 2:	Follow-up on the AIS/AIM area deficiencies
Agenda Item 3:	Follow-up to the implementation of the Quality Management System in the AIM dependencies (QMS/AIM)
Agenda Item 4:	Review of the process of Phase 2 of the Transition from AIS to AIM and preparation for SWIM
Agenda Item 5:	NOTAM Contingency Plans, AIS Contingency Plan for Volcanic Ash and ICARD System
Agenda Item 6:	Review of the implementation of Doc. 8126 - AIS/AIM Personnel Competency Evaluation and Training of AIS/AIM Personnel
Agenda Item 7	Review of proposed amendments to ICAO AIS documentation and proposal of new PANS-AIM and PANS-MET documents.
Agenda Item 8:	Other business

ii-6 ATTENDANCE

The Meeting was attended by 47 participants of 12 SAM States (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Uruguay, and Venezuela), and 2 industry representatives.

The list of participants is shown on page iii-1.

REGIONAL PROJECT RLA/06/901

Sixteenth Multilateral Workshop/Meeting of the SAM Region for the transition of AIS to AIM (SAM/AIM/16)
(Lima, Peru, 14 to 18 August 2023)

LIST OF PARTICIPANTS

ARGENTINA
1. Marcelo Cancinos (Marcelo)
2. Betsabé Isla (Betsabeé Isla)
3. MARIA INES VILLALBA
4. Silvina Rotta ANAC (Silvina Rotta ANAC)

BOLIVIA
5. Edgar Conde
6. John Apaza
7. Cinthia Sanchez
8. Fernando Torrez
9. Gregorio-Aliaga
10. Paula Ramos Illanes
11. Yesid Arze

BRAZIL
12. Claudius Soares Cardoso
13. Cristiane de Barros Pereira
14. Wilson Lopes Neves Junior
15. Jessica Laine
16. Márcio Gomes

CHILE
17. Pablo Pérez

COLOMBIA
18. Germán Vélez Garzón
19. Gladys Mercedes Roa De la Cruz
20. Mauricio Díaz Villabona

ECUADOR
21. Alexander Guncay
22. Nelson Quevedo
23. Wilmer Orbe

GUYANA
24. Tyrone Persaud

PANAMA
25. Ivette Iturrado
26. William Santamaría
27. Raymundo Ledesma
28. Iris González
29. Carlos Delgado Toledo
30. Roberto Segura
31. Dalys Rodriguez Valdés

PARAGUAY
32. Eleno Ramón Centurión Benítez
33. Pedro Alejandro Díaz

PERU
34. Sara Siles La Rosa
35. Angel Carrera Matias
36. Juan Izquierdo Escudero
37. Fernando Cruz Alburqueque
38. Hans Paniagua
39. Karina Calderón
40. Janina Acosta

URUGUAY
41. Maria Alejandra Ferreiro
42. Mario Dávila
43. Juan J. González (Juan González)

VENEZUELA
44. Anaís Rodríguez
45. Eduardo Gallardo
46. Eduardo Gallardo

ICAO
47. Jorge Armoa

GroupEAD
48. Henry Cáceres

NGA
49. Edward L. Van Zandt

Agenda Item 1: Follow-up on Conclusions of Previous Meetings, Global NOTAM Campaign and SNOWTAM Implementation

1.1 Under this agenda item, the Meeting discussed the following notes:

- **WP/02** – Follow-up on SNOWTAM implementation (presented by the Secretariat)
- **WP/03** – Follow-up on the objectives of the global NOTAM campaign (presented by the Secretariat)
- **WP/04** – Follow-up on the revision of Doc 7383 – Aeronautical Information Services provided by States (presented by the Secretariat)
- **WP/15** - Operational Symposium held in Brazil (presented by Brazil)

1.2 States updated the information related to the status of implementation of SNOWTAM. The current status can be found in **Appendix A** to this part of the report.

1.3 The States informed that, in relation to the implementation of SNOWTAM, in its new format, they have implemented the following activities:

a) Induction and training courses related to NOTAM and SNOWTAM.
b) States that had published a variance shall maintain the variance until the completion of the training and the adequacy of the automated systems template.

1.4 The Secretariat followed up on the Global NOTAM Campaign Objectives. The Secretariat had circulated the current status of old and very old NOTAMs remaining in the system to consult with States about the validity or not of the managed numbers managed by NOTAMeter. In this regard, the comments from the States were as follows:

a) The NOTAMeter numbers, with the exception of Peru, are real.
b) The States of Argentina, Brazil, and Chile are preparing amendments to the AIP for the next few months, which are expected to eliminate the largest number of old and very old NOTAMs.
c) Work will be done with the NOTAMeter Administrator to verify the cases of Bolivia, Panama, Peru and Ecuador.

1.5 The Meeting followed up on the use of the information contained in Doc 7383 - *Aeronautical Information Service* provided by the States. The Secretariat, with the support of the States, is preparing a working paper for GREPECAS, which will inform the evaluation of the need to maintain or delete the document, and create a repository of AISP data. The Secretariat will circulate a survey on the use of the document for operational purposes.

1.6 The Meeting recalled the importance of national Workshops and Seminars to raise awareness among data and information providers and decision makers on the importance of AIS work. In this context, Brazil reported on the operational Symposium to share concepts, work and roadmaps from AIS to AIM with users and decision makers. The working paper was accompanied by a presentation, which is included as **Appendix B** to this part of the report.

1.7 Brazil's presentation was very well received by the Meeting and the State was urged to continue with the same work. Additionally, the other States were invited to organize and deliver these awareness workshops to information and data providers and decision makers to disseminate the importance of aeronautical information services, the role it plays in air operations and the projection of aeronautical information as one of the enablers of system-wide information management (SWIM).

FOLLOW-UP TO SNOWTAM IMPLEMENTATION

N°	*State*	*Action taken*	*Implementation date*	*Comments*
1	Argentina	A work team has been created with all the areas involved. Tests have been carried out at both airports where snow occurs and airports that may be affected by heavy rainfall.		Implemented
2	Brazil	Brazil has worked in coordination with all the areas involved, has issued AIC-A 16/21 on the GRF and a regulatory framework on the new SNOWTAM format will be issued.	4 November 2021 1 July 2022 No implementation date available (SAM/AIM/15)	Tentative date for December 2023. (SAM/AIM/15) • Follow up on SAM/AIM/16 • Brazil has marked Dec/2023 but they have a delay so it is postponed to Feb/2024. • Brazil has a WP on it.
3	Bolivia	No action reported	4 November 2021 December 2023	The SNOWTAM implementation process will be completed by December 2023 at international airports. Implementation at domestic airports is expected for 2024 (SAM/AIM/15) • Bolivia reports that it has held meetings for the implementation. The DGCA has made the last revision and currently has a GRF procedure in which the SNOWTAM implementation is included. The procedure will be under constant review to identify opportunities for improvement.
4	Chile	✓ It was included in the guidelines for on-site training provided by each AD on a yearly basis. ✓ Regulation DAP 15 00 was updated and is about to be published. It includes the new format that enters into force on 4 November. ✓ A workshop will be held for all field managers in October and November; this is included in the annual training plan.	4 November 2021	▪ Training is provided at the beginning of each year to prepare for winter (SAM/AIM/15) ▪ They do training every year. The course is called AIS Efficiency Maintenance.
5	Colombia	It will not be implemented. The difference will be published in the AIP/COL part GEN-1.7. Likewise, we look forward to coordinating with MET	No implementation date	The difference will be published. No progress made. (SAM/AIM/15)

		and ATS providers, measures to replace or supplement the notification of poor braking (if it occurs) due to a flooded runway or degraded braking effectiveness.		Argentina will share its procedures on this case. Colombia maintains the difference but is coordinating with the MET Group and other areas for the implementation of SNOWTAM. The authority has been working with the DAGA Group and tests will start soon in some airports (probably Rio Negro). The tests will start in one or two months.
6	Ecuador	Recurrent NOTAM course pending implementation November 2021.	January 2022 Implemented. November 2021	This course will include SNOWTAMs Letters of agreement with Quito and Guayaquil No additional information has been reported (SAM/AIM/15) • Implemented. A circular has been issued. • An SLA is being worked on with Quiport to measure runway efficiencies.
7	Guyana	The system has been upgraded – The GRF focal point is creating a table of responsibilities for all stakeholders. The AIS has not yet established a policy for the issuance of SNOWTAM in the new format.	No foreseen implementation date	Letter of agreement for SNOWTAM implementation. National Plan for GRF implementation (LA signed between ANSP, MET, and AGA) • The authority has issued a circular with guidelines. • They have worked a GRF. They publish the SNOWTAM but only for one airport. • They are working to extend the information to all international airports.
8	Panama	A workshop on SNOWTAM was held in October 2019 for NOTAM personnel. The staff has participated in a webinar on runway condition.	Circular in process for signature by the director of the AAC. Meetings with Tocumen S.A. Briefing for AIS and ATC personnel.	Differences in the format will be published (they will use NOTAM rather than SNOWTAM) because the system and the template have not been adapted to the new format.

			Scheduled for April, but the circular has not been issued yet.	Tests for preparation and dissemination have already been carried out. Transmission of NOTAM information as of 15 August 2022 (SAM/AIM/15) • Panama maintains the difference but all five international airports are working on SNOWTAM and the implementation of the GRF.
9	Paraguay	Paraguay has worked on the regulatory aspect together with the service provider. The new SNOWTAM format has been included in State regulations.	4 November 2021 Implemented. Procedures will be reviewed and on-site inspections are foreseen	Technicians of the aerodrome operator, AGA and AIM are waiting to participate in the GRF course. AIM is ready to issue. Coordination pending with AGA and ATS (SAM/AIM/15)
10	Peru	No differences registered in Peruvian regulations. The format was included in the amendment of RAP 315.	4th quarter 2021	All training activities have been completed at national level. They continue to publish NOTAMs (SAM/AIM/15) • Plan to publish the difference in the eFOD, scheduled for September and in the AIP. • Staff is receiving refresher training. • Will not publish SNOWTAM in its new format.
11	Suriname	No actions reported.	No date defined.	No information reported (SAM/AIM/15) • Follow up on SAM/AIM/16
12	Uruguay	A working committee was formed with all the areas involved.	No implementation date set yet	A working committee was created with all the areas involved. It is not being applied, but all the staff has been trained. It depends on the migration to AMHS. Alternately, the issuance of warnings through ATS was implemented. GRF implemented since July

				2022 at international airports They do not publish SNOWTAM - The difference has been published. (SAM/AIM/15) The work is maintained and the difference is maintained. Alternative implementation is maintained (ATS)
13	Venezuela	No actions reported.	No date defined.	The regulator conducted a workshop on SNOWTAM for NOF personnel. Differences were filed regarding publication through NOTAM because the system is not prepared. AGA keeps all training records in this regard. IDS has been asked to update to the new format. System adjustment to update templates to suit the new format and plan for implementation in 2023. Training conducted at international airports in the second quarter (SAM/AIM/15) • Venezuela maintains the difference. They depend on the AIS provider in relation to the SNOWTAM format change. • Training is maintained by AGS personnel. AIS and MET.

Agenda Item 2: Follow-up on the AIS/AIM area deficiencies

2.1 Under this agenda item, the Meeting discussed the following note:

- **WP/05** - Follow-up to the resolution of AIS deficiencies in the GANDD system (presented by the Secretariat)

2.2 During the consideration of this agenda item, the Meeting reviewed the Air Navigation Deficiencies, for the AIS area that remain active in GANDD, which is presented as **Appendix A** A[1]to this part of the report.

2.3 The Meeting congratulated Brazil for eliminating all deficiencies upon completion of the TOD implementation process at all international airports in Brazil, and after making available the elements related to Area 1.

2.4 The Meeting received Corrective Action Plans from Argentina, Bolivia, and Chile to address their deficiencies. Argentina's Corrective Action Plan and current status is included as **Appendix B** to this part of the report. Bolivia, in addition to reporting its Action Plan, made a presentation of its Roadmap regarding the implementation of the Quality Management System (see **Appendix D** to the report on Agenda Item 3). Chile commented on its State's plans to complete the implementation of the TOD.

2.5 Guyana, in turn, informed the Meeting about the plans for publication of the TOD for the second half of 2024.

2.6 Uruguay has also informed about their plans to address the deficiencies related to the TOD, with the publications of Area 1 and Area 2, planned for the next cycle of amendment of the AIP. Additionally, they informed that a tender is scheduled for December this year to acquire an aeronautical information management software, which will enable the construction of digital data sets (DDS), the electronic AIP (e-AIP), and the exchange of aeronautical information in AIXM format.

2.7 Colombia, Panama and Venezuela informed the Meeting that they are preparing Corrective Action Plans to address the deficiencies that are still active in their States' GANDD.

2.8 Paraguay informed that they are working on the preparation of the publication of the TOD with the support of Brazil.

2.9 Peru informed that the construction process of its e-AIP will be completed by 2026. Regarding TOD, it reported that it will work with aircraft operators to draw up a plan to overcome this deficiency, considering that only two international airports are under the responsibility and administration of CORPAC.

2.10 Considering that a high percentage of the deficiencies are related to the implementation of TOD, **Appendix C** presents the current status of implementation of this digital dataset.

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[1] Appendix of WP/05

Refer to WP/05

Identificaci n		Estado/Instalaci ones y Servicios	Descripci n	Fecha de Notificaci n	Prioridad	Fecha de Terminaci n		
AIS-15-S	Anexo 4 de OACI; Para. 2.18.2.2 y Anexo 15 de OACI, Para. 1.2.2.4 Sistema Geodésico WGS-84	Argentina	Publicación de las ondulaciones geoidales según lo requeridos.	1998	A	Nov-23	**CUMPLIDO 92%**	se completará el 100% con la AMDT 2, fecha de efectividad 30-NOV-2023
AIS-35-S	Anexo 15; 1.3.1 Idioma inglés	Argentina	completar AIP en idioma inglés	2004	A	Nov-23	**CUMPLIDO 90%**	Con la AMDT 2, Fecha de efectividad 30-NOV-2023 se tendrá 100% el AIP Bilingüe
AIS-60-S	Anexo 4, 17; Cap. 17.1. Carta VFR (Escala 1:500,000)	Argentina	Necesidad de producir esta serie de cartas aeronáuticas bajo el WGS 84 por la falta de producción de la carta WAC - OACI.	1998	B	Jul-24	**CORRESPONDE A ANSP la elaboración de la CARTA**	Capacitación personal ANSP y ANAC Software Aeroterra. Porvision de datos por parte de DGIySA para le construccion de la carta 1:1.000.000. Hoja de ruta del ANSP para la entrega de las cartas a ANAC, fecha estimada de publicación 05-OCT-2023, fecha de efectividad 30-NOV-2023, Se estableción una hoja de ruta con el ANSP para la CAA 1:500.000. fecha de entrega a la ANAC de la carta DIC 2023 , fecha de publicación JUL-2024,
AIS-95-S	ANEXO 4, Cap 13, Para 13.6.1 C). Planos de Aeródromo/Helipuerto - OACI.	Argentina	Necesidad de satisfacer eficazmente el requisito para incluir de la ondulación geoidal en los Planos de Arodromos	2001	A	Nov-23	**DGIYSA / Envio 92% de los AD**	Solo faltan los datos de 4 aeródromos sobre un total de 52, se alcanzará 100% con la 2da AMDT, fecha de efectividad 30-NOV-2023
AIS-162-S	Anexo 15, Para. 3.7.1 Implantaci ón de Sistema de Calidad (QS) en los AIS	Argentina	Se requiere de la implantación de un sistema de Calidad (QS); as ó como, de procedimientos para el aseguramiento y control de la calidad (QA y QC), en los Servicios AIS/MAP	2003	A	Mar-24	**EN PROCESO**	Hoja de ruta. Procedimientos generales para el Departamento AIS firmado por el Director Nacional DNINA. Procedimientos particulares en revisión para firma. Acuerdo con EANA para intercambio de datos e información aeronaútica. Procedimiento interno con la DGIySA para proveer datos
AIS-236-S	Anexo 15, Capítulo 10, 10.1 Proporcionar datos electrónicos sobre el terreno para el Area 1	Argentina	Necesidad de proveer datos electrónicos sobre el terreno es requerida	DIC-2015	A	Dic-23	**DGIYSA**	En proceso de adquisicion de módulo E-TOD
AIS-237-S	OACI Anexo 15, Capítulo 10, 10.1.3 Se proporcionarón datos electrónicos sobre el terreno para el área 1	Argentina	Necesidad de proporcionar para los obstáculos situados en el área 1 que tengan una altura superior a 100 m sobre el nivel del terreno	DIC-2015	A	Dic-23	**DGIYSA**	En proceso de adquisicion de módulo E-TOD
AIS-238-S	OACI Anexo 15, Capítulo 10, 10.1.4 En los aeródromos utilizados regularmente por la aviación civil internacional, se proporcionarón datos electrónicos sobre obstáculos respecto a todos los obstáculos situados en el área 2, que se hayan evaluado como un peligro para la navegación a área.	Argentina	Necesidad de proporcionar datos electrónicos sobre obstáculos situados en el area 2 para aeródromos utilizados regularmente por la aviación civil internacional	DIC-2015	A	Dic-23	**DGIYSA**	En proceso de adquisicion de módulo E-TOD
AIS-239-S	OACI Anexo 15, Capítulo 10, 10.1.5 En los aeródromos utilizados regularmente por la aviación civil internacional, se proporcionarán datos electrónicos sobre el terreno correspondientes a las siguientes áreas: a) área 2a; b) área de la trayectoria de despegue; y c) área delimitada por las extensiones laterales de las superficies limitadoras de obstáculos del aeródromo.	Argentina	Necesidad de proveer datos electrónicos sobre el terreno para los aeródromos utilizados regularmente por la aviación civil internacional para las siguientes áreas: a) área 2a; b) área de la trayectoria de despegue; y c) área delimitada por las extensiones laterales de las superficies limitadoras de obstáculos del aeródromo	DIC-2015	A	Dic-23	**DGIYSA**	En proceso de adquisicion de módulo E-TOD
AIS-240-S	OACI Anexo 15, Capítulo 10, 10.1.6 En los aeródromos utilizados regularmente por la aviación civil internacional, se proporcionarán datos electrónicos sobre obstáculos para lo siguiente: a) obstáculos situados en el área 2a que penetran la superficie de recopilación de datos sobre obstáculos apropiada, especificada en el Apéndice 8; b) objetos en el área de la trayectoria de despegue que sobresalgan de unasuperficie plana que tenga una pendiente de 1,2% y el mismo origen que el área de la trayectoria de despegue; y c) penetraciones de las superficies limitadoras de obstáculos del aeródromo.	Argentina	Necesidad de proporcionar datos electrónicos sobre obstáculos para los aeródromos utilizados regularmente por la aviación civil internacional para lo siguiente: a) obstáculos situados en el área 2a que penetran la superficie de recopilación de datos sobre obstáculos apropiada, especificada en el Apéndice 8; b) objetos en el área de la trayectoria de despegue que sobresalgan de una superficie plana que tenga una pendiente de 1,2% y el mismo origen que el área de la trayectoria de despegue; y c) penetraciones de las superficies limitadoras de obstáculos del aeródromo	DIC-2015	A	Dic-23	**DGIYSA**	En proceso de adquisicion de módulo E-TOD

sobre
Informe
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B
Apéndice

Current status of TOD implementation

(Updated 07/18/2023)

SAM STATE	ACTION PLAN	FOLLOW-UP
Argentina	Estimated date: 27 November 2019 Subject to approval of the new budget. Argentina publishes ground and obstacle data in the AIP. Argentina will publish it in electronic format by October 2023.	The Action Plan will be reviewed and corrections will be sent with more detailed information.
Bolivia	Corrective action start date: A plan was submitted in response to deficiency letter.	To be followed up in accordance with the dates shown in the deficiency response letter.
Brazil	2017 - 8 AD 2018 - 8 AD 2019 - 8 AD 2020 - 7 AD 2021 - 7 AD 2022 - 7 AD Will prepare for 2023 and the process will be completed	Brazil has completed the process of TOD implementation
Chile	Completion scheduled for 2022. According to the report presented at the ePPRC/3 meeting, it would be delayed due to the pandemic. No completion date for the two remaining airports.	Obstacles have been surveyed at 5 airports and one is in process, but due to the pandemic, it would be postponed. Likewise, they are working to make data available in a portal that they are preparing with ESRI, but this has no implementation date yet. Chile has sent a reply to the deficiency letter stating that only two airports are missing.
Colombia	Have not submitted a plan.	The area is managed by the Procedure Design Group.
Ecuador	Have not submitted a plan. No change. Expected by 2023.	Work is ongoing to survey obstacles through the use of drones and with the advice of IFAIMA experts. No fixed plan. They continue with the proposal to work with the drone. IFAIMA supported them in the abolition at the Lacatunga airport. In 2022, they will continue working with the drone. IFAIMA will support them with the methodology and they will work with their own resources.

French Guiana	Have not submitted a plan.	
Guyana	Estimated start date: April 2017. At this point, the first seven points of the Action Plan presented should have been completed. No definitive timeline on implementation	They are in the initial stage. The process started when one of its officers attended the ICAO CAR/SAM seminar on e-TOD in Mexico City in 2015. Last year (2019), COCESNA provided theoretical training on PANS/OPS and RNAV/RNP design procedures to various officers. Currently, the on-the-job training process is being discussed with the company. 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 major international aerodromes (SYCJ and SYEC). There is no plan in place at the moment to capture and publish E-Tod data for the local aerodromes in the country.
Panama	Have not submitted a plan.	Tocumen S.A. has surveyed obstacles at the Tocumen and Panamá Pacific airports. These data have been sent to the civil aviation authority of Panama. Regarding the other international airports, no progress has been made. They still do not have the complete data for Tocumen S.A. For now, there is no date because it is in the hands of AGA.
Paraguay	Data collection for Areas 2a, b, c, d completed. Other activities related to e-TOD are planned for 2016 to 2019. They do not have an e-TOD module, but can rely on SRTM terrain data that meet the requirements for Area 1 but not for Area 2. For man-made obstacles, they have a process defined by DINAC, which has surveyed about 3000 obstacles. However, they do not have software to make them available in electronic format.	No progress reported. No progress. There are few technicians and most of them are focused on the implementation of AIXM. The obstacle survey process has been completed and a digital Terrain Model is now available.
Peru	No plan has been submitted. CORPAC is coordinating with Horizon to resume the obstacle removal project for the Cusco Airport.	The e-TOD Project in Cuzco could not be completed due the supplier's non-compliance. A DGAC – CORPAC work team is being established, which will conduct, in this first phase, an analysis and assessment of the new

		implementation date, which will take until October. In a second phase, aerodrome operators will be summoned to draft the plan. The plan is expected to be ready by November and will be communicated to ICAO. The plan is foreseen to be ready by 2024. They have coordinated with aerodrome operators.
Suriname	Have not submitted a plan.	
Uruguay	Have not submitted a plan. Work is being done with respect to Area 1 with the company that is surveying all the terrain, and data is being requested for publication. For airports given in concession, they are working with the operators. Area 1 and TOD will be published by the end of 2023. Uruguay will publish all TOD Data in the next amendment in 2023 through a link to the Aerospace Infrastructure Service (IDE) of Uruguay.	They are having meetings with providers of raw (unprocessed) e-TOD data. Working groups have been established with the companies that are doing the obstacle survey and a tender process is being organized to acquire a system to process this data. No progress made because of the pandemic. They have an obstacle database. Processes completed. Only pending publication in the AIP.
Venezuela	In the second half of 2017, they will start with the corresponding terrain and obstacle data. They are working on Type A obstacle chart. Soon to be published on 29 December 2022 (Josefa Canejo – Paranejo) Maracaibo is ready and waiting for INAC's approval. The other international airports are expected to be published by 2023.	They reported having an automated, interoperable system with an obstacle and terrain database capable of being exported in AIXM, HTML or Shape File format if so required by the user. In this last quarter, in the amendment, they are planning to publish obstacles for SVMI, Puerto Ordaz, Valencia. Maracaibo, Barcelona, Paraguana, and Margarita. The amendment will be in December. It would be available in electronic format. Completion in 2024, 2022: 3 to 4 per year.

Agenda Item 3: Follow-up to the implementation of the Quality Management System in the AIM dependencies (QMS/AIM)

3.1 Under this agenda item, the Meeting reviewed the following papers:

- **WP/06** - Status of implementation of the quality management system in AIS processes (AIS/QMS) (presented by the Secretariat)
- **IP/01** – Improvements in Information Management through implementation of the quality management system (presented by Panama) *(Spanish only)*

3.2 The Meeting reviewed the status of implementation of the Quality Management System applied to the AIS/AIM processes in the States. **Appendix A** shows the current status of implementation in the States.

3.3 In this regard, it should be noted that the States of Brazil, Chile, Paraguay, Peru and Uruguay had it implemented and certified in 2022, in accordance with the 2015 version of the ISO 9001 Standard. Panama certified it in early 2023.

3.4 Regarding the implementation and certification of the QMS/AIS-AIM in Panama, the State made a presentation of the processes carried out to achieve certification. See the presentation as **Appendix B** to this part of the report.

3.5 Argentina presented its roadmap for the implementation of the QMS/AIS-AIM, but without a certification horizon. The plan is presented as **Appendix C** to this part of the report.

3.6 Bolivia presented a roadmap with a certification forecast for December 2024. The roadmap shared by the State of Bolivia is shown as **Appendix D** to this part of the report.

3.7 Guyana informed that the documentation is under review by the Authority, and once concluded, they will start the certification process with the National Standard Bureau (NSB) of Guyana.

3.8 Colombia has initiated a process, overseen by the Authority, for the implementation and subsequent certification of the AIS service provider. Venezuela has also reported the same process.

3.9 Ecuador has submitted a plan to their State authority but has had no response or comment. Additionally, the AIS service provider is updating the documentation aligned with the 2015 version of ISO 9001.

3.10 Suriname submitted to the Meeting a copy of its Quality Manual, approved in 2017. Suriname has been informed to implement the quality management system including all documentations, declarations, scoping of the system, as well as conducting internal audits. Suriname will coordinate actions with the Secretariat to achieve the implementation of the Quality Management System in the AIS/AIM processes. The Manual is included as **Appendix E** of this part of the report.

APPENDIX A

Follow-up to the implementation of the Quality Management System in AIS-AIM processes in the SAM Region

N°	*State*	*Status of implementation of the AIM/QMS*	*Certification date*	*Follow-up audit*	*Foreseen re-certification*
1	Argentina	The process has been restarted. The process is carried out jointly with the service provider. Training in ISO 9001:2015 for ANAC and EANA is planned for 2023. The minutes of the AIS Department were signed in November 2022, but there is no certification date yet.	Not certified. No date defined for certification. Project not yet approved. ANSP has just started the process.		
2	Brazil		Certified	March 2022	2024 2023
3	Bolivia		Not certified	No	No Planned for 2024
4	Chile	Follow-up audit in June 2022 Maintains certification.	Certified	June 2022	August 2024
5	Colombia		Not certified		Probably in 2024 (Mid 2024)
6	Ecuador	Restructuring of the institution After this, they proceeded to the documentation revision (Mid 2024).	Not certified	No dates have been defined	No dates The system is changing towards 2015 (SAM/AIM/16).
7	Guyana	They are still working on the documentation but have not yet completed the implementation. QMS AIS Manual implemented and in use as of December 2021. ISO 9001 certification process in initial phase (research). Final review for October 2023 is being reviewed by the CAA. NBS Certification (2024)	Not certified. .	No date has been defined	January 2023

8	Panama		Certified	December 2022	
9	Paraguay		Re-certified		December 2023
10	Peru		Certified	Report	Recertified in 2022 The Supplier has set up a quality team in the AIS/AIM area.
11	Suriname	NIL		No dates	No dates Has reported its Quality Manual and Training Plan for AIS personnel.
12	Uruguay		Re-certified	September/ 2022	July 2024
13	Venezuela		Not certified. Will apply for certification in July 2022.	No dates	A meeting will be held with the Director of Air Navigation to raise awareness for certification, but no date has been given.

Appendix B to the Report on Agenda Item 3

QMS AIS PANAMÁ

Panamá certificó su Sistema de Gestión de la Calidad AIS en el mes de octubre de 2017.



International Global Certification

ISO 9001

IGC

EMPRESA CERTIFICADA

Concede el presente

CERTIFICADO

para el Sistema de Gestión de Calidad de:

DIRECCIÓN DE NAVEGACIÓN AÉREA DE LA AUTORIDAD AERONÁUTICA CIVIL DE LA REPÚBLICA DE PANAMÁ - DEPARTAMENTO DE INFORMACIÓN AERONÁUTICA

En las siguientes ubicaciones:

C/. Demetrio Corsi. Edificio 646. Albrook.
Corregimiento de Ancón. Panamá. República de Panamá.

Aeropuerto Internacional de Tocumen, Nivel 4.
Corregimiento de Tocumen. Panamá. República de Panamá.

El alcance comprende las actividades de:

Publicación de Información Aeronáutica (AIP), Confección de Enmiendas AIP, Confección de Suplementos AIP, Confección del NOTAM, Confección de lista Mensual de NOTAM válidos, Producción y Actualización de Cartas Aeronáuticas, Confección de Circulares de Información Aeronáutica (AIC).

En conformidad con los requisitos de la norma:

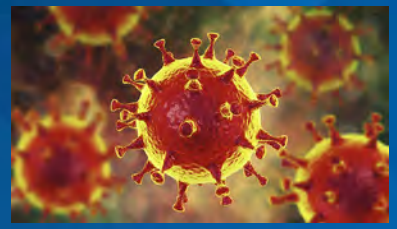
ISO 9001:2015

Fecha de la certificación: 20 de octubre de 2017
Fecha de expiración: 19 de octubre de 2020

IAF ENAC

Director General
Antonio Martín

IGC10434



En 2020 debido a la pandemia Covid-19 no fue posible recertificar debido a que todos los presupuestos del Estado fueron encaminados a combatir la pandemia.

2020-2021

Los procesos y procedimientos se mantuvieron, el sistema continuó funcionando y se revisó integralmente

Se efectuaron:

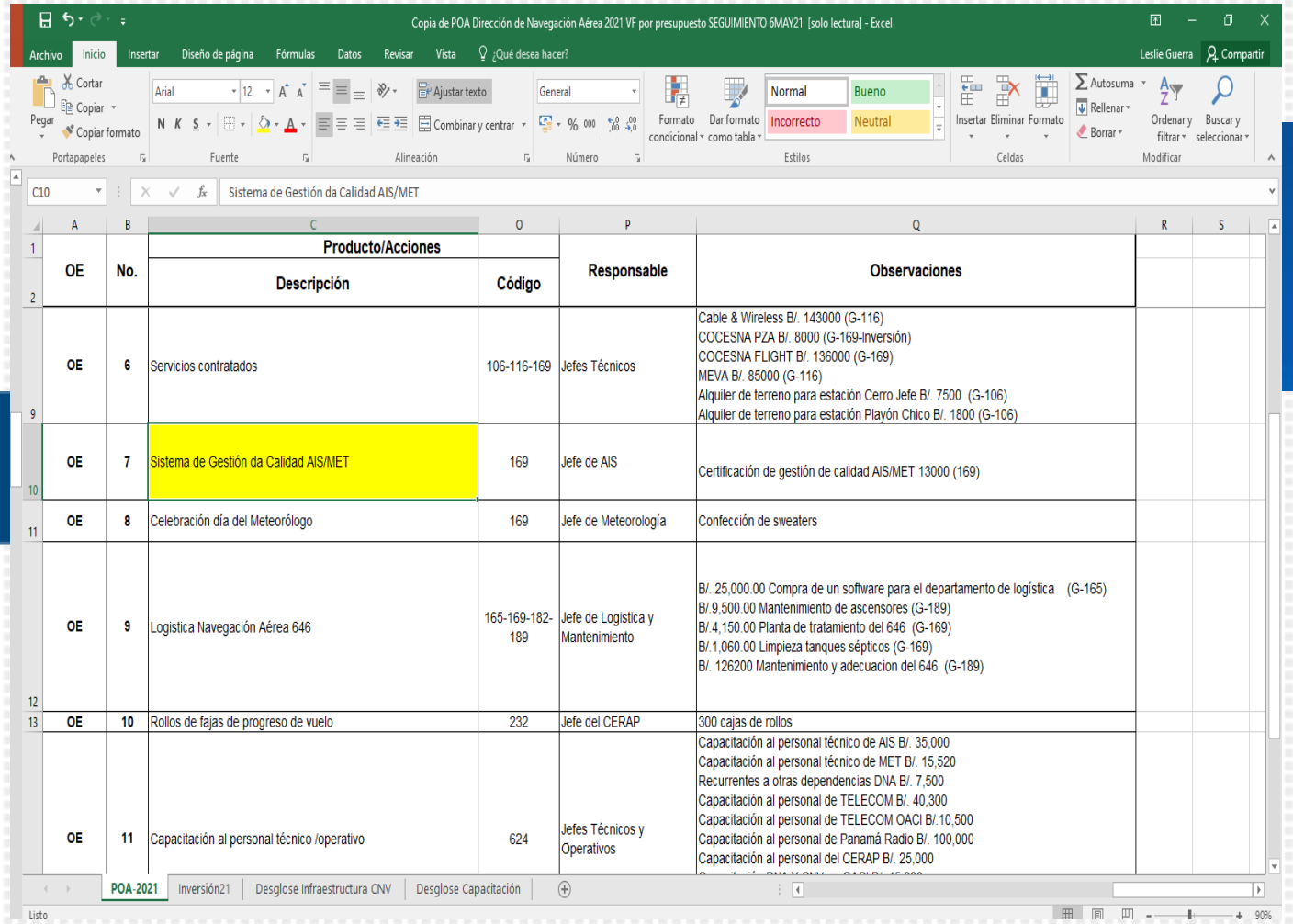
- 2021 la auditoria interna
- Encuestas de Satisfacción
- Informe de auditoria
- Las mejoras continuas

Evidencia de la continuidad del SGC



Gestiones administrativas

Inclusión en el presupuesto AIS año 2021



Copia de POA Dirección de Navegación Aérea 2021 VF por presupuesto SEGUIMIENTO 6MAY21 [solo lectura] - Excel

C10: Sistema de Gestión da Calidad AIS/MET

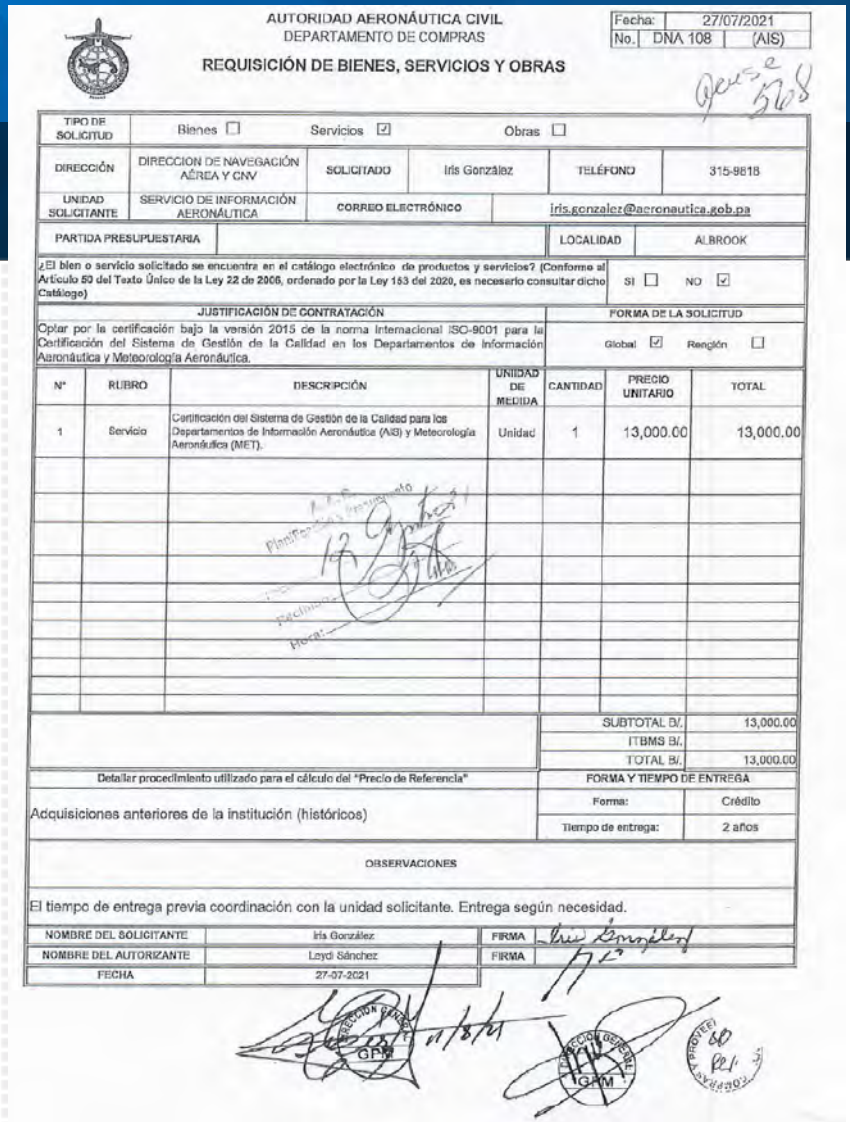
OE	No.	Producto/Acciones: Descripción	Producto/Acciones: Código	Responsable	Observaciones
OE	6	Servicios contratados	106-116-169	Jefes Técnicos	Cable & Wireless B/. 143000 (G-116) COCESNA PZA B/. 8000 (G-169-Inversión) COCESNA FLIGHT B/. 136000 (G-169) MEVA B/. 85000 (G-116) Alquiler de terreno para estación Cerro Jefe B/. 7500 (G-106) Alquiler de terreno para estación Playón Chico B/. 1800 (G-106)
OE	7	Sistema de Gestión da Calidad AIS/MET	169	Jefe de AIS	Certificación de gestión de calidad AIS/MET 13000 (169)
OE	8	Celebración día del Meteorólogo	169	Jefe de Meteorología	Confección de sweaters
OE	9	Logistica Navegación Aérea 646	165-169-182-189	Jefe de Logistica y Mantenimiento	B/. 25,000.00 Compra de un software para el departamento de logística (G-165) B/.9,500.00 Mantenimiento de ascensores (G-189) B/.4,150.00 Planta de tratamiento del 646 (G-169) B/.1,060.00 Limpieza tanques sépticos (G-169) B/. 126200 Mantenimiento y adecuacion del 646 (G-189)
OE	10	Rollos de fajas de progreso de vuelo	232	Jefe del CERAP	300 cajas de rollos
OE	11	Capacitación al personal técnico /operativo	624	Jefes Técnicos y Operativos	Capacitación al personal técnico de AIS B/. 35,000 Capacitación al personal técnico de MET B/. 15,520 Recurrentes a otras dependencias DNA B/. 7,500 Capacitación al personal de TELECOM B/. 40,300 Capacitación al personal de TELECOM OACI B/.10,500 Capacitación al personal de Panamá Radio B/. 100,000 Capacitación al personal del CERAP B/. 25,000

Hojas: POA-2021 | Inversión21 | Desglose Infraestructura CNV | Desglose Capacitación

Listo

Seguimiento

Confección de la Requisición de Bienes y Servicios (julio 2021)



AUTORIDAD AERONÁUTICA CIVIL
DEPARTAMENTO DE COMPRAS

Fecha: 27/07/2021
No. DNA 108 (AIS)

REQUISICIÓN DE BIENES, SERVICIOS Y OBRAS

TIPO DE SOLICITUD	Bienes ☐	Servicios ☑	Obras ☐		
DIRECCIÓN	DIRECCIÓN DE NAVEGACIÓN AÉREA Y CNV	SOLICITADO	Iris González	TELÉFONO	315-9818
UNIDAD SOLICITANTE	SERVICIO DE INFORMACIÓN AERONÁUTICA	CORREO ELECTRÓNICO	iris.gonzalez@aeronautica.gob.pa		
PARTIDA PRESUPUESTARIA				LOCALIDAD	ALBROOK

¿El bien o servicio solicitado se encuentra en el catálogo electrónico de productos y servicios? (Conforme al Artículo 50 del Texto Único de la Ley 22 de 2006, ordenado por la Ley 153 del 2020, es necesario consultar dicho Catálogo) SI ☐ NO ☑

JUSTIFICACIÓN DE CONTRATACIÓN	FORMA DE LA SOLICITUD
Optar por la certificación bajo la versión 2015 de la norma internacional ISO-9001 para la Certificación del Sistema de Gestión de la Calidad en los Departamentos de Información Aeronáutica y Meteorología Aeronáutica.	Global ☑ Región ☐

Nº	RUBRO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO UNITARIO	TOTAL
1	Servicio	Certificación del Sistema de Gestión de la Calidad para los Departamentos de Información Aeronáutica (AIS) y Meteorología Aeronáutica (MET).	Unidad	1	13,000.00	13,000.00

	SUBTOTAL B/.	13,000.00
	ITBMS B/.	
	TOTAL B/.	13,000.00

Detallar procedimiento utilizado para el cálculo del "Precio de Referencia"	FORMA Y TIEMPO DE ENTREGA	
Acquisiciones anteriores de la institución (históricos)	Forma:	Crédito
	Tiempo de entrega:	2 años

OBSERVACIONES

El tiempo de entrega previa coordinación con la unidad solicitante. Entrega según necesidad.

NOMBRE DEL SOLICITANTE	Iris González	FIRMA	
NOMBRE DEL AUTORIZANTE	Leydi Sánchez	FIRMA	
FECHA	27-07-2021		

Confecciones de especificaciones

- Confección de los mini pliegos de las condiciones, especificaciones y los formularios a certificar en el Sistema de Gestión de Calidad para los Departamentos AIS/MET.
- Este contrato contiene la contratación de la empresa seleccionada y dará cumplimiento a las normas constitucionales y declara en el mismo.
- Fechas de ejecuciones y plazos establecidos incluyendo los pagos por parte de la Autoridad Aeronáutica Civil.



REPÚBLICA DE PANAMÁ
AUTORIDAD AERONÁUTICA CIVIL
DIRECCIÓN DE NAVEGACIÓN AÉREA Y CNV

Certificación del Sistema de Gestión de la Calidad para los Departamentos de Información Aeronáutica (AIS) y Meteorología Aeronáutica (MET)

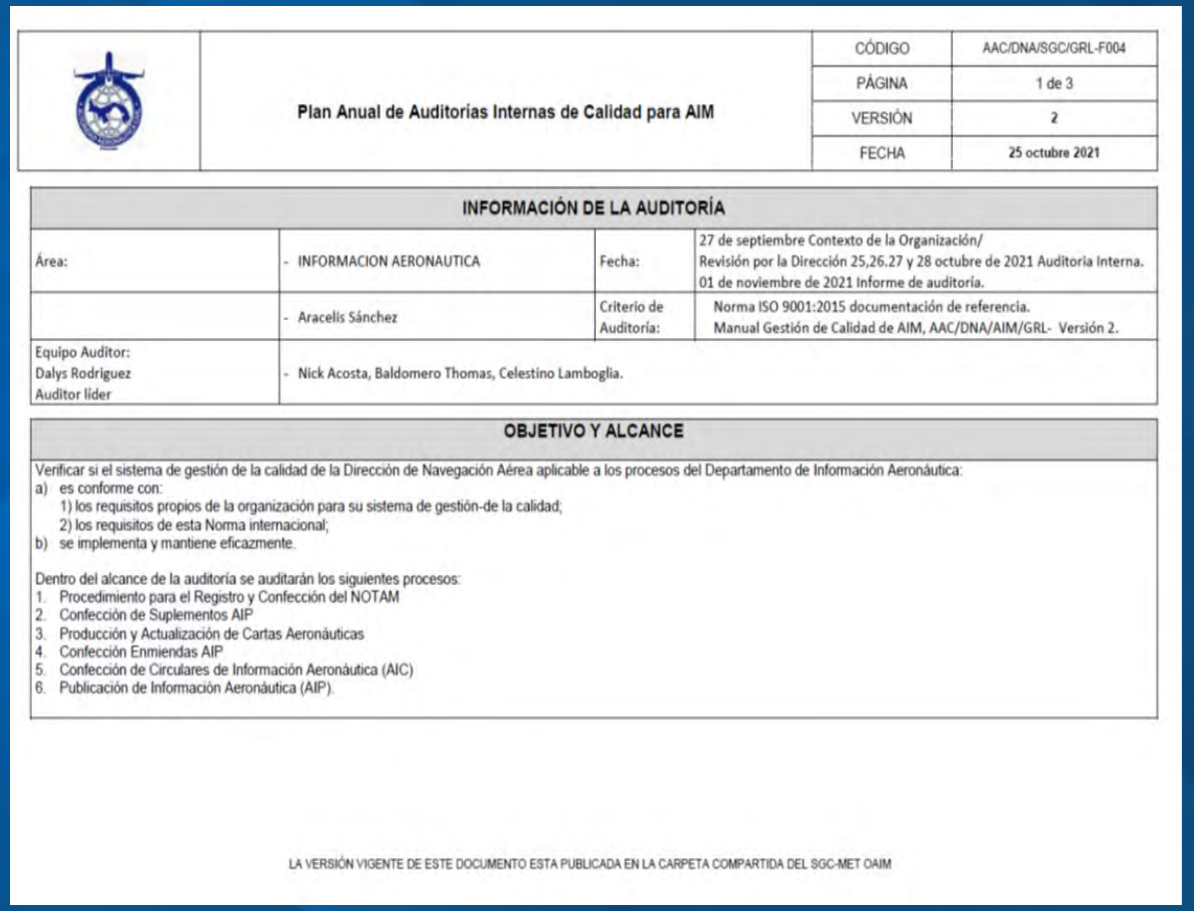
CONDICIONES, ESPECIFICACIONES Y FORMULARIOS

PANAMÁ 2021

Preparación para la Certificación

Septiembre 2021 se realiza la licitación y se adjudica a la empresa SGS.

En octubre 2021 se efectuó la auditoría Interna, cumpliendo con el Plan Anual de Auditoria Interna de Calidad AIS/MET.



	Plan Anual de Auditorías Internas de Calidad para AIM	CÓDIGO	AAC/DNA/SGC/GRL-F004
		PÁGINA	1 de 3
		VERSIÓN	2
		FECHA	25 octubre 2021

INFORMACIÓN DE LA AUDITORÍA			
Área:	- INFORMACION AERONAUTICA	Fecha:	27 de septiembre Contexto de la Organización/ Revisión por la Dirección 25,26.27 y 28 octubre de 2021 Auditoria Interna. 01 de noviembre de 2021 Informe de auditoría.
	- Aracelis Sánchez	Criterio de Auditoría:	Norma ISO 9001:2015 documentación de referencia. Manual Gestión de Calidad de AIM, AAC/DNA/AIM/GRL- Versión 2.
Equipo Auditor: Dalys Rodríguez Auditor líder	- Nick Acosta, Baldomero Thomas, Celestino Lamboglia.		

OBJETIVO Y ALCANCE

Verificar si el sistema de gestión de la calidad de la Dirección de Navegación Aérea aplicable a los procesos del Departamento de Información Aeronáutica:
a) es conforme con:
   1) los requisitos propios de la organización para su sistema de gestión-de la calidad;
   2) los requisitos de esta Norma internacional;
b) se implementa y mantiene eficazmente.

Dentro del alcance de la auditoría se auditarán los siguientes procesos:
1. Procedimiento para el Registro y Confección del NOTAM
2. Confección de Suplementos AIP
3. Producción y Actualización de Cartas Aeronáuticas
4. Confección Enmiendas AIP
5. Confección de Circulares de Información Aeronáutica (AIC)
6. Publicación de Información Aeronáutica (AIP).

LA VERSIÓN VIGENTE DE ESTE DOCUMENTO ESTA PUBLICADA EN LA CARPETA COMPARTIDA DEL SGC-MET OAIM

Coordinación con SGS

Inician las coordinaciones con la empresa SGS para la realización de la auditoria de certificación.

Fechas propuestas:
7 de diciembre – documentación
27 y 28 de diciembre – Externa de Certificación



Ingresar fotos de entrega del certificado

RESULTADOS



Certificate PA23/00000018

SGS

The management system of

Autoridad Aeronáutica Civil

DIRECCIÓN DE NAVEGACIÓN AÉREA (DEPARTAMENTO DE INFORMACIÓN AERONÁUTICA) - Calle Demetrio Cono, Edificio 646, Albrook, Corregimiento de Ancón, Panamá, República de Panamá

has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

NOTAM Preparation Services, Preparation of AIP Supplements, Production and Updating of Aeronautical Charts, Preparation of AIP Amendments, Preparation of Aeronautical Information Circulars (AIC) and Aeronautical Information Publication (AIP).

This certificate is valid from 10 February 2023 until 10 February 2026 and remains valid subject to satisfactory surveillance audits.

Issue 1. Certified since 10 February 2023

Certified activities performed by additional sites are listed on subsequent pages.

Authorised by

Jonathan Hall

Global Head - Certification Services

SGS United Kingdom Ltd

Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, UK

t +44 (0)151 350-6666 - www.sgs.com

UKAS MANAGEMENT SYSTEMS 0008

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

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Certificación ISO 9001:2015
Servicios de Información Aeronáuti
Panamá


GRACIAS

ACTUALIZACIÓN DE LA HOJA DE RUTA PARA LA IMPLEMENTACIÓN DE UN SISTEMA DE GESTIÓN DE LA CALIDAD PARA EL DEPARTAMENTO INFORMACIÓN AERONÁUTICA

Por medio del presente se pone en conocimiento del personal DNINA la Hoja de Ruta para el desarrollo de los procesos y procedimientos a implantar en el Departamento de Información Aeronáutica para dar cumplimiento a lo establecido en las ***RAAC Parte 215 Servicios de Información*** ***Aeronáutica*** ***y el PANS-AIM Doc. 10066.***

RESULTADO	FECHA DE CUMPLIMIENTO PREVISTA
Resolución ANAC 155/2013 **Modificación de estructura orgánica de la DNINA y acciones de las direcciones y departamentos conforme al CAP elaborado bajo la asistencia OACI**	30/08/2023
Arreglos formales con Iniciadores de datos **Finalizados los Procedimientos para el Intercambio de Datos Aeronáuticos y Planos de Aeródromos con las Direcciones de la DGIYSA.** **Finalizado el desarrollo del Acuerdo de Intercambio de Información Aeronáutica y datos aeronáuticos con EANA, falta rubricar por las partes.**	31/08/2023

RESULTADO	FECHA DE CUMPLIMIENTO PREVISTA
Elaboración de Procesos y Procedimientos **Finalización de los Proyectos de Procesos y Procedimientos a implementar para poner a revisión por el personal del Departamento.**	FINALIZADO
Participación **Recopilación de las observaciones y contribuciones del personal del Departamento luego de la puesta a revisión y discusión de los procesos y procedimientos.**	FINALIZADO
Publicación **Aprobación del Director Nacional e incorporación a la Internet de ANAC delos procesos y procedimientos elaborados.**	FINALIZADO
Solicitud de Capacitación **Se solicitó capacitación en ISO 9001-2015 a IRAM mediante EX -2023-68474080-APN-DGLTYA#ANAC.**	28-08-2023
Inicio de CAPACITACIÓN **Inicio de capacitación ISO 9001-2015 a IRAM**	30-09-2023

Nota: La presente HOJA DE RUTA ACTUALIZADA reemplaza y deja sin efecto al IF-2022-113219296-APN-DNINA#ANAC de fecha 24-10-22.

Digitally signed by Gestion Documental Electronica
Date: 2022.10.24 09:58:14 -03:00



NAVEGACIÓN AÉREA Y AEROPUERTOS BOLIVIANOS

MINISTERIO DE OBRAS PÚBLICAS SERVICIOS Y VIVIENDA

UNIDAD DE NAVEGACIÓN AÉREA
SERVICIO DE INFORMACIÓN AERONÁUTICA
CARTOGRAFIA AERONAUTICA
AIS/MAP

PLAN DE IMPLANTACIÓN
SISTEMA DE GESTIÓN DE LA CALIDAD
ISO 9001:2015

Marco Estratégico

PDES 2021 - 2025

EJE: Seguridad alimentaria con Soberanía, promoción de Exportaciones con Valor agregado y Desarrollo turístico.

META 2021 – 2025: **3.3**. Impulsar la integración nacional e internacional para fortalecer los centros productivos con sistemas de transporte carretero, aéreo, férreo, fluvial y urbano

PSDI 2021 - 2025

Promover el sector aéreo para la adecuada prestación de servicios aeroportuarios y aéreos, el control y vigilancia el espacio aéreo cumpliendo con la seguridad operacional.

PEI 2021 - 2025

AMP: Servicios Aeroportuarios y de Navegación Aérea .
Lograr altos niveles de seguridad y eficiencia en los Servicios de Navegación Aérea, Aeroportuarios y especializados afines, minimizando los riesgos operacionales.

POA / 2023

ACP1: Desarrollar un Sistema de Gestión de la Calidad a los procesos sustantivos y administrativos de la Institución, certificado según normas internacionales.
ACP2: Planificar e implementar los procedimientos de prestación de servicios de seguridad aeroportuaria, facilitación y otros auxiliares, en los aeropuertos que controla la Institución, según la RAB y recomendaciones de la OACI.
ACP3: Incentivar a los operadores aéreos y población en general a utilizar nuestros servicios seguros y de calidad.

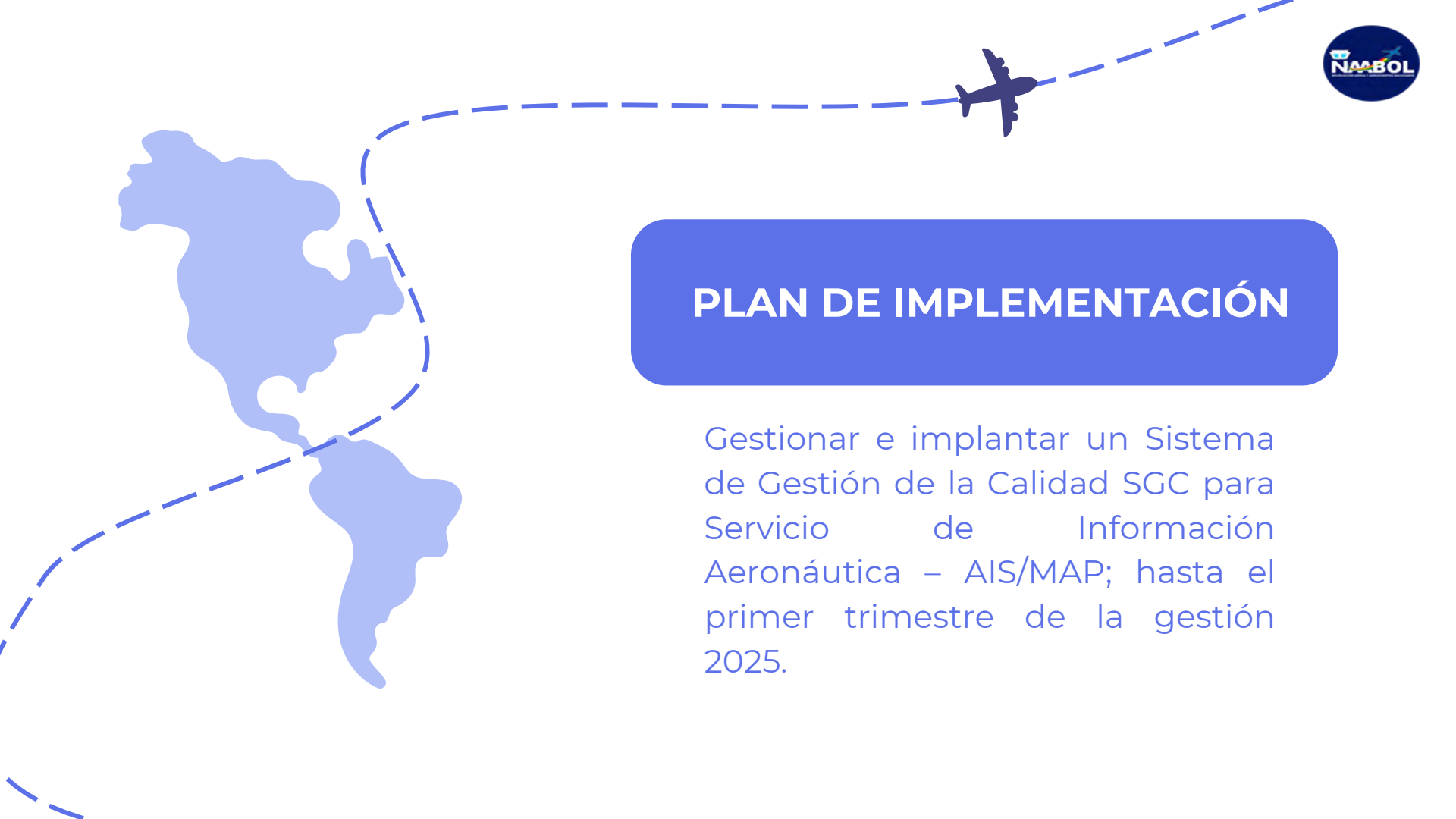
Marco Estratégico

Misión

“Es una institución pública que presta servicios de navegación aérea y aeroportuarios con seguridad, efectividad y responsabilidad social, encargada de manejar y mantener la infraestructura y el equipamiento aeronáutico en óptimas condiciones de operabilidad a través de Planes, Programas y Proyectos”.

Visión

Brinda accesibilidad al transporte aéreo nacional e internacional, con servicios de calidad a través de infraestructura aeronáutica moderna y equipamiento para la navegación aérea con tecnología de punta, contribuyendo a la integración de los pueblos y en armonía con el medio ambiente, en el marco de las normas aeronáuticas y planes de gobierno.



PLAN DE IMPLEMENTACIÓN

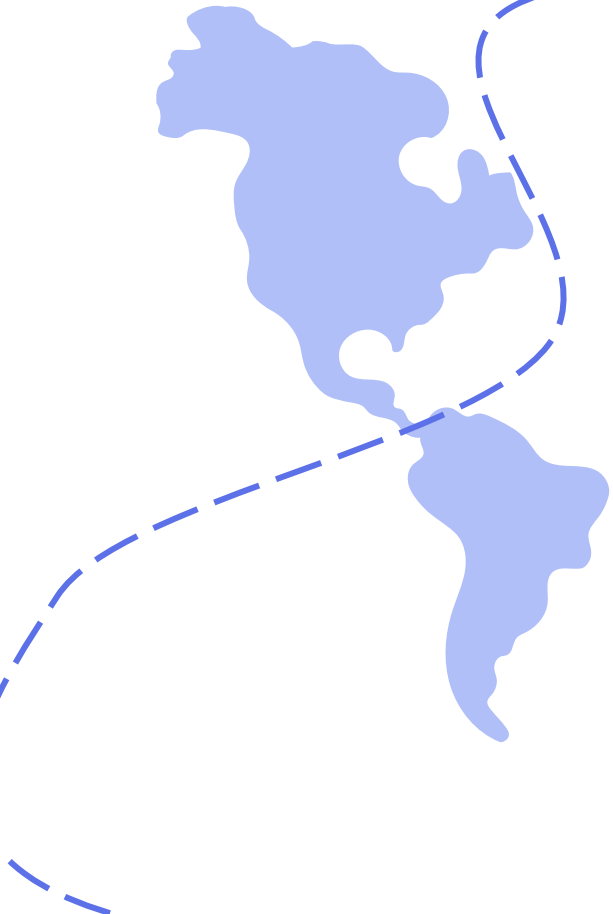
Gestionar e implantar un Sistema de Gestión de la Calidad SGC para Servicio de Información Aeronáutica – AIS/MAP; hasta el primer trimestre de la gestión 2025.

PLAN IMPLEMENTADO

PLAN DE TRABAJO
SISTEMAS DE GESTIÓN DE LA CALIDAD
AIS/MAP - Bolivia

RESPONSABLES		FECHA	FIRMA
Preparado por:	Téc. Aé. Edgar Conde Apaza **ESPECIALISTA EN PUBLICACIONES – AIS**	25/05/23	
	Lic. Ingrid M.D. Poppe González **PROFESIONAL I DE PLANIFICACIÓN**	25/05/23	
Revisado por:	Lic. Ilse Mercado Martínez **PROFESIONAL I DESARROLLO ORGANIZACIONAL**	25/05/23	
	Téc. Aé. Gregorio Allaga Limachi **RESPONSABLE NACIONAL AIM**	25/05/23	
	Met. Omar Alcón Tórrez **JEFE NACIONAL NAVEGACIÓN AÉREA**	25/05/23	
	Arq. Álvaro J. Gutiérrez Urquizu **JEFE DE LA UNIDAD NACIONAL DE PLANIFICACIÓN**	25/5/23	
Aprobado por:	ATCO Wilson Sangüeza Ch. **DIRECTOR NACIONAL OPERACIONES**	25/05/23	
	Lic. Elmer Pozo Oliva **DIRECTOR GENERAL EJECUTIVO NACIONAL NAABOL**	25/05/23	

EQUIPO DE CALIDAD



Anexo I. Equipo de SGC – AIS / MAP

NOMBRES Y APELLIDOS	RESPONSABILIDAD
1. Omar Alcón Torrez	Coordinación y Revisión SGC Nacional
2. Álvaro Gutiérrez Urquizu	Coordinación y Revisión SGC Nacional
3. Gregorio German Aliaga Limachi	Coordinador SGC/AIS Nacional
4. Edgar Conde Apaza	Responsable Nacional SGC/AIS
5. Ingrid Poppe González	Responsable SGC/UNP/NAABOL
6. Ilse Mercado Martínez	Responsable SOA/UNP/NAABOL
7. Edgar Aliaga Bracamonte	Coordinador SGC/AIS - AD SLLP
8. Ricardo Ordóñez Cruz	Coordinador SGC/AIS - AD SLCB
9. Madelin Tapanache	Coordinador SGC/AIS - AD SLVR
10. Cristian Zapata	Desarrollador SGC/AIS
11. Alejandra Pacheco Zapata	Coordinador SGC/AIS
12. Gustavo Aruquipa Lazo	Coordinador SGC/AIS
13. Ana María Gutiérrez Blanco	Coordinador NOTAM SGC/AIS
14. José Bautista	Coordinador SGC/AIS
15. Ronald Limbert Condar Choque	Responsable Nacional SGC/MAP
16. Joel Santamaria	Responsable Informático SGC SLLP

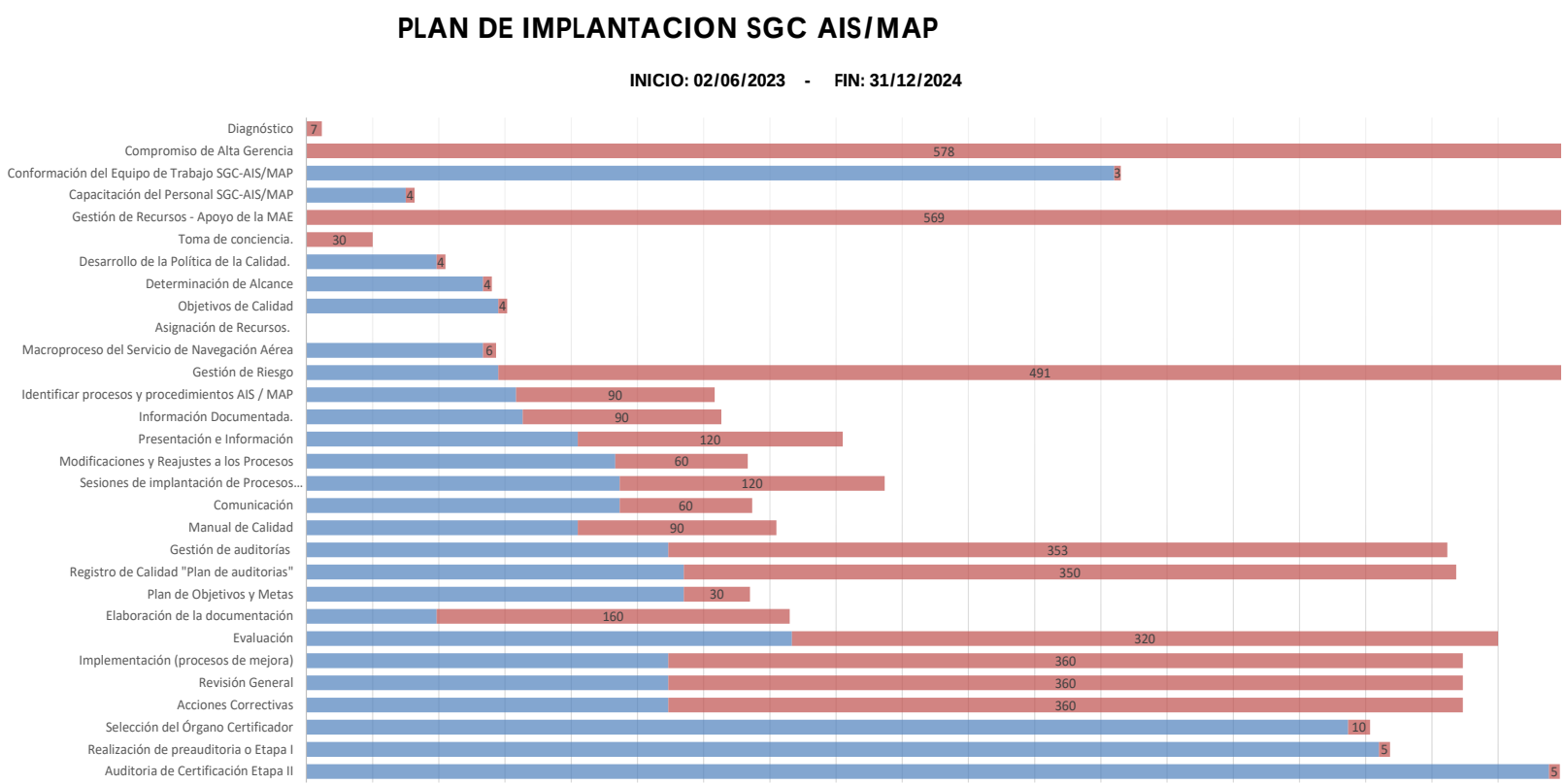
MARCO NORMATIVO

- Manual sobre el sistema de gestión de calidad para los servicios de información aeronáutica (Doc. 9839).
- Manual Guía para la Implantación de Sistemas de Gestión de la Calidad para los AIS/MAP-CAR/SAM OACI
- Anexo 15 Servicios de Información Aeronáutica, (Capítulo 3, Sección 3.6 Sistema de gestión de la calidad).
- Reglamentación Aeronáutica de Bolivia – RAB 95
- Norma Boliviana ISO 9001 : 2015



Cronograma de Implementación

Cronograma de Implementación



Fases de Implementación

- Fase 1. Preparación,
- Fase 2. Planificación,
- Fase 3. Documentación, Comunicación e información,
- Fase 4. implantación
- Fase 5. Evaluación,
- Fase 6. Auditorias
- Fase 7. Certificación

Fase 1 - Preparación

- Diagnóstico
- Compromiso de la Alta Gerencia
- Definir el Equipo de Trabajo SGC: Aprobación Equipo de Calidad
- Capacitación del equipo de trabajo SGC-AIS/MAP
- Definir los Objetivos y Alcance del proyecto

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
1- PREPARACIÓN	Diagnóstico	MAE	2/6/2023	7	9/6/2023
	Compromiso de Alta Gerencia	JEFE UNP, AIM Y LIDER SGC AIS/MAP	2/6/2023	578	31/12/2024
	Conformación del Equipo de Trabajo SGC-AIS/MAP	MAE	2/6/2024	3	5/6/2024
	Capacitación del Personal SGC-AIS/MAP	EQUIPO SGC UNP AIS	17/7/2023	4	21/7/2023
	Gestión de Recursos - Apoyo de la MAE	DNO - DNAF - MAE	2/6/2023	569	22/12/2024
	Toma de conciencia.	MAE, UNP, DNO	2/6/2023	30	2/7/2023

Fase 2. Planificación

- Desarrollo de la Política de la Calidad
- Determinación del Alcance
- Objetivos de Calidad
- Macroproceso de la Unidad Nacional de Navegación Aérea
- Gestión de Riesgo
- Cronograma del Plan de implantación

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
2. PLANIFICACIÓN	Desarrollo de la Política de la Calidad.	UNP, AIM Y LIDER SGC AIS/MAP	31/7/2023	4	4/8/2023
	Determinación de Alcance	UNP, AIM Y LIDER SGC AIS/MAP	21/8/2023	4	25/8/2023
	Objetivos de Calidad	UNP, AIM Y LIDER SGC AIS/MAP	28/8/2023	4	1/9/2023
	Asignación de Recursos.	UNP, AIM Y LIDER SGC AIS/MAP	15/11/2015		15/11/2015
	Macroproceso del Servicio de Navegación Aérea	UNP, AIM Y LIDER SGC AIS/MAP	21/8/2023	6	27/8/2023
	Gestión de Riesgo	UNP, AIM Y LIDER SGC AIS/MAP	28/8/2023	491	31/12/2024

Fase 3. Documentación, Comunicación e información

- Identificar procesos y procedimientos AIS/MAP
- Información documentada
- Presentación e información
- Modificaciones y reajustes a los procesos
- Sesiones de implantación de procesos y procedimientos
- Comunicación

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
3- DOCUMENTACIÓN, COMUNICACIÓN E INFORMACIÓN	Identificar procesos y procedimientos AIS / MAP	UNP, AIM Y LIDER SGC AIS/MAP	5/9/2023	90	4/12/2023
	Información Documentada.	UNP, AIM Y LIDER SGC AIS/MAP	8/9/2023	90	7/12/2023
	Presentación e Información	UNP, AIM Y LIDER SGC AIS/MAP	3/10/2023	120	31/1/2024
	Modificaciones y Reajustes a los Procesos	UNP, AIM Y LIDER SGC AIS/MAP	20/10/2023	60	19/12/2023
	Sesiones de implantación de Procesos y Procedimientos.	UNP, AIM Y LIDER SGC AIS/MAP	22/10/2023	120	19/2/2024
	Comunicación	UNP, AIM Y LIDER SGC AIS/MAP	22/10/2023	60	21/12/2023

Fase 4 - implantación

- Etapa 1: manual de calidad
- Etapa 2: gestión de auditorías.
- Etapa 3: Elaboración del registro de calidad “Plan de auditorías”
- Etapa 4: Elaboración del plan de objetivos y metas.
- Etapa 5: Elaboración de la instrucción técnica “Elaboración de la documentación”.

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
4- IMPLANTACIÓN	Manual de Calidad	UNP, AIM Y LIDER SGC AIS/MAP	3/10/2023	90	1/1/2024
	Gestión de auditorías	UNP, AIM Y LIDER SGC AIS/MAP	13/11/2023	353	31/10/2024
	Registro de Calidad "Plan de auditorias"	UNP, AIM Y LIDER SGC AIS/MAP	20/11/2023	350	4/11/2024
	Plan de Objetivos y Metas	UNP, AIM Y LIDER SGC AIS/MAP	20/11/2023	30	20/12/2023
	Elaboración de la documentación	UNP, AIM Y LIDER SGC AIS/MAP	31/7/2023	160	7/1/2024

Fase 5. Evaluación

- Evaluación:
- Implementación (proceso de mejora continua):

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
5- EVALUACIÓN	Evaluación	UNP, AIM Y LIDER SGC AIS/MAP	8/1/2024	320	23/11/2024
	Implementación (procesos de mejora)	UNP, AIM Y LIDER SGC AIS/MAP	13/11/2023	360	7/11/2024

Fase 6. Auditorias

- Revisión general
- Auditoría interna
- Acciones correctivas

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
6- AUDITORIA INTERNA	Revisión General	UNP SGC NAABOL	13/11/2023	360	7/11/2024
	Auditorias internas	UNP SGC NAABOL	13/11/2023	360	7/11/2024
	Acciones Correctivas	UNP SGC NAABOL	13/11/2023	360	7/11/2024

Fase 7. Certificación

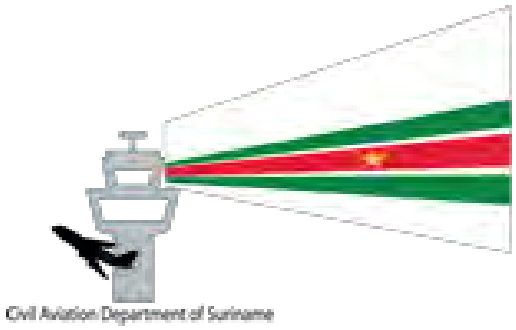
- Selección del órgano certificador
- Realización de preauditoria
- Auditoría de certificación
- Auditorías de seguimiento y Mejora continua

FASES	ACTIVIDADES	RESPONSABLE	INICIO	DURACION EN DIAS	FINALIZACION
7- CERTIFICACIÓN	Selección del Órgano Certificador	DNO - DNAF - MAE	16/9/2024	10	26/9/2024
	Realización de preauditoria o Etapa I	UNP SGC AIS/MAP - CERTIFICADORA	30/9/2024	5	5/10/2024
	Auditoria de Certificación Etapa II	UNP SGC AIS/MAP - CERTIFICADORA	16/12/2024	5	21/12/2024

GRACIAS







Ministry of Public Works
Directorate of Transport and Communication
Department of Civil Aviation
Aeronautical Information Service

SURINAME

AERONAUTICAL INFORMATION SERVICE

QUALITY MANAGEMENT SYSTEM

QUALITY MANUAL

SURINAME

AERONAUTICAL INFORMATION SERVICE

QUALITY MANAGEMENT SYSTEM

QUALITY MANUAL

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If the number is:
RED Then this is a Controlled copy
BLACK Then this is NOT a Controlled copy.

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1. INTRODUCTION

This Quality Manual relates to the operation of AIS Suriname and provides guidance on the policies and procedures applicable for the provision of an aeronautical information service by the State of Suriname.

The policies and procedures within this manual have been implemented to ensure that the requirements for a quality system for the AIS of Suriname are documented and so ensure compliance with the requirements of ICAO Annex 15-Aeronautical Information Services (CARS – 20) and other relevant standards.

The AIS is part of the Air Traffic Management within the Civil Aviation Division of the Ministry of Public Works, Directorate of Transport and Communication.

This AIS head quarters is located at Zorg en Hoop(SMZO) aerodrome:

Tel : 597 462352
Fax : 597 462352
Email : ais@cadsur.sr
AFS : SMPBYNY
Web Site : www.cadsur.sr

The contents of this Manual are reviewed on an as required basis, but not less than annually. The coordinator Aeronautical Information Service is responsible for coordinating requests for changes and amendments to the Manual.

The coordinator Aeronautical Information Service is responsible for the maintenance and distribution of this Manual.

The approving and issuing authority for this Manual and subsequent amendments is de Director of Civil Aviation.

Issuing Authority:

Signed: _____

Name: Mr. F. Baarn LL.B MICL

Date: _____

2. SCOPE AND FIELD OF APPLICATION

The Scope of this Manual is to define the working arrangements of AIS/MAP staff that are expected to have the knowledge of the procedures describe in this AIS quality manual.

The provision of AIS for the State of Suriname.

a) Boundaries within which the AIS operates.

AIS Suriname provides aeronautical information for the entire Suriname FIR.

b) Deliverables of the AIS.

— AIP, including amendment service;
— Supplements to the AIP;
— NOTAM and PIB;
— AIC; and
— checklists and lists of valid NOTAM
— Suriname ICAO Aeronautical Chart 1:1000 000

c) Exclusions.

NIL

d) Related work areas and interdependencies with other areas.

- AIS Head quarters: Zorg en Hoop (SMZO) aerodrome (H8).
- AIS Aerodrome unit / Brieving Office Zorg en Hoop (SMZO) aerodrome (H8).
- AIS Aerodrome unit Brieving Office J.A. Pengel INTL (SMJP) aerodrome (H24).
- AIS International NOTAM office J.A. Pengel INTL (SMJP) aerodrome (H24).

e) Constraints

NIL

f) Assumptions

NIL

3. REFERENCES AND ASSOCIATED DOCUMENTS

- ICAO Aeronautical Information Services (Annex 15)
- ICAO Aeronautical Information Services Manual (Doc 8126)
- CASAS CARS 20
- ICAO Aeronautical Charts (Annex 4)
- ICAO Aeronautical Charts Manual (Doc 8697)
  CASAS CARS 15
- ICAO Units of Measurement (Annex 5)
- CASAS CARS 16
- ICAO Abbreviations and Codes (Doc 8400)
- ICAO Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services (Doc 8585)
- ICAO Aircraft Type Designators (Doc 8643)
- ICAO Doc 7383 Aeronautical Authorities and Services

4. DOCUMENT CONTROL INFORMATION

Document Control Sheet

This document is a controlled document and is identified as such when the controlled copy number is shown in RED. All other copies are uncontrolled.

The coordinator AIS:

- Maintains a distribution list and the master control copy of the AIS Quality manual;
- Is responsible for keeping a register of controlled copies;
- Ensures that each copy holder verifies receipt of all controlled documents and subsequent amendments.

Uncontrolled copies may be issued with no record of who has a copy. The document holder of an uncontrolled copy is responsible for ensuring that the copy they have is up-to-date.

The control information for this manual is detailed in the table below:

Title:	AIS Quality Manual
Owner:	Civil Aviation Division
Location of master copy:	Aeronautical Information Service HQ
Date last update:	
Holders of controlled copies:	A register of holders of controlled copies is shown on page 5-1 of this manual

5. CONTROLLED COPIES OF THIS DOCUMENT

Copy NR:	HOLDER
1	Gefferie Regina (Coor, AIS)
2	Telgt Joyce (SPVR AIS SMZO)
3	Karamantana Henna (SPVR SMJP)
4	
5	
6	
7	

6. AMENDMENTS AND AMENDMENT LIST RECORD SHEET

Change Summary

Changes made to this document are summarized in the following table.

Date	Pages	Description

Amendments

Amendments to this manual must be by page replacement, addition, and deletion or by complete re-issue.

Staff carrying out an amendment to this Manual must complete the Amendment Record sheet below.

Amendment Number	Amendment Date	Amended by	Date

7. CHECK LIST OF EFFECTIVE PAGES

	Page Number	Date		Page Number	Date
	0-1	27 APR 2017		22-1	27 APR 2017
	0-2	27 APR 2017		23-1	27 APR 2017
	1-1	27 APR 2017		24-1	27 APR 2017
	2-1	27 APR 2017		25-1	27 APR 2017
	3-1	27 APR 2017		25-2	27 APR 2017
	4-1	27 APR 2017		26-1	27 APR 2017
	5-1	27 APR 2017		27-1	27 APR 2017
	6-1	27 APR 2017		28-1	27 APR 2017
	7-1	27 APR 2017		29-1	27 APR 2017
	8-1	27 APR 2017			
	8-2	27 APR 2017			
	9-1	27 APR 2017			
	10-1	27 APR 2017			
	11-1	27 APR 2017			
	12-1	27 APR 2017			
	12-2	27 APR 2017			
	13-1	27 APR 2017			
	14-1	27 APR 2017			
	14-2	27 APR 2017			
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	14-4	27 APR 2017			
	15-1	27 APR 2017			
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	15-3	27 APR 2017			
	15-4	27 APR 2017			
	16-1	27 APR 2017			
	16-2	27 APR 2017			
	16-3	27 APR 2017			
	17-1	27 APR 2017			
	18-1	27 APR 2017			
	18-2	27 APR 2017			
	18-3	27 APR 2017			
	19-1	27 APR 2017			
	20-1	27 APR 2017			
	21-1	27 APR 2017			

8. DEFINITIONS AND TERMINOLOGY

General Definitions

Quality: The totality of characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

Quality Assurance: All the planned and systematic activities necessary to provide adequate confidence that a product or service should fulfill given requirements for quality.

Quality Control: The operational techniques and activities that are used to fulfill requirements for quality

Quality Management: All activities of the overall management function that determines and implements the quality policy.

Quality System: The organizational structure, responsibilities, procedures, processes and resources needed to implement quality management.

Document: Any manual* or page thereof used to implement the quality system.

**Note.- This should not be confused with the AIP documents, which could be products of this quality system. Where an AIP document is referred to within this manual, it should be specified by name.*

Originator: Any organization that provides data or information for publishing in the AIP either as an amendment, Supplement or as a NOTAM.

Sub-Contractor: Any organization or person contracted to provide products or services directly related to the production processes of this quality system.

Technical Definitions

The following technical abbreviations and terms are used within this manual.

AFS: Aeronautical Fixed Service

AIC: Aeronautical Information Circular. A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.

AIM: Aeronautical information management. The dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

AIP: Aeronautical Information Publication.

AIRAC: An acronym (aeronautical information regulation and control) signifying a system aimed at advance notification based on common effective dates, of circumstances that necessitate significant changes in operating practice established by ICAO.

AIS: Aeronautical Information Service.

ATS: Air Traffic Services

ERC: Enroute Chart

FIR: Flight Information Region

ICAO: International Civil Aviation Organization

IFR: Instrument Flight Rules

NOTAM: A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Time System: The day begins at 0000 hours and ends at 2359 hours using the 24-hour clock in UTC, in accordance with ICAO Annex 5 – *Units of Measurement to be Used in Air Ground Operations*. 2400 should NOT be used. Date and time is expressed as a six-figure group of day, hour and minute; e.g. 4 April 2017, 1635 UTC is expressed as 041635.

9. QUALITY POLICIES

The ATS mission is to provide a safe, efficient and effective air traffic system. The AIS recognizes that high quality aeronautical information services are essential to achieving this mission.

The Suriname AIS Unit is committed to providing high quality aeronautical information services to meet the needs and requirements of its customers and to seek continuous improvement in the provision of those services through a quality framework.

Quality will be an integral part of all AIS activities.

The quality framework will be based on the ISO 9000 series of International Standards and will draw as appropriate, on ICAO Standards and requirements and other International and Suriname Standards.

AIS will be provided in a manner consistent with the standards and recommended practices contained in the applicable ICAO Annexes, in particular Annexes 15 and 4 (CARS 20 and 15).

The AIS will be provided in a manner that is consistent with the commercial objectives of both the Air Traffic Services and customers.

The policies and procedures detailed in this manual are binding on all AIS staff.

10. QUALITY OBJECTIVES

The Quality Objectives of Suriname are to:

a) provide quality information and data services to meet the demands and requirements of our internal and external customers;

b) ensure that products are constructed, produced and distributed in such a way as to enable users to operate safely and efficiently;

c) ensure the quality and timely promulgation of products for which AIS is responsible;

d) ensure that products comply with applicable standards and regulations;

e) ensure as far as practicable that the information published is accurate and up to date;

f) provide the end user with value-added, defect-free products, that are timely and competitively priced;

g) institute a program of continuous learning within the AIS;

h) foster an environment where quality is the accepted way of doing business;

i) foster the participation of our staff in the work and decision making processes of the AIS; and

j) pursue commercial business opportunities within the areas of expertise of the AIS.

11. COMMUNICATING THE QUALITY POLICY AND QUALITY OBJECTIVES

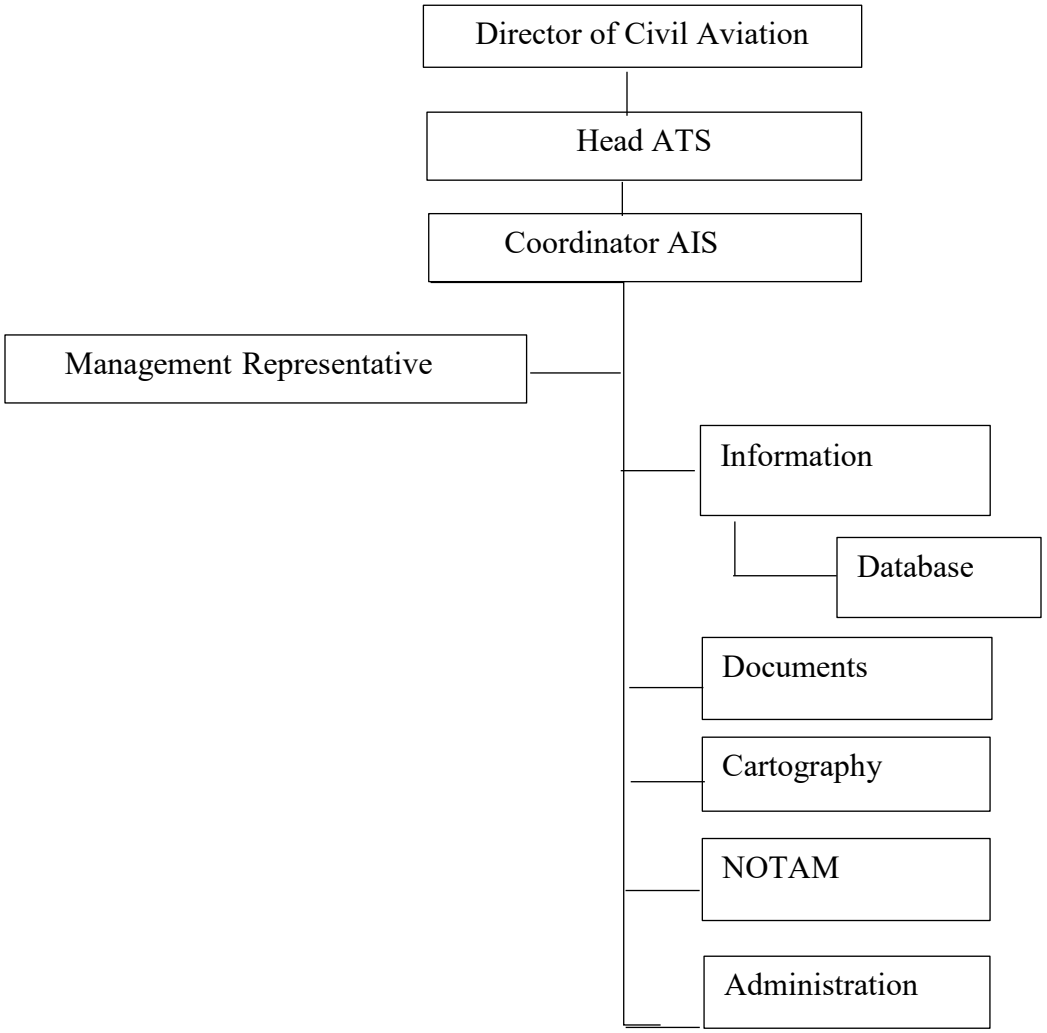
Each staff member in the Suriname AIS has access to this Manual and consequently to the Quality Policy and Quality Objectives.

The coordinator AIS is responsible for making staff aware of the Quality Policy and Quality Objective, for the implementation of quality practices to achieve these Objectives, and to monitor their application.

Staff members are kept informed of these matters through staff meetings, performance agreements, appraisals and competency checks.

12. ORGANIZATION

Organizational Arrangements Suriname AIS



Management Representative

Responsibility and authority for all quality processes and functions described in this manual and associated aspects of the AIS are held by the coordinator AIS or position of manager with ovral responsibility for the AIS quality system.

The coordinator AIS has the responsibility and authority for:

a) ensuring that processes for the quality management system are established and maintained;
b) reporting to senior management on the performance of the quality management system, including improvements; and
c) promoting awareness of customer requirements throughout the organization.

Information Team

The Information Team includes a Coordinator and 3 assistants. This team has primary responsibility for the collection and verification of information for publication in the AIP, and for database entry.

Documents Team

The Documents Team includes a Coordinator and 2 assistants. This team has primary responsibility for the processing of changes provided by the Information and Cartographic Teams to create AIP amendments and other document changes for printing and distribution.

Cartography Team

The Cartographic Team includes a Coordinator and 2 assistants. This team has primary responsibility for the processing of amendments to charts.

NOTAM Team

The NOTAM Team includes a Coordinator and 15 NOTAM Officers. This team has primary responsibility for operation of the International NOTAM Office and the aerodromes unit the provision of Pre-flight Information.

Administration Team

The Administration Team includes a Coordinator and 1assistants. This team provides administration support to the AIS.

13. RESPONSIBILITY AND AUTHORITY

Position Descriptions

The responsibilities and authorities of each staff member are detailed in individual Position Descriptions, copies of which are held by each staff member and on file name.

Written contracts are held by both the AIS and various Sub-contractors for the provision of those services listed below. These contracts detail the responsibilities and authorities relevant to the services provided.

Sub-Contractor	Service Provided	Location of Contract

14. DOCUMENT CONTROL

Document control procedures are developed for all documents that are part of the Quality System to ensure that:

a) pertinent issues of appropriate documents only are available at all locations where operations essential to the effective functioning of the quality system are performed;

b) obsolete documents are promptly removed from all points of issue or use;

c) documents are regularly reviewed for applicability; and

d) all documents clearly show traceability to source.

All documentation that is part of the Quality System should be reviewed in conjunction with Management. When the procedures or standards detailed in this manual are derived from other references (such as ICAO Annexes), amendments to such references should be reviewed upon receipt, and where necessary, the relevant procedures or standards amended to reflect the requirements of such references.

All amendments to Quality System documents must be brought to the attention of the appropriate staff.

Controlled Documents

A controlled document is a document for which the release, status, storage, distribution, revision and disposal are managed according to documented procedures.
The documents in a quality system, and any other important reference, must be controlled to keep them accurate and up-to-date.

Example
- AIS Quality Manual
- AIS Operation Manual

Controlled and Uncontrolled Copies

A controlled document is an individually numbered document assigned to a specific registered copyholder. Controlled copies are identified by the red coloring of the controlled copy number on the front page.

All controlled documents must have a copy number entered in red ink in the space provided on the cover sheet by the officer responsible for issue of the document.

Roles and Responsibilities

A full description of procedures relating to the control of documents is shown in Section 14 of this Manual. The responsibilities shown below only address the responsibilities of persons holding controlled and uncontrolled copies of this document.

Holders of Controlled Copies

Holders of controlled copies are responsible for ensuring the copy is current before it is used and for disposing of the controlled copy once it is superseded.

Holders of Uncontrolled Copies

Holders of uncontrolled copies are responsible for ensuring the copy is current before it is used and for disposing of the uncontrolled copy once it is superseded.

Document Identification

All controlled documents must show the following identification elements:

- title
- effective date
- page number

This is to be achieved by using appropriate titles on drawings and headers and footers on documents.

Document Format

Overview

Amendments to this document must conform to the formats described in this part.

Element	**Style**
Page size	A4
Font	Times New Roman
Font size	12
Margins	Standard
Etc.	Standard

Text Conventions

The word ~~–m~~ust" is to be standard in the ~~–s~~hall/must" situation and means that conformance with the procedure or instruction is compulsory.

The term "should" implies that all users are encouraged to conform to the applicable procedure.

Abbreviations must be avoided when not in common usage, or when the document's intended recipients are not specialists familiar with the terms.

If an abbreviation is not in common use, the first instance must be shown in
full with the abbreviations in brackets, eg Office of Legal Counsel (OoLC).
There after the abbreviation may be used exclusively.
When in doubt, the word or term must be spelt in full throughout the document.

Layout

Change bars must be shown to indicate any additions or deletions or alterations to text.

A bold **"D"** must be shown next to the change-bar to highlight areas of text that have been deleted.

Paragraph numbering is not required.

Headers must contain:

a) Document title
b) Issue date

Footers must contain:

a) Authorization
b) Page numbers.

Document Amendment

For convenience, and to coordinate with changes in both reference documents and products, where possible, amendments should be issued to
become effective on the ICAO determined AIRAC dates.

Amendments to documents should be indicated an asterisk. Changes to charts and diagrams should be indicated by a note along the inside margin.

Hand amendments to hard copy documents should only be used for minor typographical amendments. Amendments to policies, procedures and associated forms should only be by the issue of replacement documents, pages or forms.

All hand amendments should be initialed and the authority indicated.
Documents should be reissued after a practical number of changes have been implemented.

Document Issue

The Supervisor AIS maintains a master document list which records:

a) Document title, file reference (both software and hard copies);
b) The author;
c) The authorities for all documents;
d) The version;
e) Documents received by recall;
f) Follow up action;
g) Distribution lists and copy numbers;
h) Receipt of document.

The Supervisor AIS is responsible for ensuring that all documents issued are signed as authorized copies. The Supervisor AIS should record the details of the received documents and arrange distribution as per the distribution list and recall of the obsolete documents.

All amendments to documents must include a Record of Receipt. The Record of Receipt is to be completed by the recipient and returned to the administration coordinator along with obsolete documents.

If, within 10 working days of document distribution, the obsolete documents are not received, reminder notices should be dispatched.

One copy of all document versions must be archived to show the amendment traceability. All archived documents should be annotated as –Cancelled". All other obsolete copies should be destroyed.

External Documents

A range of external documents is held by the AIS for reference purposes. These include legislation standards, recommended practices and AIP documents from other states.

If information from an external document is used in the preparation of a new product, the document must be checked to ensure the status and currency of information.

A register of ICAO documents is to be maintained by the AIS officer.

15. AIS QUALITY SYSTEM – DOCUMENTED PROCEDURES

AIS Responsibilities

Collection of Information

AIS receive aeronautical data and information for publication in the AIP and NOTAM from, but not limited to the following organizations that provide services in support of the air navigation system:

a) aerodrome operators;
b) telecommunication service organisations;
c) Air Traffic Service organisations;
d) air navigation service organisations;
e) meteorological organisations;
f) other AIS organisations;
g) Customs, Immigrations, Conservation and Health Authorities;
h) defence organisations;
i) other government departments and ministries; and
j) other States.

Information for inclusion in the AIP or NOTAM is sent directly to the AIS.
This material is authenticated as described in ―Authorization of Original Material".

Data and Information from other States

Aeronautical data and information received from other States:

Information	State	Source
All elements of the IAIP	Aruba, bonair, Curacao	ANSP, NOF
All elements of the IAIP	Brasil	NOF
All elements of the IAIP	Eurocontrol	NOF
All elements of the IAIP	Cuba	NOF
All elements of the IAIP	Chile	NOF
All elements of the IAIP	Fr.Guyane	NOF
All elements of the IAIP	Guyana	NOF
All elements of the IAIP	Jamaica	NOF
All elements of the IAIP	Dominican Republic	NOF
All elements of the IAIP	Switzerland	NOF
All elements of the IAIP	Trinidad and Tobago	NOF
All elements of the IAIP	United States	NOF
All elements of the IAIP	Venezuela	NOF

Editorial Responsibilities

Coordinator AIS has the following editorial responsibilities:

a) ensuring that the data and information collected is published in the appropriate format, in accordance with the applicable standards and distributed according to the operational significance of the information;

b) ensuring that the information received is accurately promulgated;

c) ensuring that aerodromes published in the AIP are shown on the applicable aeronautical charts;

d) ensuring the preparation, accuracy and distribution of all aeronautical charts;

e) monitoring the data and information to ensure that it is reviewed by the originating organization on a regular basis; and

f) ensuring the timely provision of aeronautical information to the aeronautical information services of other states. This should normally be by the provision of the AIP and NOTAM, except where other arrangements are documented (by letter of agreement).

The responsibilities of the AIS for ensuring the accuracy of information relates to ensuring conformance with applicable standards and that information provided is ―reasonable" when compared with other available information. The responsibility for the accuracy, completeness and timeliness of original data and information rests with the originator. Those responsible for ensuring accuracy and conformity within AIS are shown in the section ―Production of the Integrated AIP Package".

Original Material Identification and Traceability

Original Material

Original and source material for publication and associated drawings, drafts and proofs are held on file as follows:

Record	Location	Responsibility	Minimum Retention Period

Authorization of Original Information

Original data and information received is checked for proper authorization against the Originator Database, or if received on Company Letterhead paper.

Database Amendments

Step	Action	Responsibility
1	Change details registered	Supervisor
2	Change authorized	Supervisor
3	Data checked and verified	Supervisor
4	Data entry	Supervisor
5	Entered on ……	Supervisor

AIP Production Schedule

The Suriname Integrated AIP Package is produced in accordance with the AIP Production Schedule which is twice a year. An example of a Publication Schedule is shown in Appendix 2.

Scheduling and Coordination of Amendments

The Suriname AIS convenes regular meetings with the following originators of amendments to the AIP:

ATS
Radio Technical Division RT&ED,
International Airport Authority.
Meteorological Services,

At these meetings, originators will be invited to submit the following details on proposed amendments including:

- Effective date of amendment;
- Scope of amendment;
- Affected AIP documents;
- Charting requirements; and
- Consequential impact on other information.

The purpose of these meetings is to schedule and coordinate requests for amendments to the AIP. Agendas and minutes are kept by the manager AIS for all meetings.

Format and Standards

Standards as specified in the following CARS and ICAO documents are applied by AIS:

- ICAO Annex 15
- CARS part 20;
- ICAO DOC 8126;
- ICAO Annex 4
- CARS part 15;
- ICAO DOC 8697;
- ICAO Annex 5
- CARS part 16

Coordination of AIP Amendments, NOTAM and Other Bulletins

NOTAM are originated by the international NOTAM Office.

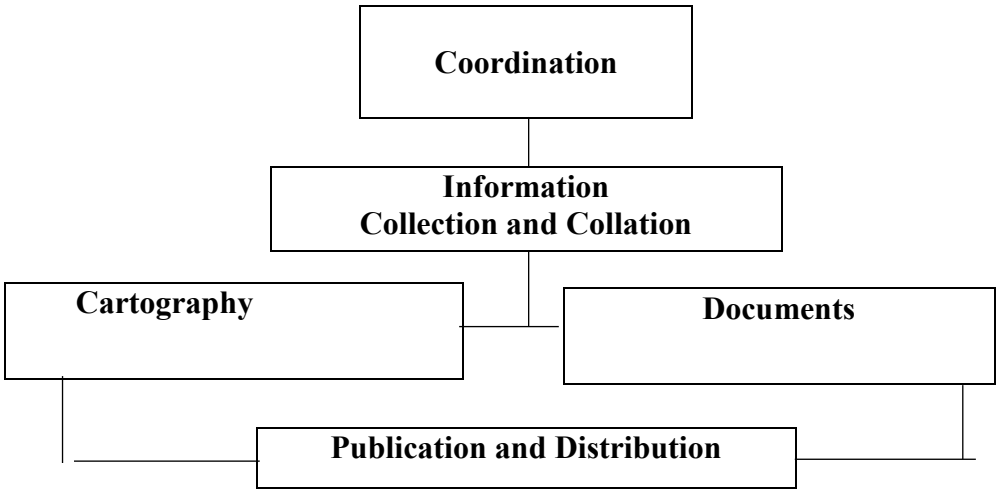
NOTAM and information bulletins from third party providers such as Jeppesen are reviewed daily by Supervisor AIS. Those relating to published AIP information are checked to determine whether the information promulgated will be of a permanent or long-term nature and if so, whether an amendment to the AIP has been initiated by the originator.

If no permanent amendment has been initiated by the originator, the AIS will contact the originator and advise of the action required.

Responsibility for initiation of a formal change to the Integrated AIP Package is the responsibility of the NOTAM originator, or other designated person when required.

16. PRODUCTION OF THE INTEGRATED AERONAITICAL INFORMATION PACKAGE

Typical Workflow



Collection and Collation of Aeronautical Information

During the coordination phase, all requests for amendment are reviewed as follows to determine:

Step	Action	Responsibility
1	Requested effective date	AIS Supervisor
2	AIP documents affected	AIS Supervisor
3	Cartographic and publishing resources required	AIS Supervisor
4	Conformance of submitted material with required standards	AIS Supervisor
5	Amendment requests are correctly authorized and all necessary coordination has been completed	AIS Supervisor
6	The amendment is complete	AIS Supervisor
7	The requested amendment corresponds to other known information. For instance, a request to increase a runway length should be compared to currently published runway information	AIS Supervisor
8	All consequential amendment action required is understood and identified	AIS Supervisor

Amendment Process

Step	Timing	Responsibility	Description
1	Continuous	Supervisor	Prepare proposed amendments/additions and submit them to AIS
2	Approximately 1 month before printing date	Supervisor	Review and collate all Proposed amendments/ additions and submit them to the coordinator.
3	On receipt of amendments	Supervisor	Review the submitted amendments for suitability, accuracy and completeness Make appropriate records. Mark unsuitable amendments as —Non-Conforming" as per the procedures described in section 17, page 17-1 of this manual
4	After records have been made	Coordinator	Amend the AIP
5	During the amendment process	Coordinator/ Supervisor	Check all the amendments made against the hard copies to ensure that the changes you have just made are correct.
6	2 weeks before printing date	Coordinator	Check the final proof and sign it as being approved for publication.
7	1 week before printing date	Supervisor	Prepare the final proof for publication.
8	Before printing date	Supervisor	Dispatch for publication

The introduction of any new material is normally not permitted once Step 6 has been reached and is not permitted once the hard copy has been printed. Any amendments received after this must be placed in the amendment file by the coordinator AIS ready for the next amendment package.

Records
The following table describes the records kept of this process.

Record	Location	Responsibility	Minimum Retention Period
Hard copy of all amendments	AIS HQ	Coordinator AIS	Archive
Signed off final proof	AIS HQ	Supervisor Publications Office(SPO)	Archive
Historical record of amendments made	AIS HQ Publication Office	Supervisor Publications Office(SPO)	Indefinitely on file.
Dispatch details	Publication Office	Supervisor Publications Office(SPO)	Until the amendment is printed.

Printing and Distribution

Inspection and Checks

Step	Action	Responsibility
1	Complete the Proof-Read Chart form by listing all affected pages connected with the particular amendment issue	SPO
2	Proof read the hard copy together with at least 2 representatives from the AIS	SPO
3	Correct any anomalies at the conclusion of the proof read	SPO
4	Print a final proof and stamp this ready for approval. ***Note:*** *Purpose built rubber stamps are held by coor/spo*	Coordinator AIS/ SPO
5	Approve for publication	Coordinator AIS
6	Update the Collation Schedule with all the information required by the publisher.	SPO
7	Dispatch for publication to arrive by the print date defined in planning schedule	SPO
8	Printers first proof checked prior to distribution	Coordinator AIS/ SPO
9	Distribution	SPO
10	Publisher returns 2 of amended copies of the Integrated AIP Package to the AIS Headquarters	SPO
11	Amend the master copies of the Integrated AIP Package on receipt	SPO

Checklist for Products

Product	Produced by	Checked By	Authorized for Publication by

17. CONTROL OF NON-CONFORMING PRODUCT

Data or information presented to AIS for publication in the Integrated AIP Package that does not conform to the specified requirements for a particular AIP product must be marked as Non Confirming by the manager AIS marked by stamp.

Supervisor AIS is responsible for advising the originator that the material submitted does not conform.

Step	Action	Responsibility
1	Record non conformities	Supervisor
2	Determine the causes of non-conformity	Supervisor
3	Determine actions required to prevent reoccurrences of non-conformities	Supervisor
4	Advise originator	Supervisor
5	Implement corrective action	Supervisor
6	Filing records created after corrective action taken	Supervisor

18. CORRECTIVE ACTION AND ERROR ANALYSIS

Correction of Errors in Published Information

If an error is determined to be hazardous or have the potential to be hazardous, remedial action appropriate to the operational significance of the error will be initiated by manager AIS. The operational significance of the error should be determined in consultation with the originator.

Appropriate action may include:

a) issue of NOTAM.
If a NOTAM is issued, the error should be scheduled for correction in the next scheduled amendment. If the next scheduled amendment will not be within 90 days, the information should be published by AIP Supplement at the next available issue;

b) issue of AIP Supplement.
Errors should only be corrected by AIP Supplement when the page or chart is not scheduled for reissue at the next AIP amendment;

c) issue of an AIP amendment at next available amendment; and

d) correct at next scheduled issue of page or chart.

For the purposes of recording and analysis, an error is defined as follows:

a) any instance where information is incorrectly or inaccurately published; and

b) any instance where the accuracy, structure or format of published information does not conform with required standards

Error Tracking Process

This instruction describes the procedures to be used when an error is detected in a component of the Integrated Aeronautical Information Publication (AIP) package. An example of an Error Tracking Form (ETF) is shown in Appendix 3; and example of an Error Tracking Register is shown in Appendix 4.

Step	Action	Responsibility
1	Confirm the error and raise an ETF	Supervisor AIS
2	Register the ETF	Supervisor AIS
3	Analyze the safety aspects associated with the error and determine if NOTAM or other action is appropriate	Supervisor AIS
4	Initiate corrective action as a NOTAM or AIP SUP and process through the NOTAM officer/NOF	Supervisor AIS
5	Attach a copy of the NOTAM request/Draft AIP SUP to this form	Supervisor AIS
6	Analyze the cause of the error	Supervisor AIS
7	Discuss the error with the officer responsible	Supervisor AIS
8	Determine remedial action	Supervisor AIS
9	Brief AIS Manager as necessary	Supervisor AIS
10	Initiate change action when required	Supervisor AIS
11	Amend or establish procedures as required to strengthen processes	Supervisor AIS
12	Sign-off the ETF when completed	Supervisor AIS
13	Forward the completed form to Coordinator AIS for filing	Supervisor AIS

Error Analysis

The following guidelines are used to determine the categorization of errors:

Critical

Any instance where the published information directly compromises the safety of air navigation:

a) where the published information could compromise aircraft clearance from terrain, e.g. incorrect instrument approach minima;

b) where there is an error in navigational or route information, *e.g.* incorrect track; and

c) any error in the depiction or publication of airspace information, *e.g.* incorrect vertical limits.

Major

Any instance where the published information intended for communications or air navigation purposes is missing, ambiguous or difficult to interpret, *e.g.* incorrect ATS frequency.

Minor

a) Any instance of typographical, grammatical, printing or formatting deficiencies which do not directly cause operational difficulties, but do not meet expected standards.

b) any –typographical" error, where the information published is correct in context and content but could contain spelling or grammatical errors; and

c) errors where there are no operational impacts.

19. PREVENTATIVE ACTION

Step	Action	Responsibility
1	Collate information relating to non conformities, error tracking forms and customer complaints/suggestions	Supervisor AIS
2	Determine causes of non-conformity	Supervisor AIS
3	Determine what action is necessary to prevent non conformities re-occurring	Supervisor AIS
4	Determine and implement corrective action	Supervisor AIS
5	Record and file results of action taken	Supervisor AIS

20. CHANGE PROCEDURES

Staffs are encouraged to suggest changes that will improve the quality system.

To facilitate this process, suggestions should be made in the following format:

AIS Quality System - Staff Suggestion		
NR.	**To:**	**From:**
Details:		
Action taken:	Originator Advised:	Date:

Each suggestion is recorded with an individual number, details entered of the action taken and advice to the originator.

Step	**Action**	**Responsibility**
1	Register the suggestion	Supervisor AIS
2	Determine course of action to be taken	Supervisor AIS
3	Advice provided to the originator	Coordinator AIS
4	Record filed	Supervisor AIS

21. SECURITY AND RECORDS

Records are required for data and information provided to AIS. The following table describes the record management procedures for the Suriname AIS Unit.
The purpose of these is to enable traceability of all published information, including the origin, date of receipt and check procedures.

Description of Record	Location where the record is held	Responsibility for filing	Retention Period
NOTAM	NOF SMJP	Supervisor AIS	Archive
AIP amendment	Head Office	Supervisor AIS	Archive
AIP supplement	Head Office	Supervisor AIS	Archive
AIRAC AIP Amendment	Head Office	Supervisor AIS	Archive
AIC	Head Office	Supervisor AIS	Archive
MAL	Head Office	Supervisor AIS	Archive
PIB	Head Office	Supervisor AIS	Archive

22. CONTRACT REVIEW

All contracts between AIS and suppliers, clients or consumers should be reviewed before final contract signature and on a regular basis after signature.

A review clause should be written into all contracts to allow for this provision. The aim of the review is to ensure that:

a) the contract requirements are clear and unambiguous;

b) every requirement that is different from that tendered is resolved;

c) the supplier has the capability to meet the requirements of the contract;

d) written minutes of all contract review meetings should be recorded with resolution of;

e) all points mentioned at the meeting being clearly indicated; and

f) agreement that the review has taken place and is acceptable should be by contract signature and/or the exchange of letters.

The coordinator AIS is responsible for reviewing contracts held by AIS.

23. PURCHASING

General

The Supervisor AIS is responsible for ensuring that all purchased products conforms to the specified requirements.

Assessment of Sub-Contractors

All Sub-contractors who could provide products or services that can directly affect product quality are evaluated and approved by the Supervisor AIS.
Approval of Sub-contractors is based on, but not limited to evaluation of the following criteria:

a) previous Sub-contractors history; and
b) Sub-contractors certification to approved Quality Standards.

The type and extent of the evaluation depends on the nature of the goods or services to be provided and the degree of previous experience with the Sub-contractor.
All agreements with Sub-contractors should allow for the audit of Subcontractor management systems by AIS (or their designated representative).
Sub-contractor history should be established by maintaining a history of quality performance.

Sub-contractors who regularly fail to achieve required quality performance criteria should not be used by the AIS.

Purchasing Authority

Product or Service	Authority for Purchase

All orders should specify or include the following where appropriate:

a) the title of the product or service;
b) relevant associated drawings;
c) means of identification;
d) inspection instructions;
e) approval requirements; and
f) Quality Standard to be applied.

Where the services or products are ordered under the terms of a service contract, only those specifications not detailed in the service contract need to be included in the order. Where the services or products are ordered under the terms of a service contract, the service contract should specify the purchasing documents to be used. A Sub-contractor supplied purchasing document could be used.
Where the Sub-contractor does not supply purchasing documentation, an AIS Order should be used. Copies of purchasing documentation are retained.

24. INTERNAL QUALITY AUDITS

Audit Policy

Audits of the activities used by Suriname AIS will be carried out from time-to-time to confirm that the procedures and processes used comply with quality system requirements.

Scope of Quality Audits

Audits of the AIS will cover the quality system being used, processes and products.

Responsibility

The coordinator AIS is responsible for ensuring that quality audits of the AIS are carried out in accordance with the procedures shown below.

Audit Process

The following steps will constitute the audit process. The Lead Auditor is responsible for ensuring all the steps take place:

a) advice to the AIS Manager of the proposed audit, including the audit program;
b) development of audit checklist;
c) entry meeting;
d) verbal debrief to AIS Manager and other staff (where appropriate) on audit findings;
e) completion of the audit proper;
f) compilation of the audit report and any corrective actions;
g) obtaining the AIS Manager's signature as having accepted report, agreeing to corrective actions and establishment of appropriate close-out dates;
h) dispatch of reports and corrective actions to the appropriate senior personnel.

Audit Records

One copy of the audit report, including comments and information from follow up meetings will be filed for six (6) months.

Management Reviews

Management Review meetings will be convened and chaired by coordinator AIS and usually involve AIS operational matters. An agenda and minutes will be prepared and kept for all such meetings. These meetings will be held at six (6) monthly intervals.

25. TRAINING AND COMPETENCY

Overview – Training

The competencies required for each position are detailed in the relevant Position Descriptions. From these competencies, and initial and regular assessments of performance, training requirements for individual staff are identified.

Newly Appointed Staff

The training requirements for newly appointed staff are identified in consultation with the staff member and implemented as a Training Plan. The Training Plan will identify all relevant items for which training is required, a time-frame for the completion of each item (either due date or period) and when appropriate, any required achievement level.

As training items are completed, completion is recorded on the Training Plan.

Current Staff

Details of training programs for on-going training to keep current with practices applicable to the position and to ensure all incumbents are trained to the specifications, are developed and maintained by the Manager AIS in consultation with individual staff members.

This is carried out as part of the annual Performance Assessment with any identified training requirements recorded in the Personal Development Plan. Details of the completion of training for all staff (newly appointed and current) is made in the staff members file.

Competency

Position	Qualifications and/or Core Competencies

Newly Appointed Staff

New appointees to any position are required to demonstrate experience and competency appropriate to the position being filled. Initially, this will be determined through the recruiting process.

- A training plan for all newly appointed staff is shown at Suriname Civil Aviation Training Centre.

The performance of newly appointed staff members will be reviewed within 3 months of appointment. This requirement will normally be met by reviewing the results of day-to-day work and the completion of Training Plan items.

If at the completion of all Training Plan items, or the completion of the first 3 months of employment (whichever is the latter), the staff member has demonstrated an appropriate level of competency, he or she will be considered to be current staff and from that time, be required to meet the competency requirements for current staff.

Current Staff

To remain competent, staff are required to carry out their specified responsibilities at least once every three months. Because of the on-going and regular nature of their work, staff will normally satisfy this requirement through their day-to-day work.

Where a current staff member is absent for a period exceeding 3 months, their performance will be reviewed during the month of recommencement of work, or until such time as they have demonstrated an appropriate level of competency. The performance attributes to be reviewed will depend upon the position held, the length of their absence and the nature of work currently in progress. These should be determined by mutual agreement with the staff member concerned.

Competency Records

Details of competency reviews are held on individual staff member's files.

Sub-Contractor Competency

Where processes relating to the production are subcontracted, the Subcontractor should have demonstrable competence appropriate to the work being undertaken. This is usually measured through historical performance.

Sub-contractors should be required to demonstrate adequate and ongoing competency in the services provided. This should be assessed by the results of the services or products provided by the Sub-contractor concerned and by regular audits of the Sub-contractor.

Performance Assessments

Annual Performance Assessments are completed for all staff. Performance reviews should include:

a) the establishment of performance objectives for the next period (year);
b) a review of the staff members performance against objectives for the review period; and
c) identification and agreement of any training required.

Details of Performance Agreements and Performance Appraisals are held on individual staff member's files.

APPENDIX 1 - Example Position Description

Job Title : Aeronautical Information Officer
Level :
Location :
Reports To : Supervisor AIS, Aeronautical Information Service
Subordinates : NIL

Primary Job Purpose

The primary purpose of this position is to collect, coordinate, validate, and prepare amendment to a range of aeronautical charts in accordance with the specifications described in ICAO Annexes 4 and 15 (CARS 20 and 15).

Key Responsibilities or Duties:

- Collecting, coordinating and validating proposals for amendments to a range of aeronautical charts;
- Preparing and making changes to aeronautical charts;
- Detailed checking of interim chart plots and proofs;
- Checking –first rushes" from the print run;
- Assist with the cross-checking of chart amendment data with that contained in other aeronautical documentation;
- Maintaining quality records relating to amendments, including an audit trail of amendment data, source documents, plot, proofs and correction data for each chart;
- Assist with the development of new or revised charting products to meet specified needs;
- Maintain Standard Operating Procedures and Checklists.

Key Relationships and Interactions

The occupant of this position is required to develop and maintain close working and business relationships with originators of amendment proposals, data custodians and other staff in the AIS.

Qualifications and Experience

- Hold or have held an Basic ATS License or have other relevant aviation experience;

- Possess and demonstrate a good working knowledge of the AIP, Civil Aviation Regulations, Civil Aviation Orders and Civil Aviation Advisory Publications; and

- Demonstrate a good working knowledge of ICAO documentation, particularly Standards and Recommended Practices relating to the provision of charting products.

APPENDIX 2 – Example Time Line Planning Chart
AIS Production Schedule – Januari …….to December …..……

AERONAUTICAL INFORMATION PUBLICATION (AIP)	
	Start Date
AIP A/L 31	
AIS Cut-off	
Printing	
Distribution	
28 Days AIRAC Notice	
Effective Date	
AIP A/L 32	
AIS Cut-off	
Printing	
Distribution	
28 Days AIRAC Notice	
Effective Date	
AIP A/L 33	
AIS Cut-off	
Printing	
Distribution	
28 Days AIRAC Notice	
Effective Date	
AIP A/L	
AIS Cut-off	
Printing	
Distribution	
28 Days AIRAC Notice	
Effective Date	
AIP A/L	
AIS Cut-off	
Printing	
Distribution	
28 Days AIRAC Notice	
Effective Date	

APPENDIX 3 – Example Error Tracking Form (ETF)

This form is to be completed for each NOTAM or AIP SUPP issued to correct errors in AIP package.

NR 000/01

Description of error:	
Affected documents(s):	
Notified by:	
Cause & analysis:	
Corrective action taken:	
Comments:	

The Suprvisor AIS will:

a) Confirm the error; raise, number and register an error tracking form;
b) Analyze the safety aspects associated with the error and determine if NOTAM or other action is appropriate;
c) Initiate a NOTAM / AIP / SUPP correction action, and process through NOTAM officer/NOF; *(attach a copy of the NOTAM request to this tracking form)*
d) Analyze the cause of the error;
e) Discuss the error with the officer responsible for the document;
f) Determine remedial action;
g) Brief Manager, AIS as necessary;
h) Initiate required change action required;
i) Amend or establish procedures as required to strengthen processes;
j) Sign-off this form as completed;
k) File the completed form

The AIS officer will assist the Supervisor AIS to determine appropriate action, analyze the cause of the error and propose changes to procedures.
Tasks involved may include:

a) Establishing the audit trail for the data;
b) Analyzing the safety aspects associated with the error and determine if NOTAM or other action is appropriate;
c) Investigating the cause of the error;
d) Proposing changes to Standard Operating Procedures.

APPENDIX 4 – Example Error Tracking Form Register

AIS Register of Error Tracking Forms (ETF) – 2017

Reg. NR	Description of Error	Document(s) Affected	Corrective Action taken	Date
001/17				
002/17				
003/17				
004/17				
005/17				
006/17				
007/17				
008/17				
009/17				
010/17				

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

4.1 Under this agenda item, the Meeting reviewed the following papers:

- **WP/07** - Follow-up to the implementation of digital data sets (DDS) (presented by the Secretariat)
- **WP/11** - The impact of digitalisation on the AIM implementation process and SWIM readiness (presented by Brazil)

4.2 During the consideration of this item, the Meeting discussed aspects related to the implementation of Phase 2 of the Roadmap for the transition from AIS to AIM.

4.3 This item of the Meeting has been enriched with a workshop entitled "The Impact of Digitization on the implementation of AIM and in preparation for SWIM".

4.4 The Meeting reviewed the implementation status of:

a) the Digital Data Sets (DDS).

b) electronic AIP (e-AIP);

c) Data Catalogues; and

d) Aeronautical Information Exchange Models.

4.5 In **Appendix A** to this part of the report, you can find the implementation status of the Digital Data Sets requested in Doc. 10066, except for TOD, as well as that of the e-AIP, the Data Catalog, the Aeronautical Information Exchange Model and the SLAs managed and signed with the data and information providers and originators

4.6 The TOD implementation status is presented in Agenda Item 2, as it relates to the Air Navigation Deficiencies

4.7 The Secretariat recalled the Meeting of the importance of observing the GREPECAS Conclusion that calls for the completion of TOD implementation by 2024. In this regard, Uruguay reported on the tender scheduled for December (see 2.6 of Agenda Item 2). Additionally, Guyana is in contact with COCESNA to evaluate hosting Guyana's DDS in its system.

4.8 With regard to Argentina and Venezuela, States that have presented difficulties in updating their aeronautical information management systems due to a system licensing problem, they reported on the steps being taken to regularize them. In this regard, they indicated that the problem would be resolved by the end of this year, or at the latest, by the first quarter of 2024.

4.9 In addition, presentations have been received from the States of Brazil, Colombia, Panama and Peru, in which they report on the plans and progress of implementation of Phase 2. In addition, Paraguay provided information on its progress with Phase 2 without sharing a presentation.

4.10 Industry has also provided presentations related to the aeronautical information digitization process (GroupEAD and NGA). These presentations are included as **Appendix B through Appendix K** to this part of the report.

4.11 The Meeting mandated the Secretariat to continue to follow up on the implementation of digital data sets (DDS).

4.12 The Meeting also invited the Secretariat to submit a proposal for a Workshop to GREPECAS by States that have advanced in the implementation of Phase 2 of the Roadmap for the Transition from AIS to AIM, and thus share best practices on the implementation of digital datasets, the preparation of e-AIP and the exchange of aeronautical information in AIXM format.

Table: Monitoring of 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 catalogue	SLA
1	**Argentina**	There is an action plan.			They have the licence. They have it published via website but is not digital (the electronic one depends on software maintenance payment).	Coordination with EANA S.E. They will send the information.	They signed again the SLAs with data providers.
2	**Brazil**	Implemented	100%	100%	100%	100%	They do not sign SLAs. They issue ICA with the rules to be followed by information providers (Agreements following meeting with providers)
3	**Bolivia**	No progress made on these issues due to the change of provider.			Not yet until automated systems are in place.	By 2024 (Q4)	They have the SLAs, but they do not include the data catalogues.
4	**Chile**	Project under discussion to see if it can be implemented by 2023.					They do not have them, because they are all included in the QMS.
5	**Colombia**	e-AIP and DDS processes (except for TOD) completed.	90% TOD no	90%	95%	80%	90%
6	**Ecuador**	Project submitted to the Planning Secretariat and waiting for approval by 2023.	Not available	Not available	At the moment, it is available in HTML and PDF format under Eurocontrol standard.	Available in Excel format. It is estimated that they will be available on the first semester of 2022; 75%	They are working with information providers to sign the SLAs.
7	**Guyana**	Budgetary Allocations for 2023 have been made by the Civil Aviation Authority to source transition AIS to AIM training. A national	Dependent on training. Will implement progressively as the training of staff in these areas are done.	Dependent on training. Will implement progressively as the training of staff in these areas are done.	Dependent on training. Will implement progressively as the training of staff in these areas are done.	Dependent on training. Will implement progressively as the training of staff in these areas are done.	LOA's with our two major airports have been established for the provision of raw data for promulgation

		strategy for conducting workshops with all raw data originators will be done in the first quarter of 2023 through the AIS regulator.					by the AIS. All other raw data is provided through the Ministry of Public works which has national oversight of national civil aviation.
8	**Panama**	-DDS workshops are expected to start on Q3 2022. - Regarding data catalogues, they are waiting for the AISR to notify the dates of the seminar-workshop. No progress made because of the QMS certification process A meeting will be held on 16 January to plan DDS implementation. They are a little delayed with AIS regulations. The first workshop on data catalogues will be held on Q1. SWIM project includes all DDS	No progress made	100%	100%	No progress made AIC of Advice on Data Set Submission (Book 29 - AIS). The AIC will be followed by a Service Provider Seminar - The AIC will be accompanied by the table. It will be published by the end of August.	
9	**Paraguay**	e-AIP in beta version	Database fully loaded but not yet available in digital format.	100%	100% in beta version	They are in a transition stage, understanding the data catalogue.	They are in the process of dissemination with internal and external users, but have not yet signed an SLA.
10	**Peru**	With the signing of the contract for the acquisition of the integrated aeronautical information system in June 2021, Peru, through the AISP, is in the process of implementing the eAIP, which will be made available on Q4 2022, meeting the requirements of our regulations, Annex 15, PANS AIM, and their respective	10% They will send the information assessed for the four parameters. The system was assessed on the basis of one airport. Progress made in the uploading of data of the major international	10%	10%	10 to 15% Included in the Regulation. The Provider already works with its data originators.	They have a review plan with information providers

		amendments. The integrated aeronautical information system was acquired in February (PER 20810) They will review all the data. The timeline from 2023 to 2024. (October or November 2024 initially but they will update it) (probably by the first quarter of 2025).	airports of Peru, but there will be modifications, because loading will be modified in 2023. All planned for the first quarter of 2025 (SAM/AIM/16)				
1	**Suriname**						
12	**Uruguay**	Waiting for the results of discussions for the implementation of actions following the migration to AMHS (August 2022) Migration to AMHS completed. AIXM system acquisition in progress for 2023 A call for bids for its implementation is being prepared. The call will probably be in the last quarter of 2023.					Complete
13	**Venezuela**	They will send the files at the end of the Meeting.	25% AIXM 5.1 100%	They are working on the implementation of the DDS (60%) Updated IDS license (end of 2023) (SAM/AIM/16)	100% implemented and updated. Published on the INAC website. The new tools to be published by Q1 2023	25% in the database	They are working on it and will meet with providers in Q1 2023 to sign the letters of agreement.



¡Hagamos un ejercicio de imaginación!



¡Imagina si no fuera necesario pedir información por teléfono!



¡Imagine no tener que leer decenas de páginas de NOTAM antes de volar!



¡Imagina si la información te llegara!



¡Pero puede llegar a cualquier dispositivo!



¡En cualquier momento del día!



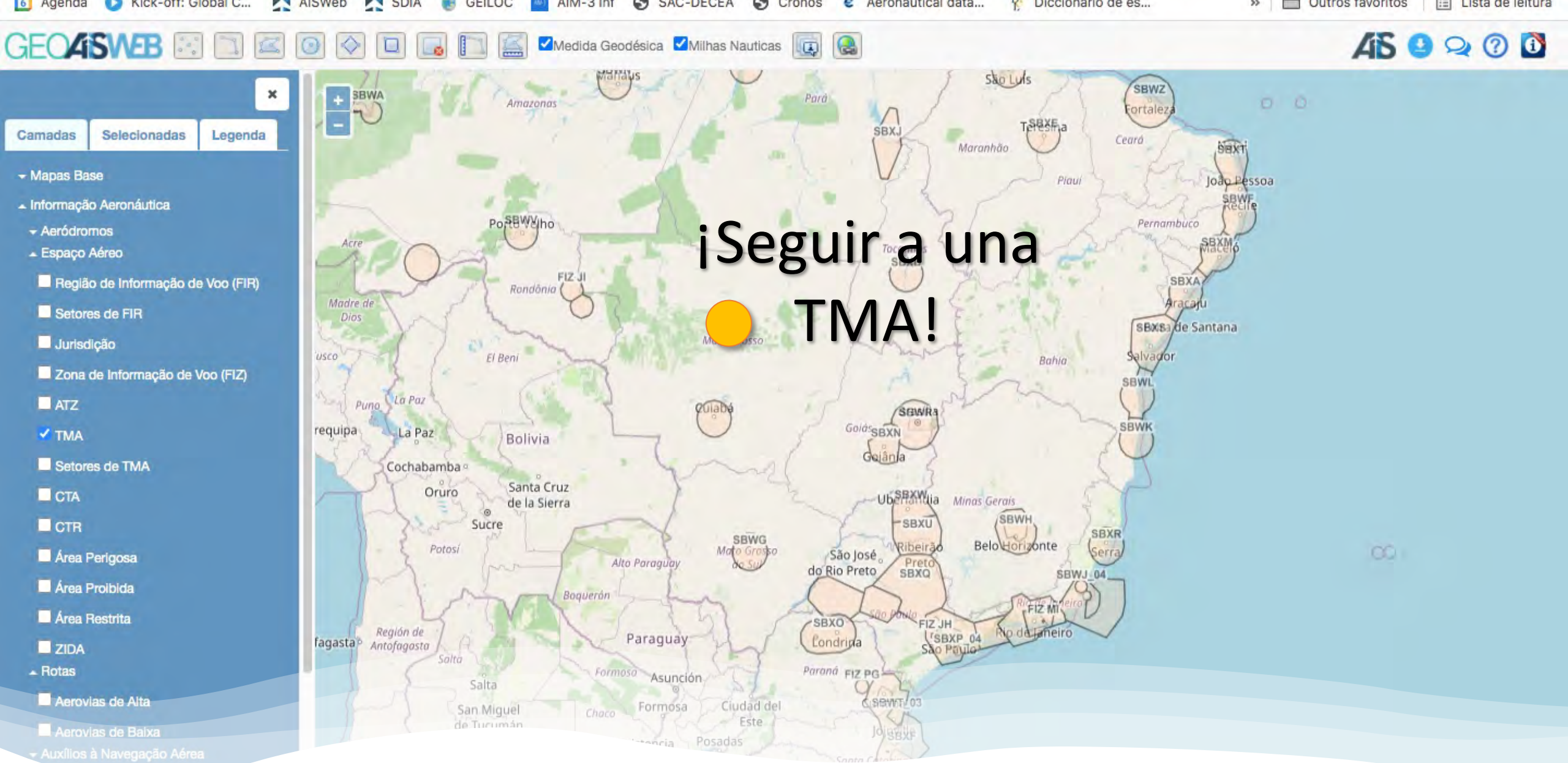
¡Solo información específica para sus necesidades!



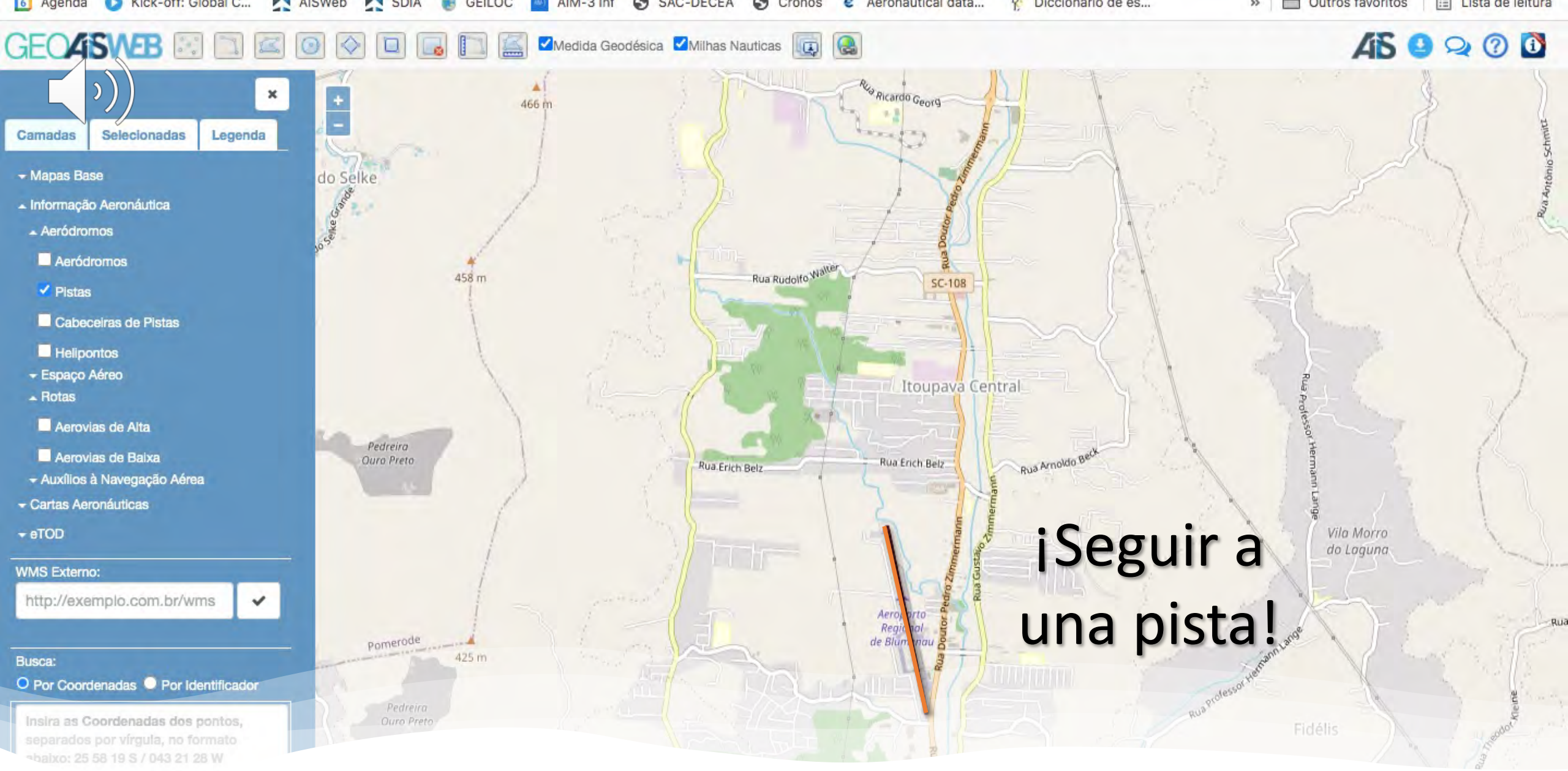
¡Imagina si fuera posible seguir una información!



¡Imagina si fuera posible seguir una información!



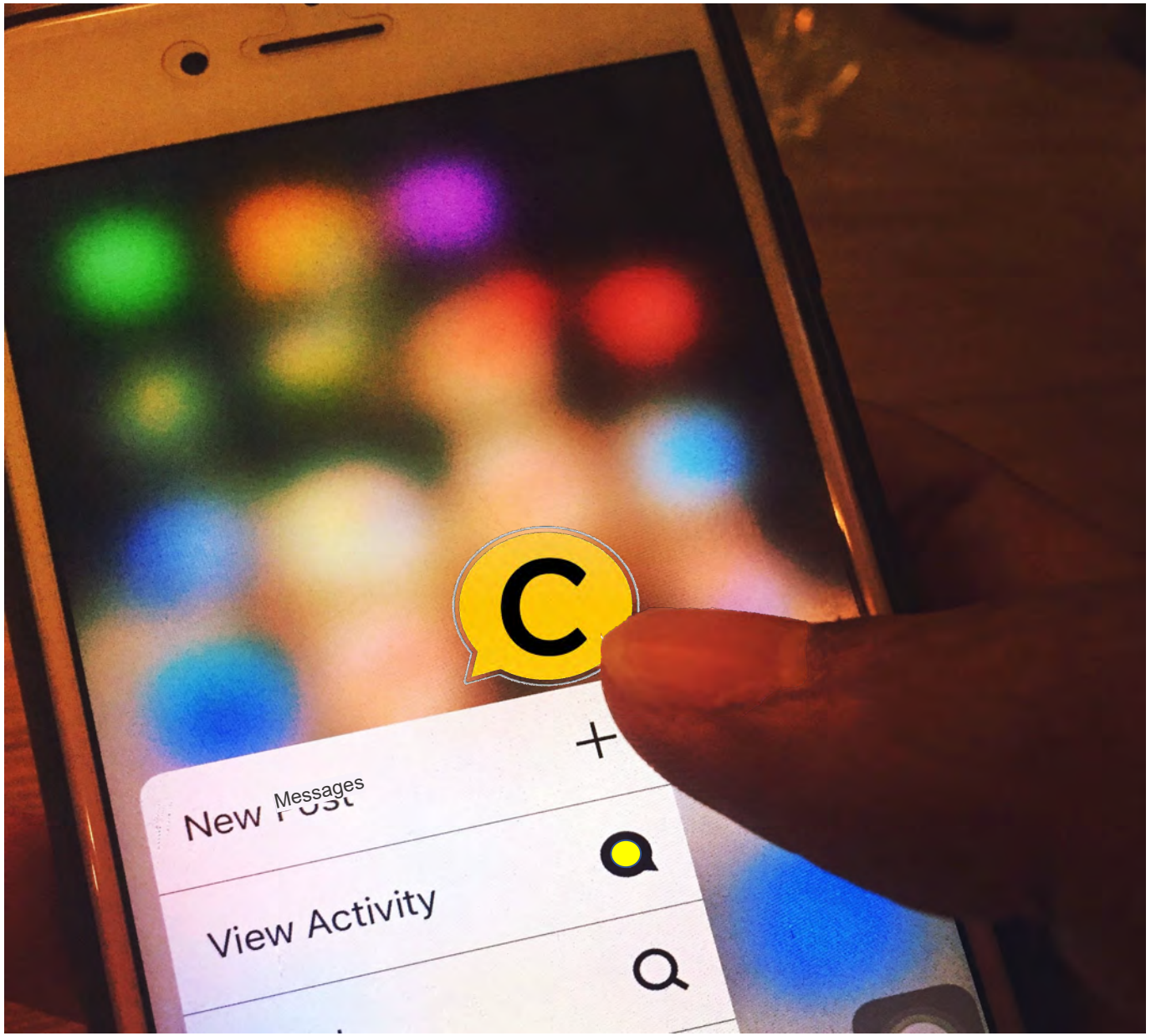
¡Imagina si fuera posible seguir una información!



¡Imagina si fuera posible seguir una información!

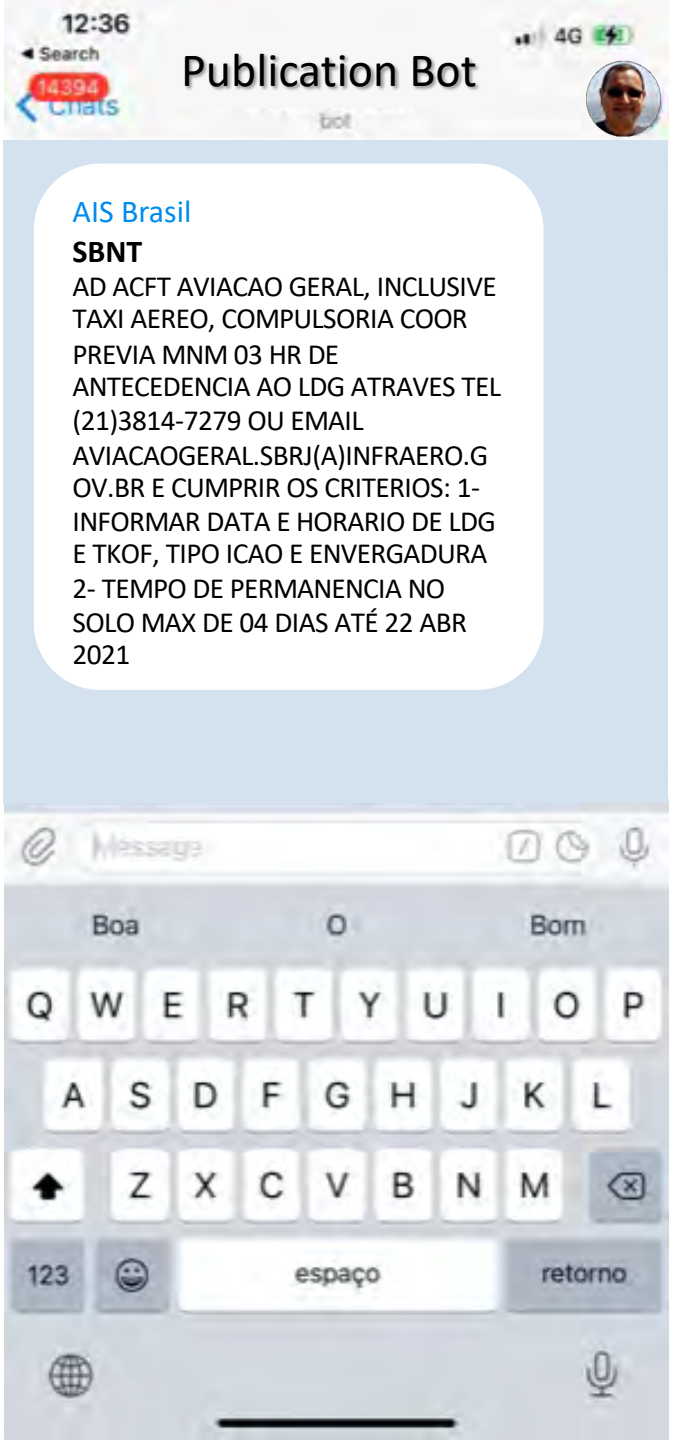
En lugar del interesado ir a la información.

La información es que iría hasta el interesado.



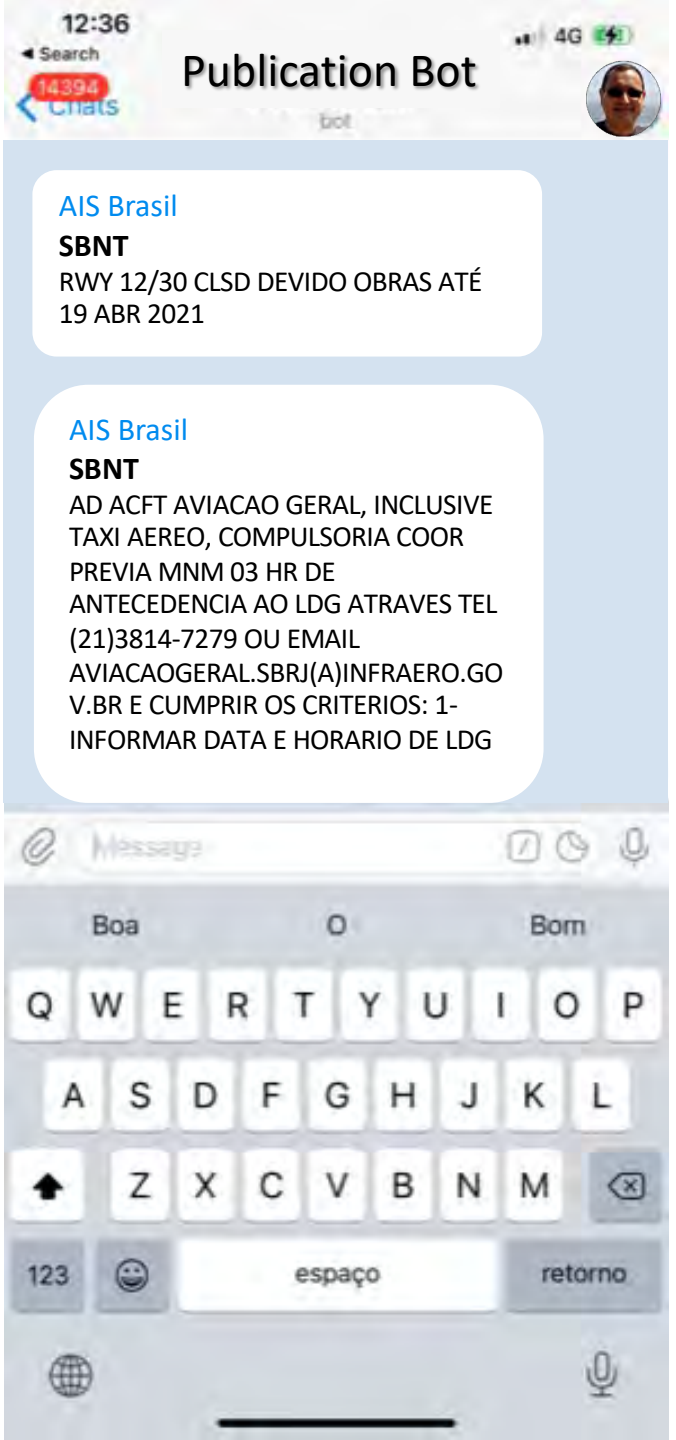
Podríamos seguir a …

- Aeródromos
- Pistas
- Patios
- Aerovías
- Navaids
- Waypoints
- …



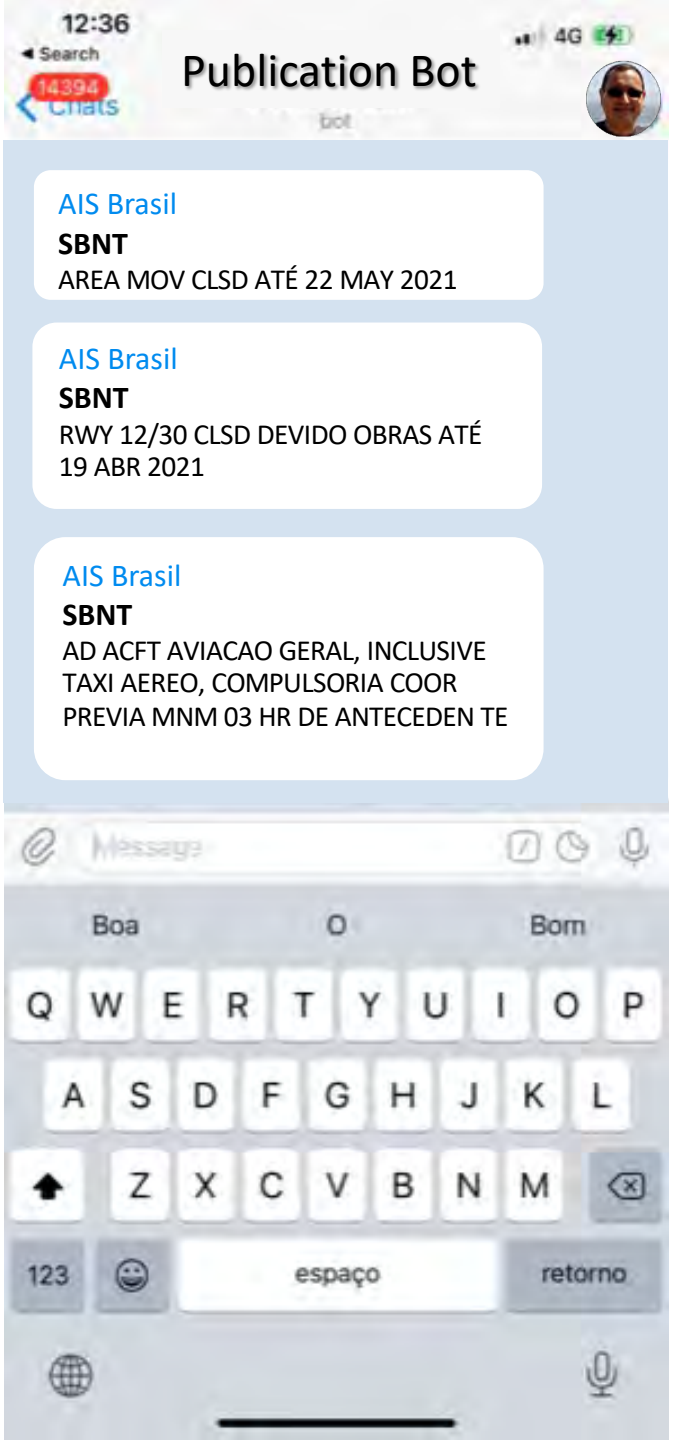
Podríamos seguir a …

- Aeródromos
- Pistas
- Patios
- Aerovías
- Navaids
- Waypoints
- …



Podríamos seguir a …

- Aeródromos
- Pistas
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- Aerovías
- Navaids
- Waypoints
- …



Podríamos seguir a …

- Aeródromos
- Pistas
- Patios
- Aerovías
- Navaids
- Waypoints
- …



Podríamos seguir a …

- Aeródromos
- Pistas
- Patios
- Aerovías
- Navaids
- Waypoints
- …



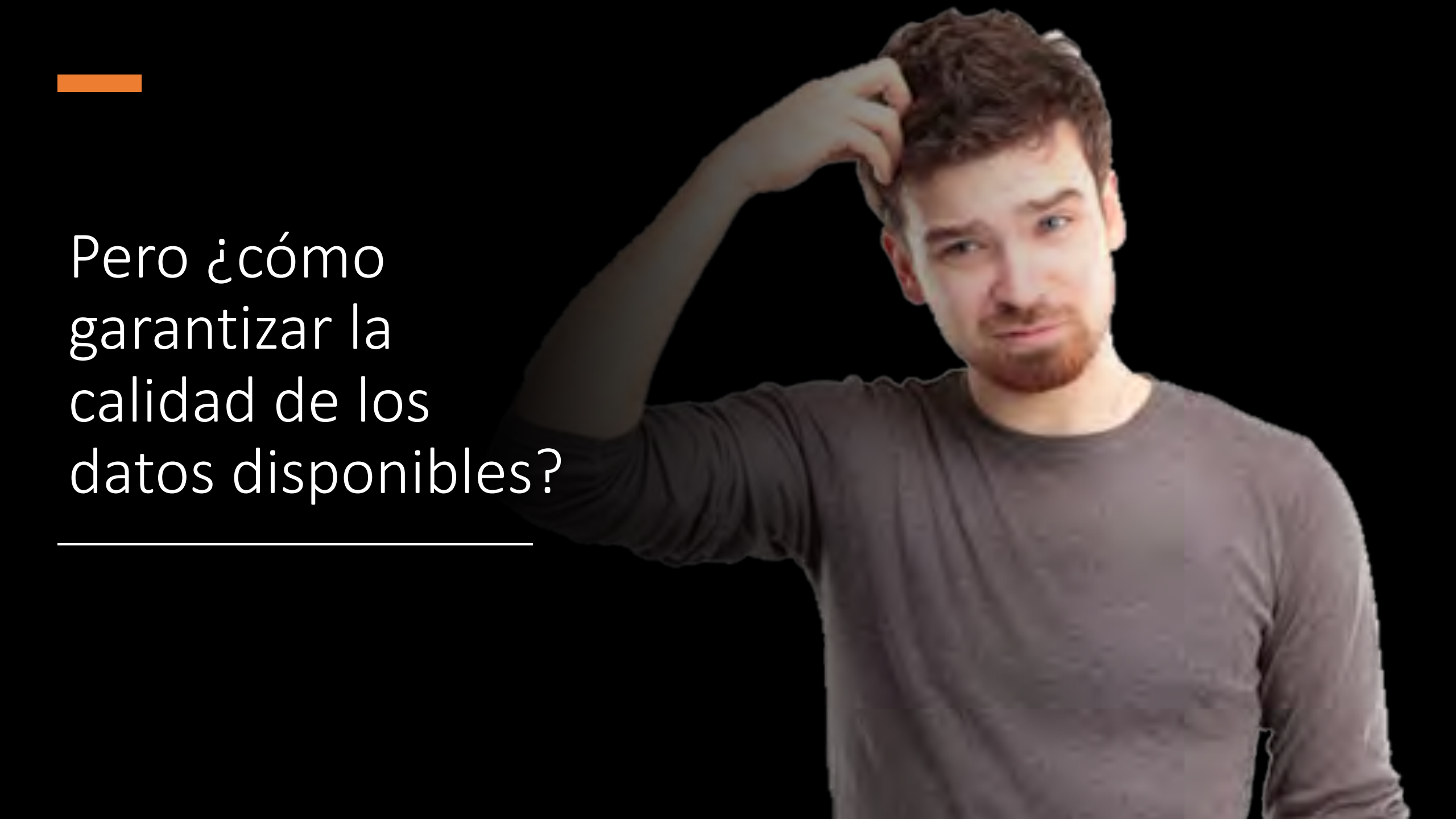
Pero ¿cómo gestionar estas necesidades específicas de información?



Pero ¿cómo gestionar la no conformidad de datos?

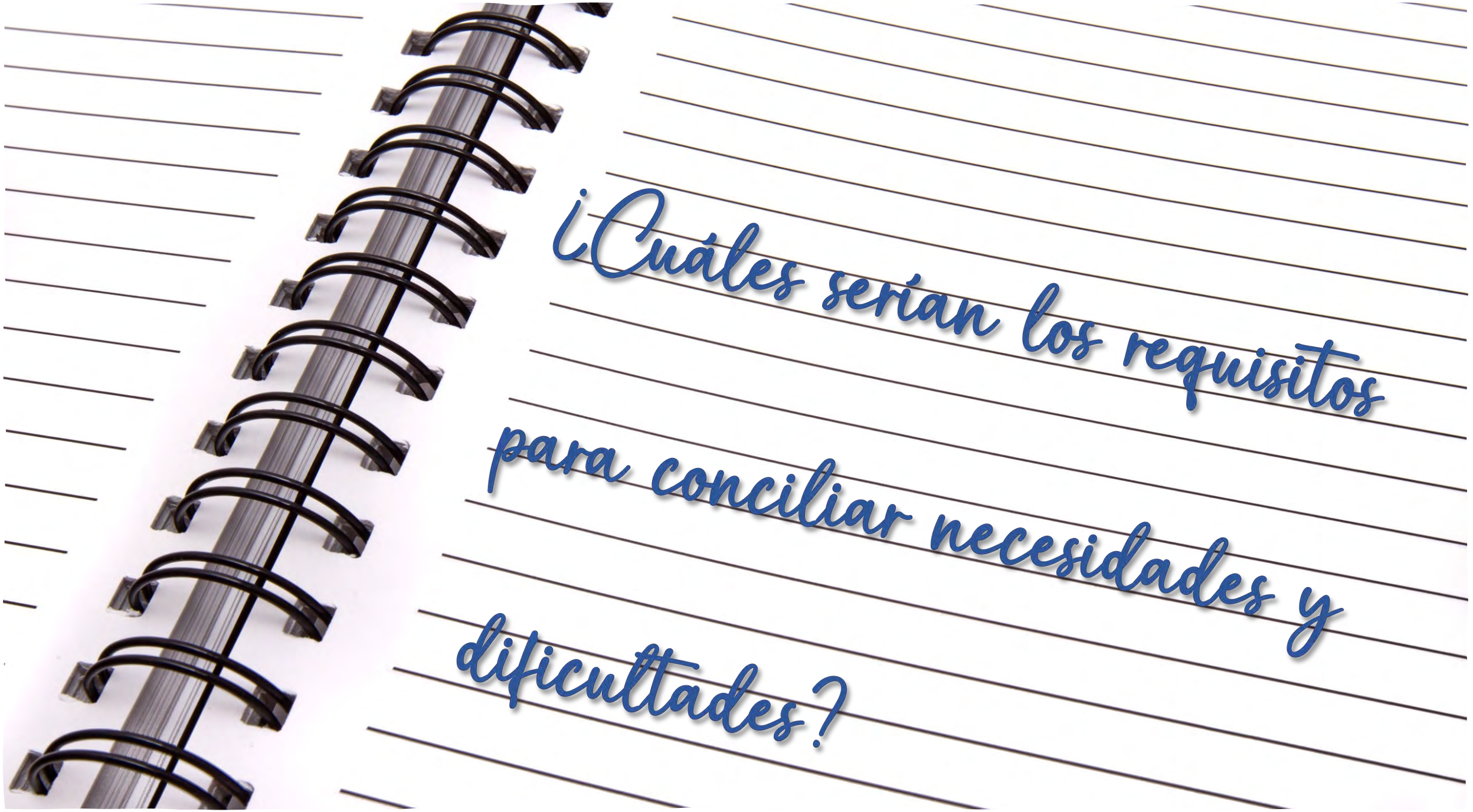


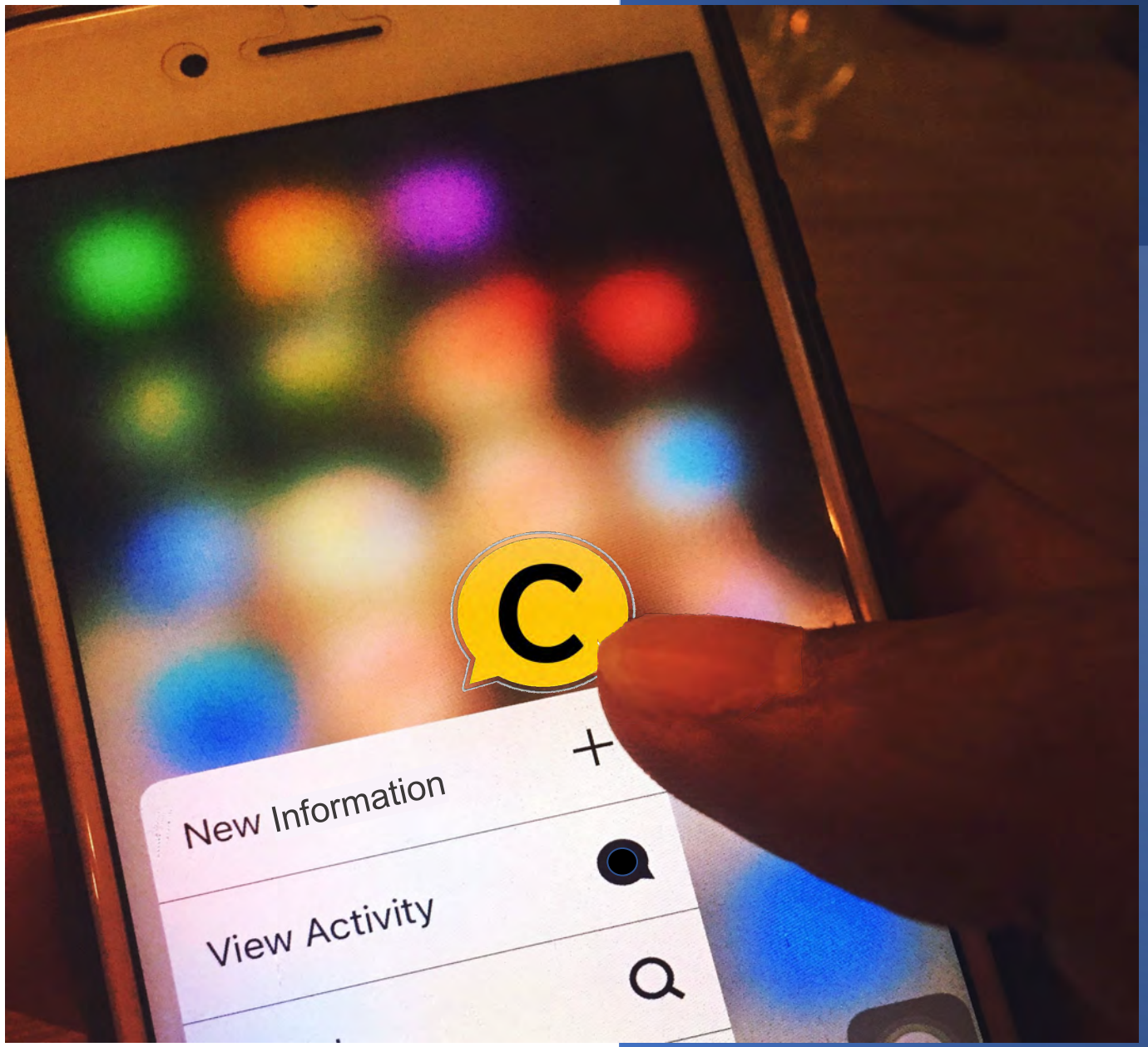
Pero ¿cómo garantizar la calidad de los datos disponibles?





¡Para que esto sea posible, debemos estar unidos en un entorno digital!


¿Cuáles serían los requisitos
para conciliar necesidades y
dificultades?



¿Cómo sería eso posible?

¿Seguir publicando AIP solo en formato papel sería una posibilidad?





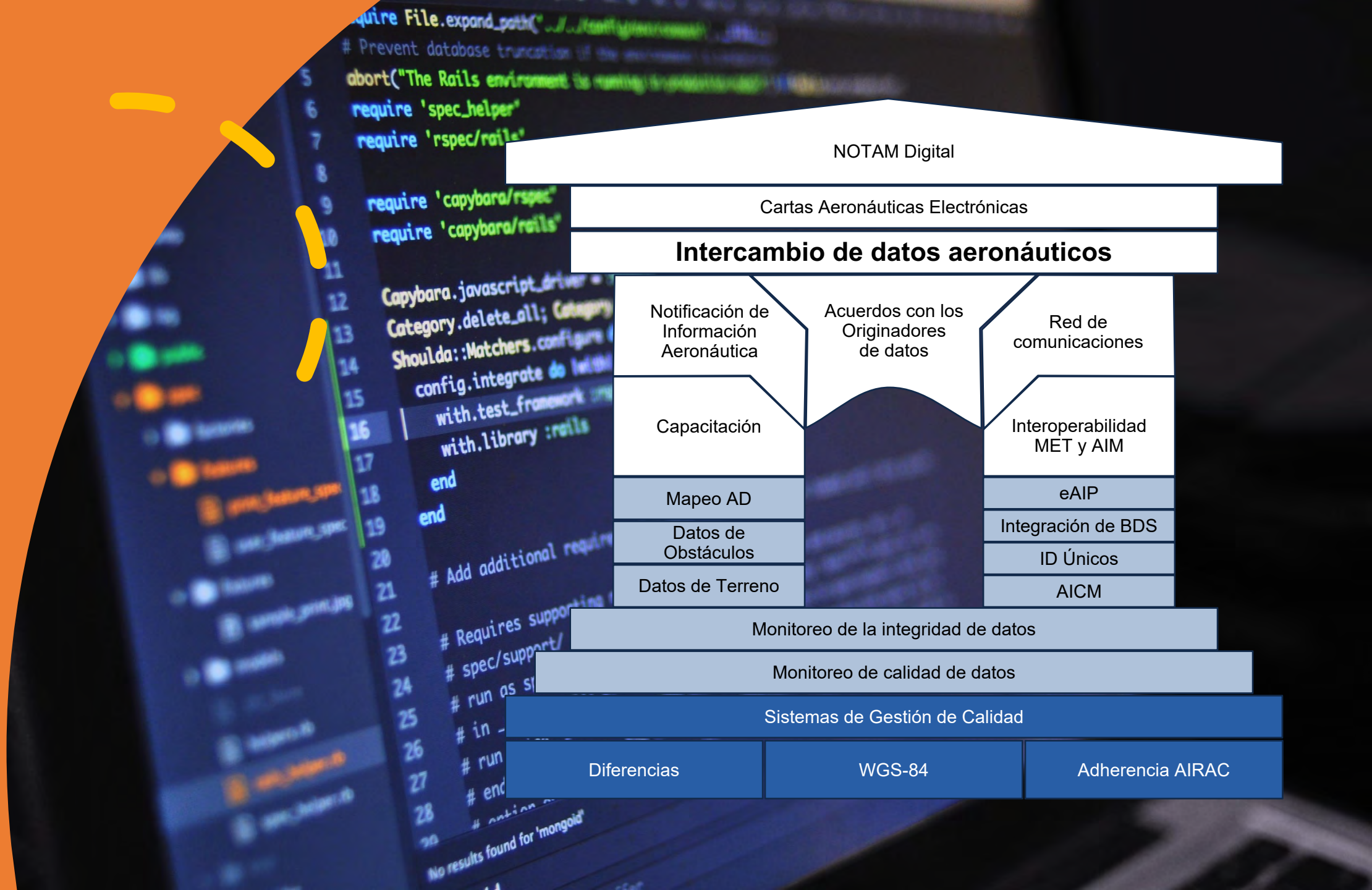
¿Seguir publicando AIP solo en formato PDF?

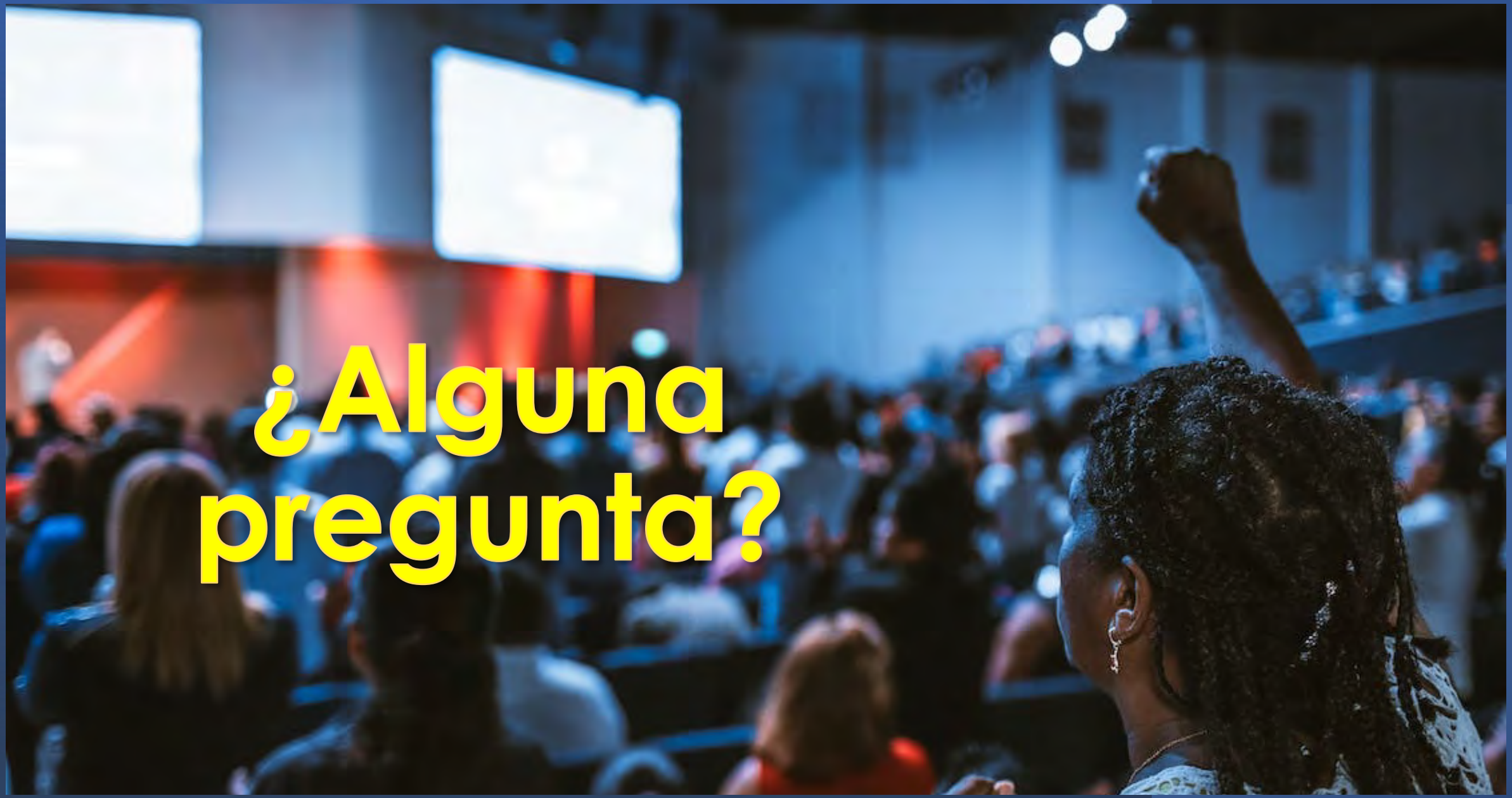


¿Seguir aceptando solicitudes de cambios por medio de papel?


XML AIXM
CSS SVG
UML SQL JSP
IN
EX
CLUIDO

- Digitalización del AIS
- Gestión de los datos
- Estandarización de datos completos
- Garantizar la seguridad cibernética
- Capacitación adecuada y oportuna
- Intercambiando datos digitalmente


NOTAM Digital
Cartas Aeronáuticas Electrónicas
Intercambio de datos aeronáuticos
Notificación de Información Aeronáutica
Acuerdos con los Originadores de datos
Red de comunicaciones
Capacitación
Interoperabilidad MET y AIM
Mapeo AD
Datos de Obstáculos
Datos de Terreno
eAIP
Integración de BDS
ID Únicos
AICM
Monitoreo de la integridad de datos
Monitoreo de calidad de datos
Sistemas de Gestión de Calidad
Diferencias
WGS-84
Adherencia AIRAC


¿Alguna
pregunta?

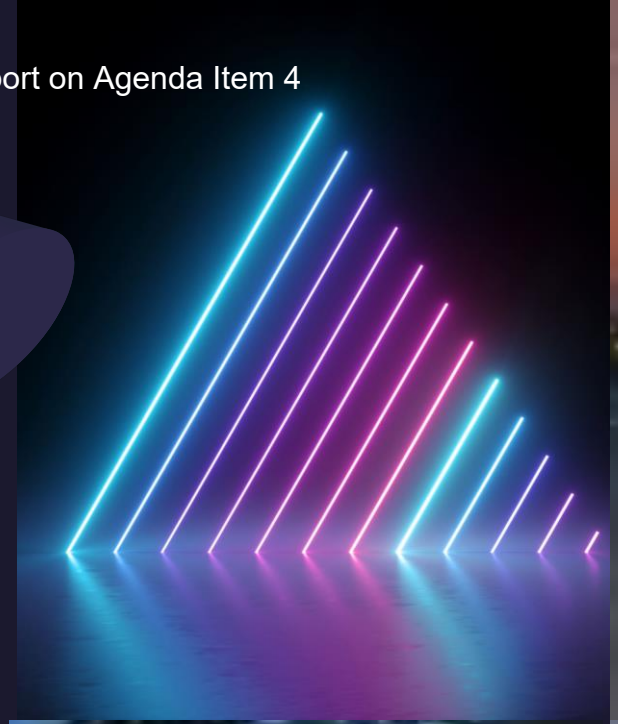


Entonces es solo juntos que llegaremos a un entorno digital seguro y adecuado


NOSSA
FORÇA
PELO ORGULHO
Santos-Dumont
150 ANOS

AVANCE DE IMPLEMENTACIÓN

AIP ELECTRÓNICO-PERÚ









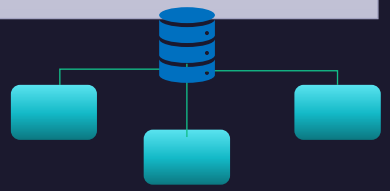
EVOLUCIÓN DE PROCESO DE IMPLEMENTACIÓN DEL SISTEMA PARA EL EAIP CAPACITACIÓN Y CARGA DATOS AÑO 2022

28-02-2022/ 23-03-2022

CAPACITACIÓN
- BASE DATOS
- MOD. PUB
- MOD. CARTAS

28-03-2022/ 19-04-2022

PRUEBAS SAT INTEGRACIÓN BD VS MODULOS PROYECTO SPTN



09-05-2022/ 13-05-2022

TALLER SIIA GECI-IDS

06-2022/ 12-2022

CARGA DATOS SIIA

A.3.6 – Capacitación Operativa – ePUB - Sistema AIM, Perú



EVOLUCIÓN DE PROCESO DE IMPLEMENTACIÓN DEL SISTEMA PARA E-AIP AÑO 2023

01-01-2023

PRODUCTOS PIA ELABORADOS SIIA SUPLEMENTOS AIC

01-01-2023/ 31-07-2023

CARGA DE INFORMACIÓN BASE DATOS MOD. PUB GENERALIDADES EN RUTA AERÓDROMOS INTL

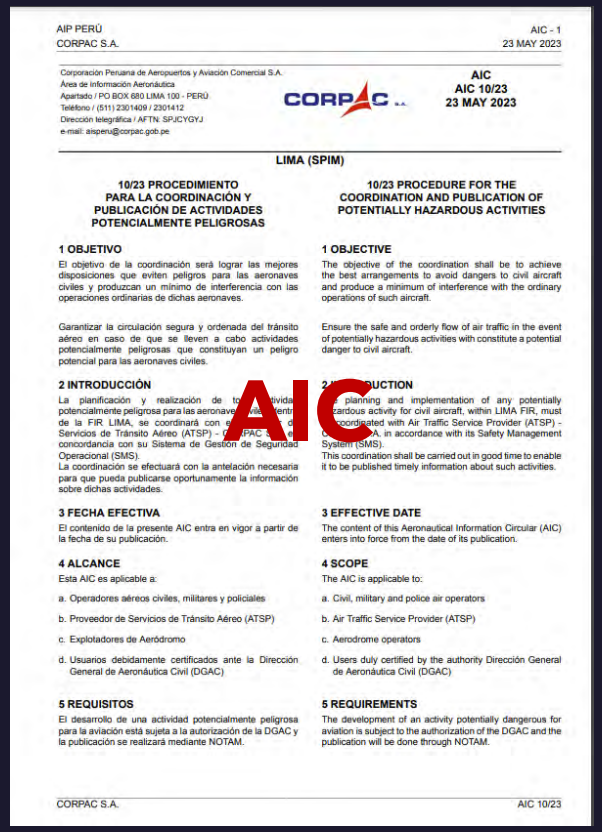
01-08-2022/ 31-12-2023

CARGA DE INFORMACIÓN BASE DATOS MOD. PUB ADERÓDROMOS NACIONALES

15-03-2023/ 31-12-2023

BAJO SGC REVISIÓN DE LA INFORMACIÓN CARGADA A LA FECHA

PRODUCTOS ELABORADOS EN EL SISTEMA AÑO 2023



AIP PERÚ
CORPAC S.A.

AIC - 1
23 MAY 2023

Corporación Peruana de Aeropuertos y Aviación Comercial S.A.
Área de Información Aeronáutica
Apartado / PO BOX 680 LIMA 100 - PERÚ
Teléfono / (511) 2301409 / 2301412
Dirección telegráfica / AFTN: SPJCYGYJ
e-mail: aisperu@corpac.gob.pe

AIC
AIC 10/23
23 MAY 2023

LIMA (SPIM)

10/23 PROCEDIMIENTO PARA LA COORDINACIÓN Y PUBLICACIÓN DE ACTIVIDADES POTENCIALMENTE PELIGROSAS

1 OBJETIVO

El objetivo de la coordinación será lograr las mejores disposiciones que eviten peligros para las aeronaves civiles y produzcan un mínimo de interferencia con las operaciones ordinarias de dichas aeronaves.

Garantizar la circulación segura y ordenada del tránsito aéreo en caso de que se lleven a cabo actividades potencialmente peligrosas que constituyan un peligro potencial para las aeronaves civiles.

2 INTRODUCCIÓN

La planificación y realización de toda actividad potencialmente peligrosa para las aeronaves civiles dentro de la FIR LIMA, se coordinará con el Proveedor de Servicios de Tránsito Aéreo (ATSP) - CORPAC S.A. en concordancia con su Sistema de Gestión de Seguridad Operacional (SMS).
La coordinación se efectuará con la antelación necesaria para que pueda publicarse oportunamente la información sobre dichas actividades.

3 FECHA EFECTIVA

El contenido de la presente AIC entra en vigor a partir de la fecha de su publicación.

4 ALCANCE

Esta AIC es aplicable a:

a. Operadores aéreos civiles, militares y policiales

b. Proveedor de Servicios de Tránsito Aéreo (ATSP)

c. Explotadores de Aeródromo

d. Usuarios debidamente certificados ante la Dirección General de Aeronáutica Civil (DGAC)

5 REQUISITOS

El desarrollo de una actividad potencialmente peligrosa para la aviación está sujeta a la autorización de la DGAC y la publicación se realizará mediante NOTAM.

10/23 PROCEDURE FOR THE COORDINATION AND PUBLICATION OF POTENTIALLY HAZARDOUS ACTIVITIES

1 OBJECTIVE

The objective of the coordination shall be to achieve the best arrangements to avoid dangers to civil aircraft and produce a minimum of interference with the ordinary operations of such aircraft.

Ensure the safe and orderly flow of air traffic in the event of potentially hazardous activities with constitute a potential danger to civil aircraft.

2 INTRODUCTION

The planning and implementation of any potentially hazardous activity for civil aircraft, within LIMA FIR, must be coordinated with Air Traffic Service Provider (ATSP) - CORPAC S.A. in accordance with its Safety Management System (SMS).
This coordination shall be carried out in good time to enable it to be published timely information about such activities.

3 EFFECTIVE DATE

The content of this Aeronautical Information Circular (AIC) enters into force from the date of its publication.

4 SCOPE

The AIC is applicable to:

a. Civil, military and police air operators

b. Air Traffic Service Provider (ATSP)

c. Aerodrome operators

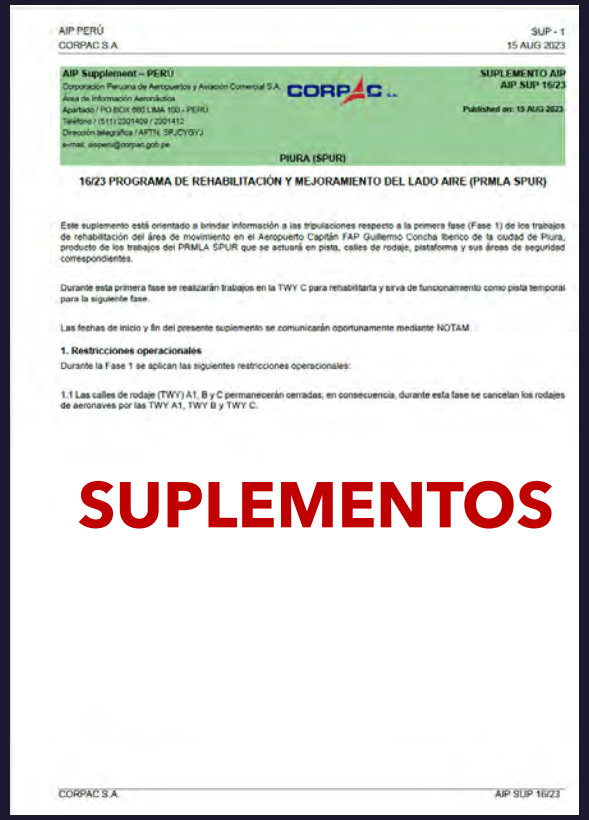
d. Users duly certified by the authority Dirección General de Aeronáutica Civil (DGAC)

5 REQUIREMENTS

The development of an activity potentially dangerous for aviation is subject to the authorization of the DGAC and the publication will be done through NOTAM.

CORPAC S.A. AIC 10/23

AIC



AIP PERÚ
CORPAC S.A.

SUP - 1
15 AUG 2023

AIP Supplement – PERÚ
Corporación Peruana de Aeropuertos y Aviación Comercial S.A.
Área de Información Aeronáutica
Apartado / PO BOX 680 LIMA 100 - PERÚ
Teléfono / (511) 2301409 / 2301412
Dirección telegráfica / AFTN: SPJCYGYJ
e-mail: aisperu@corpac.gob.pe

SUPLEMENTO AIP
AIP SUP 16/23
Published on: 15 AUG 2023

PIURA (SPUR)

16/23 PROGRAMA DE REHABILITACIÓN Y MEJORAMIENTO DEL LADO AIRE (PRMLA SPUR)

Este suplemento está orientado a brindar información a las tripulaciones respecto a la primera fase (Fase 1) de los trabajos de rehabilitación del área de movimiento en el Aeropuerto Capitán FAP Guillermo Concha Iberico de la ciudad de Piura, producto de los trabajos del PRMLA SPUR que se actuará en pista, calles de rodaje, plataforma y sus áreas de seguridad correspondientes.

Durante esta primera fase se realizarán trabajos en la TWY C para rehabilitarla y sirva de funcionamiento como pista temporal para la siguiente fase.

Las fechas de inicio y fin del presente suplemento se comunicarán oportunamente mediante NOTAM.

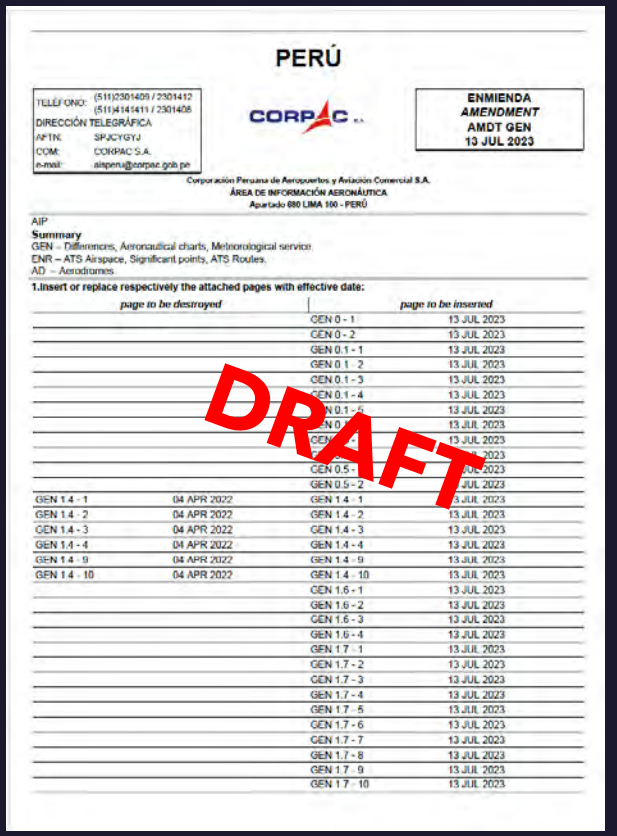
1. Restricciones operacionales

Durante la Fase 1 se aplican las siguientes restricciones operacionales:

1.1 Las calles de rodaje (TWY) A1, B y C permanecerán cerradas, en consecuencia, durante esta fase se cancelan los rodajes de aeronaves por las TWY A1, TWY B y TWY C.

CORPAC S.A. AIP SUP 16/23

SUPLEMENTOS



PERÚ

TELÉFONO: (511)2301409 / 2301412
(511)4141411 / 2301408
DIRECCIÓN TELEGRÁFICA
AFTN: SPJCYGYJ
COM: CORPAC S.A.
e-mail: aisperu@corpac.gob.pe

ENMIENDA
AMENDMENT
AMDT GEN
13 JUL 2023

Corporación Peruana de Aeropuertos y Aviación Comercial S.A.
ÁREA DE INFORMACIÓN AERONÁUTICA
Apartado 680 LIMA 100 - PERÚ

AIP
Summary
GEN – Differences, Aeronautical charts, Meteorological service
ENR – ATS Airspace, Significant points, ATS Routes
AD – Aerodromes

1.Insert or replace respectively the attached pages with effective date:

page to be destroyed		*page to be inserted*	
		GEN 0 - 1	13 JUL 2023
		GEN 0 - 2	13 JUL 2023
		GEN 0.1 - 1	13 JUL 2023
		GEN 0.1 - 2	13 JUL 2023
		GEN 0.1 - 3	13 JUL 2023
		GEN 0.1 - 4	13 JUL 2023
		GEN 0.1 - 5	13 JUL 2023
		GEN 0.4	13 JUL 2023
		GEN	13 JUL 2023
			JUL 2023
		GEN 0.5 -	JUL 2023
		GEN 0.5 - 2	JUL 2023
GEN 1.4 - 1	04 APR 2022	GEN 1.4 - 1	13 JUL 2023
GEN 1.4 - 2	04 APR 2022	GEN 1.4 - 2	13 JUL 2023
GEN 1.4 - 3	04 APR 2022	GEN 1.4 - 3	13 JUL 2023
GEN 1.4 - 4	04 APR 2022	GEN 1.4 - 4	13 JUL 2023
GEN 1.4 - 9	04 APR 2022	GEN 1.4 - 9	13 JUL 2023
GEN 1.4 - 10	04 APR 2022	GEN 1.4 - 10	13 JUL 2023
		GEN 1.6 - 1	13 JUL 2023
		GEN 1.6 - 2	13 JUL 2023
		GEN 1.6 - 3	13 JUL 2023
		GEN 1.6 - 4	13 JUL 2023
		GEN 1.7 - 1	13 JUL 2023
		GEN 1.7 - 2	13 JUL 2023
		GEN 1.7 - 3	13 JUL 2023
		GEN 1.7 - 4	13 JUL 2023
		GEN 1.7 - 5	13 JUL 2023
		GEN 1.7 - 6	13 JUL 2023
		GEN 1.7 - 7	13 JUL 2023
		GEN 1.7 - 8	13 JUL 2023
		GEN 1.7 - 9	13 JUL 2023
		GEN 1.7 - 10	13 JUL 2023

DRAFT

TRABAJOS EN PARALELO

ORIGINADOR DE INFORMACIÓN

INPUTS

INFORMACIÓN AERONÁUTICA

MOD. PUB

AMDT

MOD. CHART

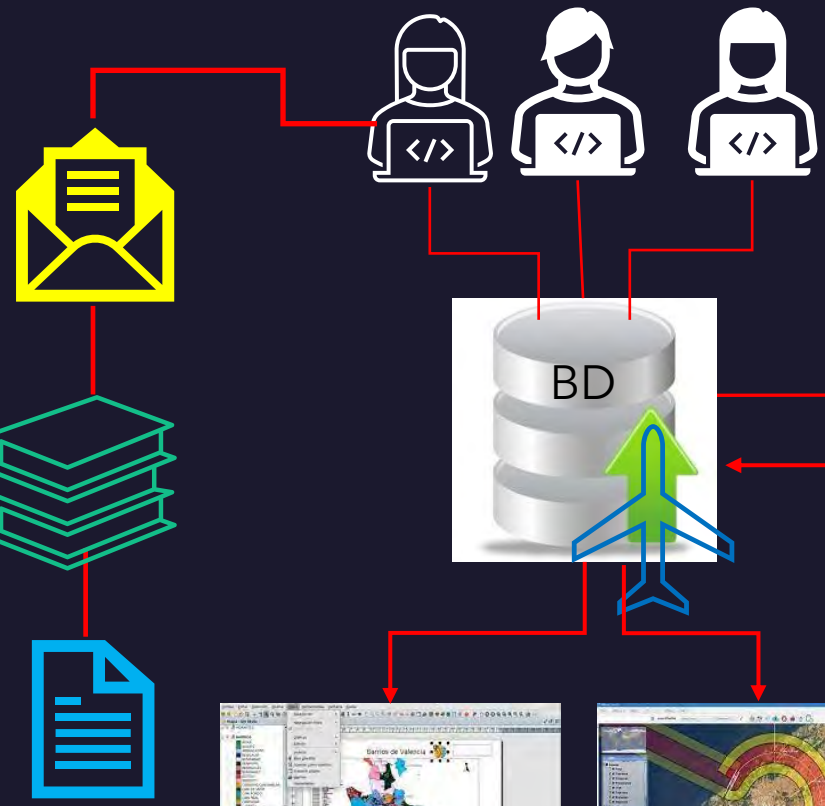
CHART

INFORMACIÓN BD COMPLETA

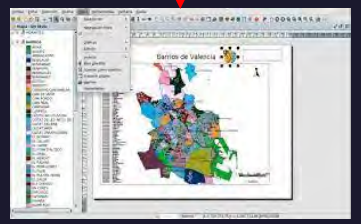
SUPLEMENTOS/ CIRCULARES

CARTOGRAFÍA AERO

PROCEDIMENTO DE TRABAJO

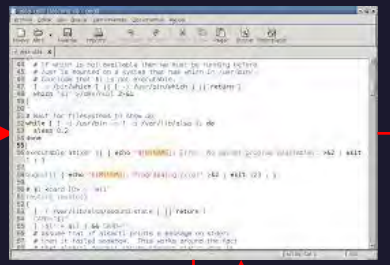


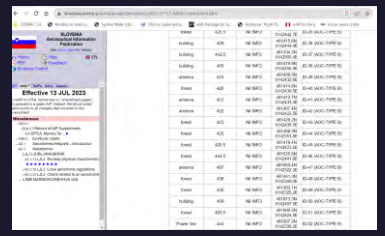


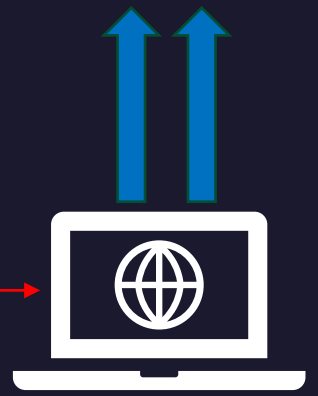


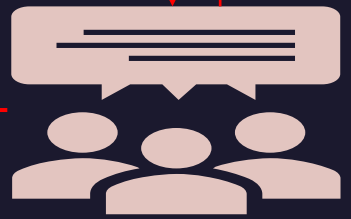


GEN-ENR-AD
AMDT
E-AIP









REVISIÓN DRAFT PRODUCTOS

CARGA DATOS 2023-2024

FASE 1

- **CARGA BASE DE DATOS**
  AERÓDROMOS INTERNACIONALES (11)
- **CARGA MODULO PUBLICACIONES**
  GENERALIDADES –EN RUTA (ES)
  AERÓDROMOS INTL (ES)

FASE 2

- **CARGA BASE DE DATOS**
  AERÓDROMOS NACIONALES (22)
  AD OTROS NACIONALES (58)
  HELIPUERTOS (48)
- **CARGA MODULO PUBLICACIONES**
  AERÓDROMOS NACIONALES (22)
  AD OTROS NACIONALES (58)

FASE 3

- **REVISIÓN DE LA INFORMACIÓN**
  GENERALIDADES –EN RUTA (ES)
  AERÓDROMOS INTL (ES)



PROCESOS DE CARGA DE DATOS SIIA

AIP-PERÚ	BASE DE DATOS	MODULO PUBLICACIONES	REVISIÓN	ACTUALIZACIÓN	DRAFT FINAL
GERERALIDADES		✓	✓	✓	✓
EN RUTA	✓	✓	✓	✓	
AD INTL	✓	✓			
AD NAC	✓	✓			
HELIPUERTOS	✓	✓			

RETOS ENCONTRADOS EN EL PROCESO DE IMPLEMENTACIÓN

- FAMILIARIZACIÓN CON EL SISTEMA
- CAPACITACIÓN
- CARGA DE DATOS OBSERVACIONES



GRACIAS

REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

AUTORIDAD AERONÁUTICA CIVIL

PLAN DE IMPLEMENTACIÓN DE DNA/CNV



IMPLANTACIÓN SWIN



REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

AUTORIDAD AERONÁUTICA CIVIL

Normativa

Los compromisos internacionales, son adquiridos como integrantes plenos de la Organización de la Aviación Civil Internacional; la responsabilidad del Estado Panameño es administrar su espacio aéreo, asegurando las operaciones mediante la provisión efectiva de los servicios aeronáuticos continuos y confiables de acuerdo, a las normas y procedimientos aprobados.

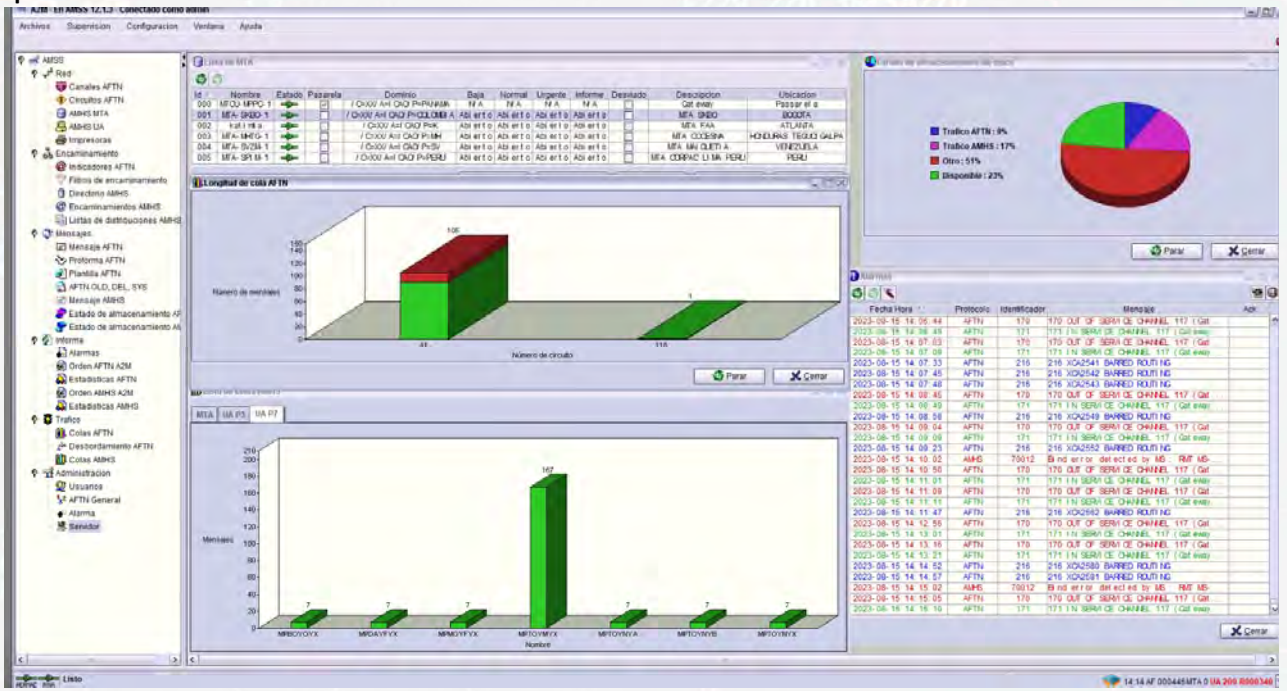
REPÚBLICA DE PANAMÁ
— GOBIERNO NACIONAL —

AUTORIDAD
AERONÁUTICA CIVIL

Antecedentes

Contamos con un sistema Thales adquirido en el 2014

- Sistema AMHS
- AIXM 4.5
- eAIP (actualización)



Actualidad

Se realizó el proceso de solicitud de información (SDI), para las empresas, de igual manera elaboramos el pliego de cargos, estamos en la espera de aprobación del presupuesto para la compra del nuevo sistema



REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

AUTORIDAD AERONÁUTICA CIVIL

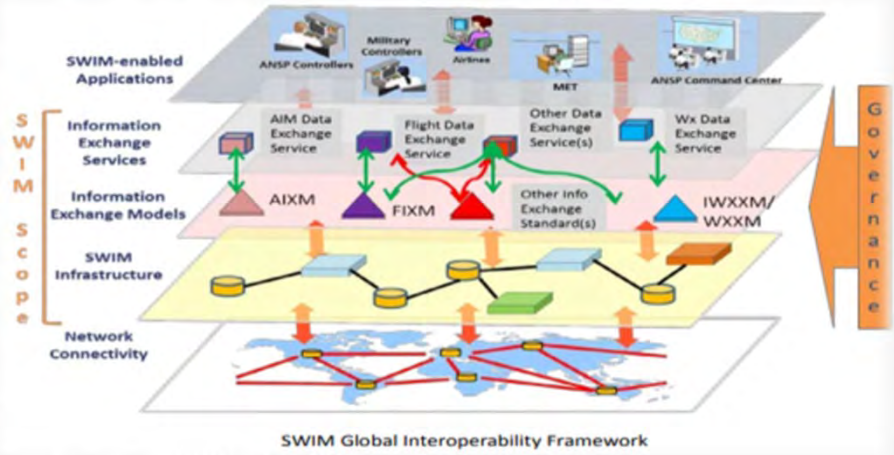
Alcance del proyecto:



- Servicio ATM
- Servicio MET
- Sistema AMHS
- Sistema AIM
- Tod

Tecnología :

- ✓ AIXM 5.1
- ✓ FIXM 4.0
- ✓ IWXXM 3.0

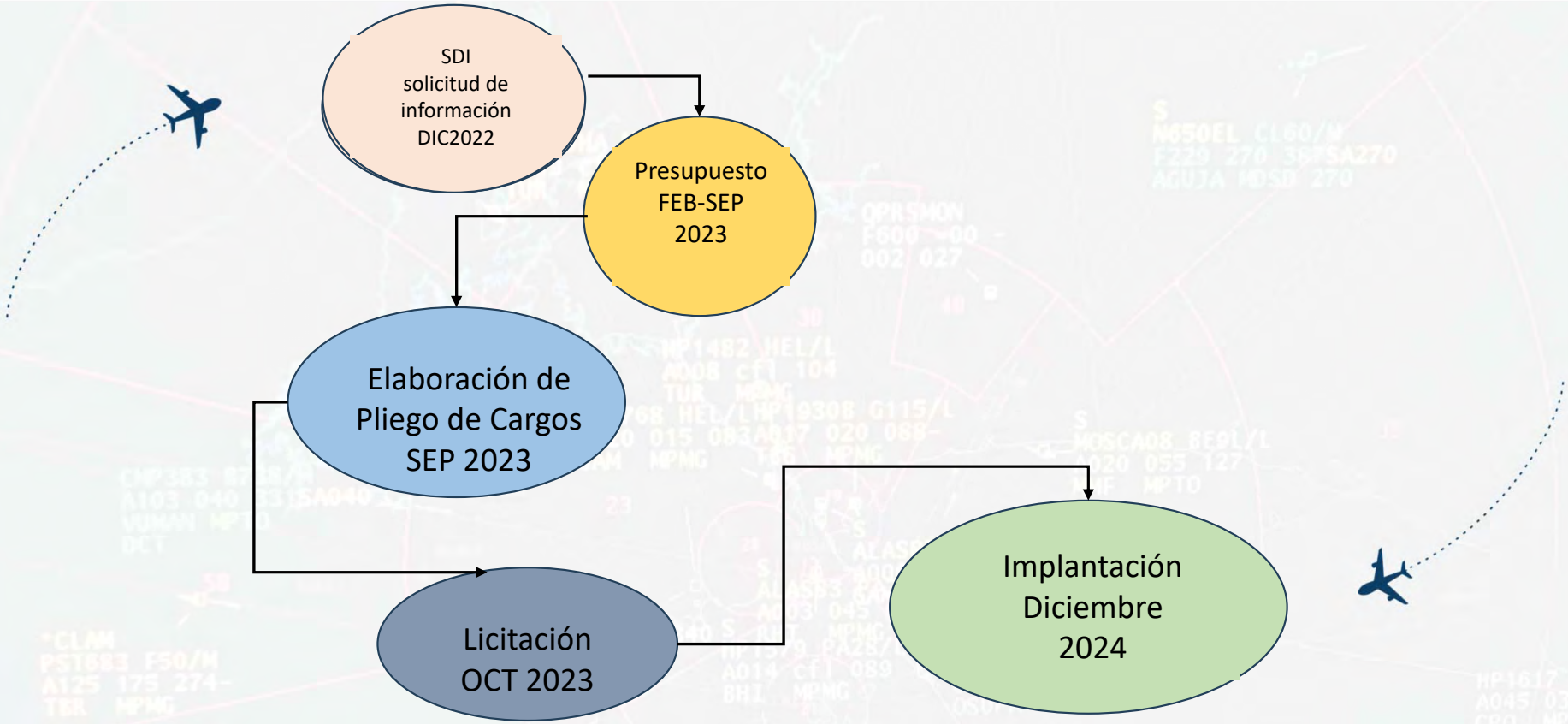


SWIM Global Interoperability Framework

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PROYECCIÓN



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AVANCES

CENTRO DE DATOS PANAMÁ

MNMG
/C=XX/A=ICAO/P=MN/ MTA-MHTG-1 Nicaragua
MSLP
/C=XX/A=ICAO/P=MS/ MTA-MHTG-1
El Salvador
MRSJ
/C=XX/A=ICAO/P=MR/ MTA-MHTG-1 Costa Rica
MGGT
/C=XX/A=ICAO/P=MG/ MTA-MHTG-1
Guatemala
MHTG
/C=XX/A=ICAO/P=MH/ MTA-MHTG-1 Honduras
MZBZ
/C=XX/A=ICAO/P=MZ/ MTA-MHTG-1 Belice

PERU /C=XX/A=ICAO/P=PERU/ MTA-SPIM-1 LIMA PERU
CHILE /C=XX/A=ICAO/P=SC/ MTA-SPIM-1 Santiago
ARGENTINA /C=XX/A=ICAO/P=SA/ MTA-SPIM-1 Argentina
BRAZIL /C=XX/A=ICAO/P=SB/ MTA-SPIM-1 Brazil
ECUADOR /C=XX/A=ICAO/P=ECUADOR/ MTA-SPIM-1 Ecuador
URUGUAY /C=XX/A=ICAO/P=URUGUAY/ MTA-SPIM-1 Montevideo
BOLIVIA /C=XX/A=ICAO/P=BOLIVIA/ MTA-SPIM-1 La Paz
SGAS /C=XX/A=ICAO/P=SG/ MTA-SPIM-1 Paraguay

VENEZUELA
/C=XX/A=ICAO/P=SV/ MTA-SVZM-1 Venezuela
SOCA /C=XX/A=ICAO/P= FRENCH GUIANA/ MTA-SVZM-1 Guyana Francesa
SMJP
/C=XX/A=ICAO/P=SURINAME/ MTA-SVZM-1 Suriname
SYCJ
/C=XX/A=ICAO/P=GUYANA/ MTA-SVZM-1 Guyana
EUROPA
/C=XX/A=ICAO/P=EUROPE/ MTA-SVZM-1 EUROPE

ATLANTA KATL

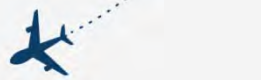
la Región NAMCAR (Norte América y el Caribe), la región APAC (Asia Pacífico) y África

REPÚBLICA DE PANAMÁ
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AUTORIDAD AERONÁUTICA CIVIL

Conclusión

Siendo la seguridad, eficiencia y confiabilidad para los usuarios del transporte aéreo, la meta más importante para la Autoridad Aeronáutica Civil de Panamá; Mantenemos el compromiso de proporcionar todos los medios necesarios, para brindar el mejor de los Servicios de Navegación Aérea.



AERONÁUTICA CIVIL
UNIDAD ADMINISTRATIVA ESPECIAL

Sistema de Información Aeronáutica AIM, en cumplimiento de la norma OACI “Hoja de ruta para la transición de AIS a AIM”

OBJETO

La UAEAC requiere completar la parte dinámica del Sistema De Información Aeronáutica AIM con la adquisición, instalación y puesta en funcionamiento de los módulos de eTOD (Cartografía y gestión de datos), sistema de auditoria y monitoreo (**Workflow Management System**) y los módulos dinámicos (Módulo Banco NOTAM+NOTAM digital, Módulo Boletín Previo al vuelo PIB, Módulo OPMET, FPL/e-FPL), para establecer un sistema Integrado estático/dinámico y dar cumplimiento de la norma OACI “Hoja de ruta para la transición de AIS a AIM”

ALCANCE

Proveer a la UAEAC de Colombia (UAEAC) sistemas aeronáuticos automatizados orientados a satisfacer las necesidades los requerimientos operacionales y tecnológicas, con el fin de continuar con la transición de los Servicios de Información Aeronáutica (AIS) a la Gestión de Información Aeronáutica (AIM), como lo establece el PNA.

NECESIDAD

La UAEAC tiene la necesidad de que la Gestión Datos Aeronáuticos, flujo de trabajo y publicación de datos aeronáuticos estáticos y dinámicos se distribuya de manera rápida y con una alta calidad de los datos contribuyendo una a mejorar la seguridad aerea, aumentando la eficiencia y la rentabilidad para todos los usuarios de la información aeronáutica.

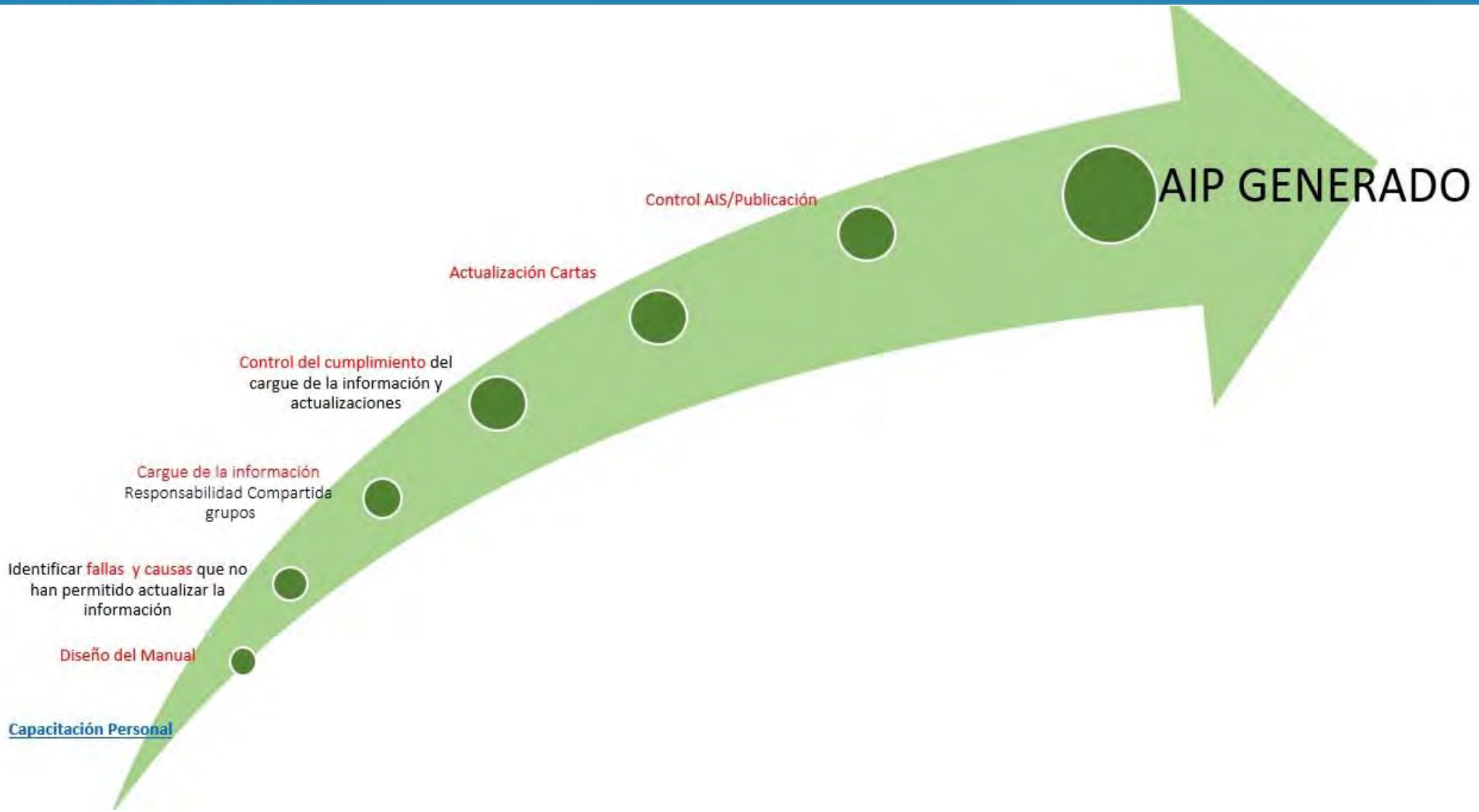
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PLANEACION ENTREGABLES

- **ETAPA 1: Entregable:** Diseño del Sistema, Planificación de detalle
-
- **ETAPA 2: Entregable:** Suministro SW/HW instalación, migración inicial, pruebas SAT
-
- **ETAPA 3: Entregable: Capacitación, OJT, salida en vivo del sistema**

- **ETAPA 4: Entregables:** Soporte a toda la solución, mantenimiento preventivo, mantenimiento correctivo actualizaciones y mejoras de SW y HW.

- **ETAPA 5: Entregables:** Soporte a toda la solución, mantenimiento preventivo, mantenimiento correctivo actualizaciones y mejoras de SW y HW. **Duración:** 240 días a partir de la firma del contrato.


AIP GENERADO
Control AIS/Publicación
Actualización Cartas
Control del cumplimiento del cargue de la información y actualizaciones
Cargue de la información
Responsabilidad Compartida grupos
Identificar fallas y causas que no han permitido actualizar la información
Diseño del Manual
Capacitación Personal

TRANSICIÓN DEL AIS AL AIM

Hoja de Ruta para la Transición de los AIS a la AIM

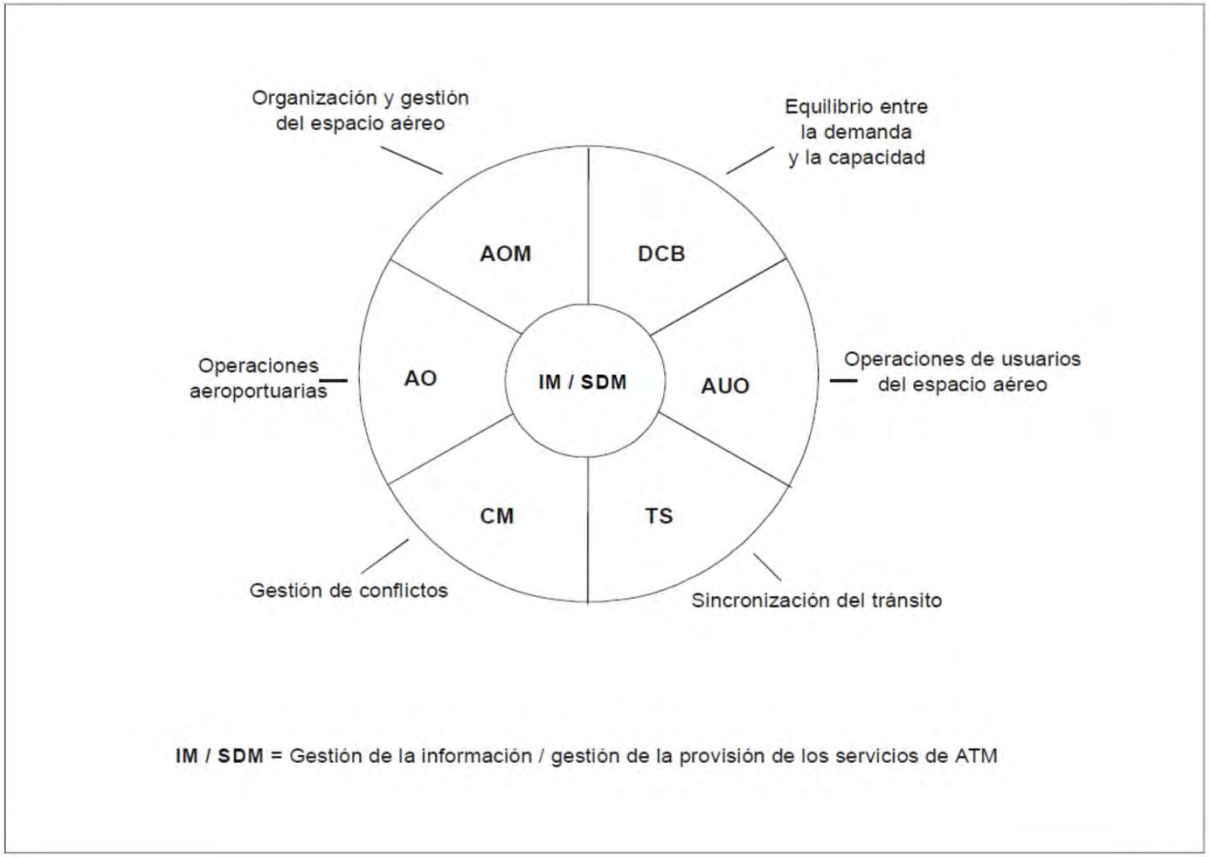
ANTECEDENTES

- Plan Mundial de Navegación Aérea- 5ta. Edición 2016
- Hoja de Ruta para la Transición de los AIS a la AIM, OACI 2009
- Doc. 4444 ATM/501 2007
- GPI-18:Información aeronáutica
- GPI-20: WGS-84



- ✓ **ATM integrado e interfuncional.**
- ✓ **ATM flexible**
- ✓ **Mayor poder de decisión.**
- ✓ **Seguridad operacional.**

CONCEPTO OPERACIONAL



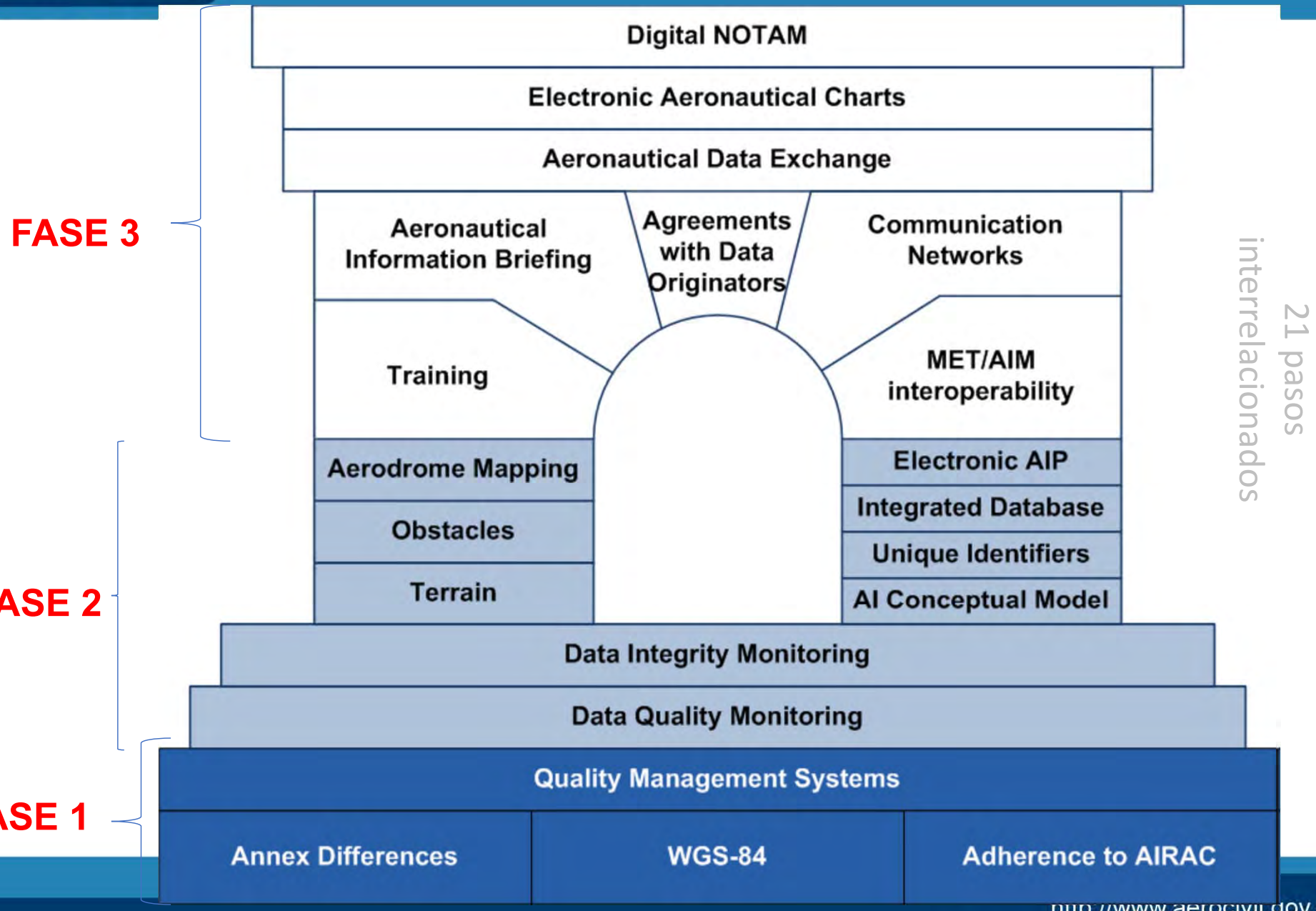
- Conceptos interrelacionados
- Describe una visión de los beneficios alcanzables.
- La información, en un contexto global, enlaza todos los componentes.
- La palabra clave: CDM

Transición del AIS al AIM

- Concepto más amplio.
- Los sistemas de navegación presentes y futuros, así como otros sistemas de gestión del tránsito aéreo, dependen de la transferencia de datos.
- Avance tecnológico.

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Hoja de Ruta de Transición del AIS al AIM



21 pasos interrelacionados

Hoja de Ruta de Transición del AIS al AIM
FASES

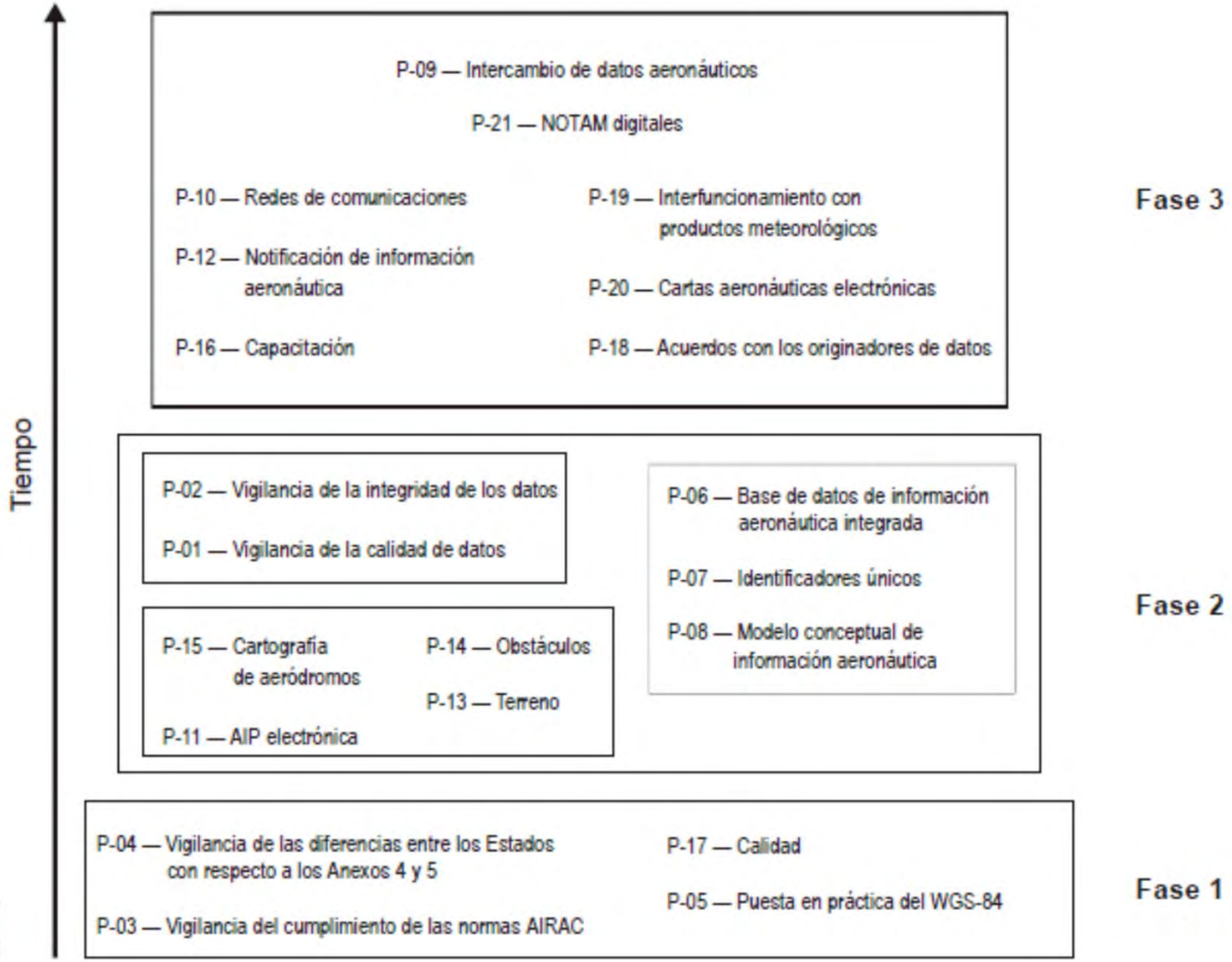
Primera Fase → Consolidación

Segunda Fase → Entorno digital

Tercera Fase → Gestión de la Información

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Colocación de los 21 pasos de la Hoja de Ruta en las tres fases



Evolución actual del AIM

Entorno Papel		Entorno Digital
• **AIP**	→	**e-AIP**
• **NOTAM**	→	**NOTAM Digital**
• **Cartas**	→	**Cartas Aeronáuticas Electrónicas**

AERONÁUTICA CIVIL
UNIDAD ADMINISTRATIVA ESPECIAL

Evolución actual del AIM
Información Aeronáutica Dinámica

La información aeronáutica dinámica, está compuesta por toda aquella información que es variable en un corto periodo de tiempo tales como condiciones meteorológicas, novedades en aeropuertos o radioayudas, boletines previos al vuelo e información de planes de vuelo de las aeronaves.

- ✓ **NOTAM Digital**
- ✓ **PIB**
- ✓ **FPL**
- ✓ **OPMET**
- ✓ **E-AIP**
- ✓ **E-TOD**

BENEFICIOS DEL AIM

- La rapidez, precisión, y eficiencia de los servicios de información aeronáutica.
- Rentabilidad.
- Se evita una duplicación de la información.
- Amigable con el medio ambiente.

INFORMACIÓN SWIM DOMINIOS Y BASE DE DATOS

AIXM: Información aeronáutica.
FIXM: Información de vuelo.
WXXM: Información Meteorológica.
AMXM: Información de aeropuerto

Impact of Digitization on AIS services

Ed VanZandt

15 August, 2023

State's Responsibility

"Ensure that aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation is made available ***in a form suitable for the operational requirements*** of the air traffic management (ATM) community"

ICAO PANS-OPS Annex 15

Aeronautical Digital Data Sets



AIP (ref PANS-AIM 5.2.1.1.3 -- e.g., NAVAIDs, FIR, ATS Routes, etc.)



Terrain



Obstacles



Aerodrome Mapping



Instrument Flight Procedures

Interoperability

Interoperability in AIM refers to the ability of different systems, applications, and organizations involved in the aviation industry to **seamlessly exchange** and **use** aeronautical information.



Interoperability

- Standards and Regulations
- Data Exchange Format/Model (citing AIXM)
- Communication protocols
- Systems Integration (FIXM, WIIXM…)
- Metadata management (provide a common vocabulary)
- Data Quality Validation
- Collaboration and Cooperation



How to validate?

One option *(for AIXM 5.1 and 5.1.1 only)*:

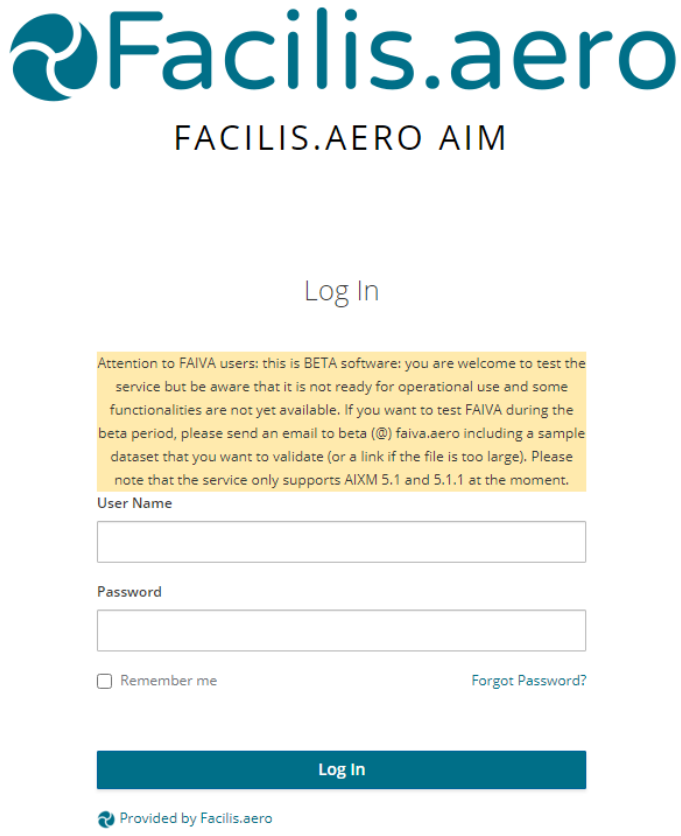
https://faiva.aero

Before validation:

1. Create a free user account
2. Verify your email address
3. Login
4. Maximum file size 1 GB

Why the need to login?

- Maintains a history of previous validations
- System security



Data Quality, Validity, and Completeness

Paper Products

Electronic Versions of the Paper Products (.pdf, et. al.)

Data-Based Products (AIXM, SWIM) → Greater Automation

Garbage In = Garbage Out

SWIM/ASBU requires **completeness** of data

¡Gracias!

Obrigado!

Thank you!

Questions?



Know the World, Show the Way … from Seabed to Space


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Impacto de la Automatización en AIM

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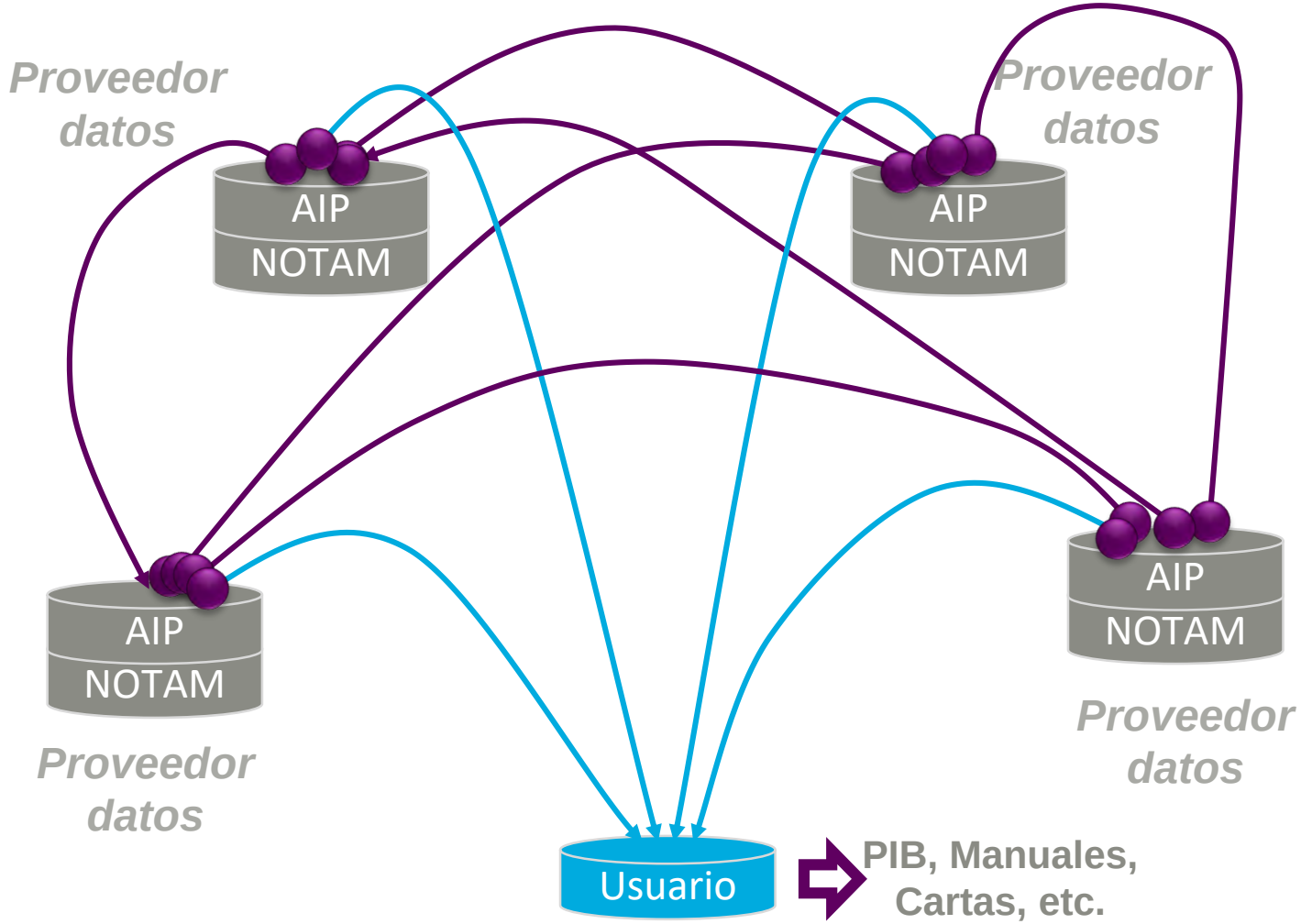
TRANSICION

De EAD a AIS-AIM a SWIM




EAD
AIS TO AIM
AIM
SWIM
?
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Érase una vez en Información Aeronáutica...



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DE AIS A AIM

AIS

Productos Estandarizado

Papel, AFTN, AMHS



AIM

Servicios de Datos

SOA, WFS, WMS

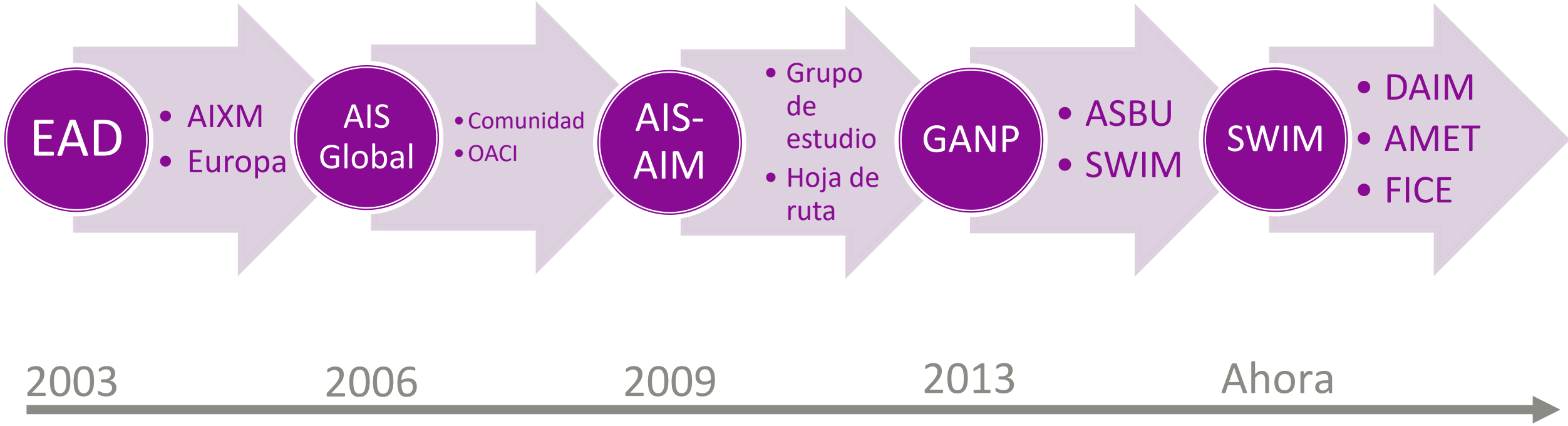


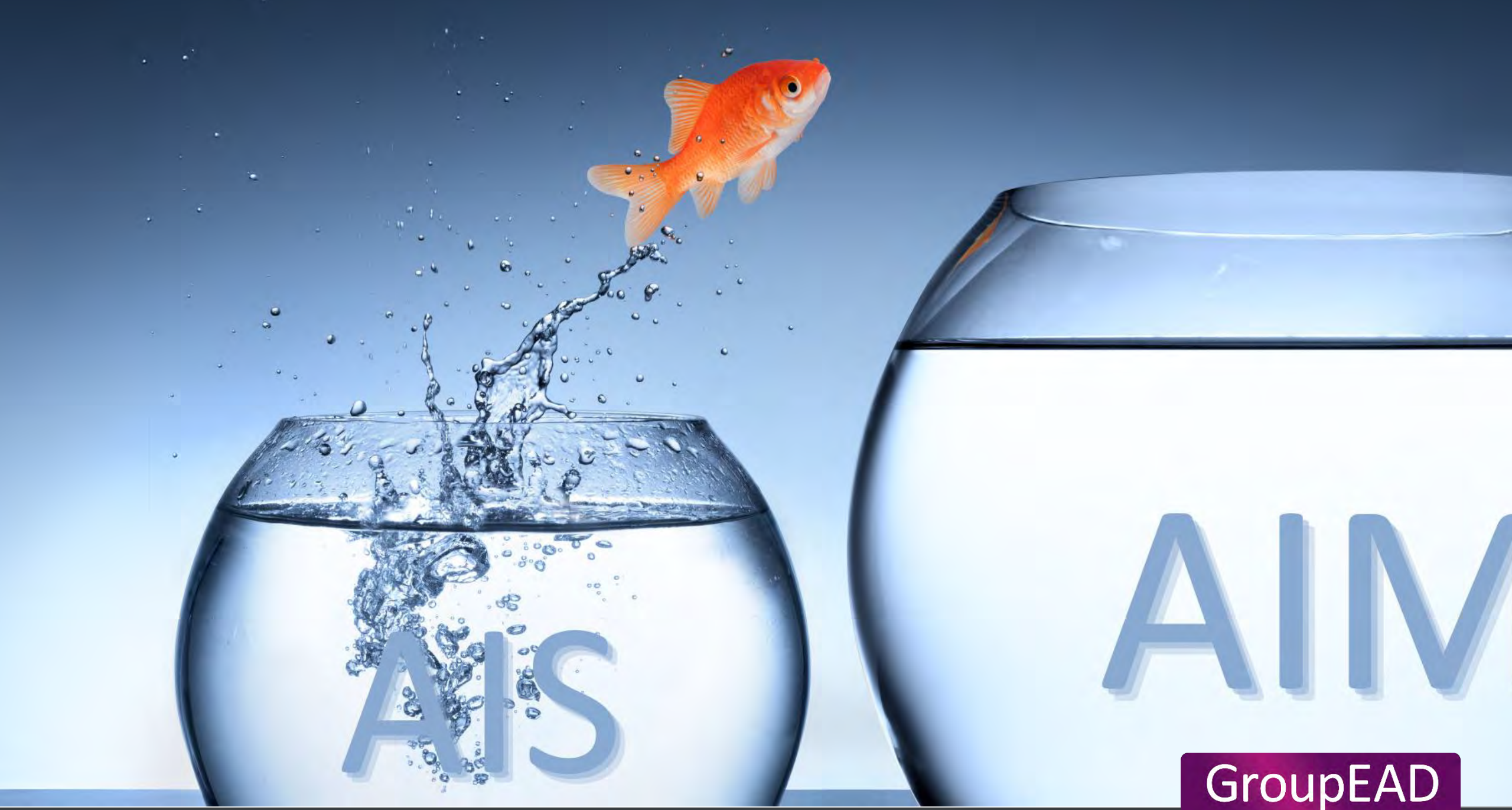
De centrado en el producto a centrado en los datos





De “EAD” a “AIS to AIM” a “AIM” a “SWIM”





GroupEAD



El efecto AIXM

GroupEAD



THE AIXM EFFECT

THE AIXM EFFECT
THE AIXM EFFECT


How AIXM will
replace change the
AIM staff
<AIXMBasicMessage...
READY?
GroupEAD

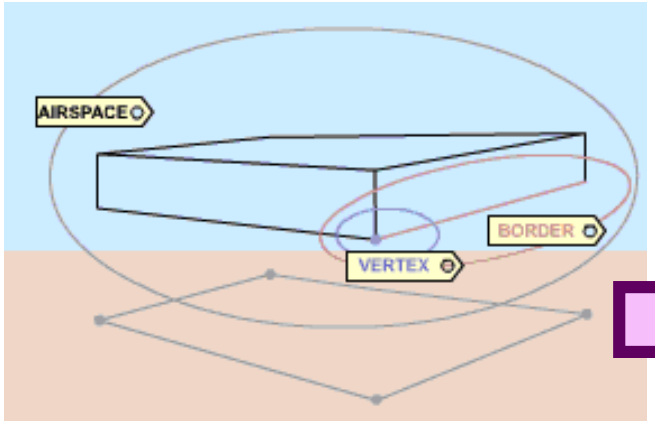
¿Qué es AIXM?

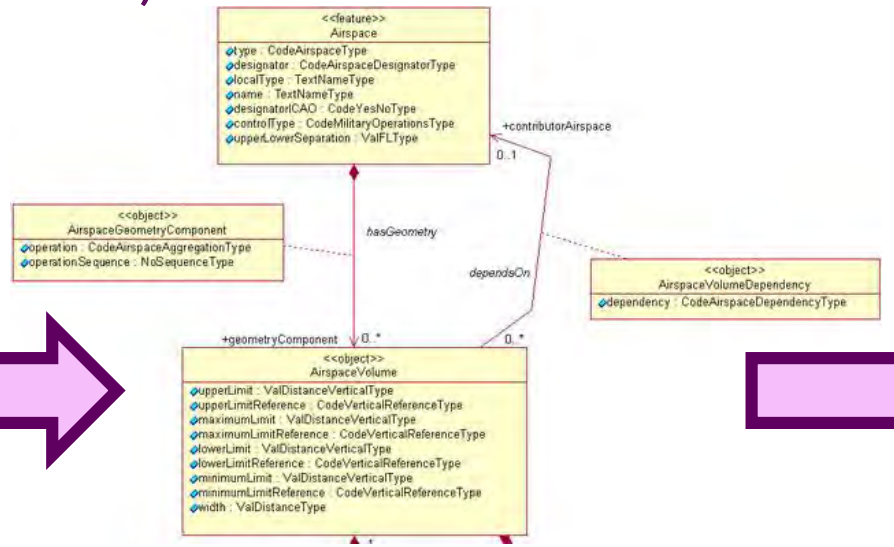
Un modelo de datos

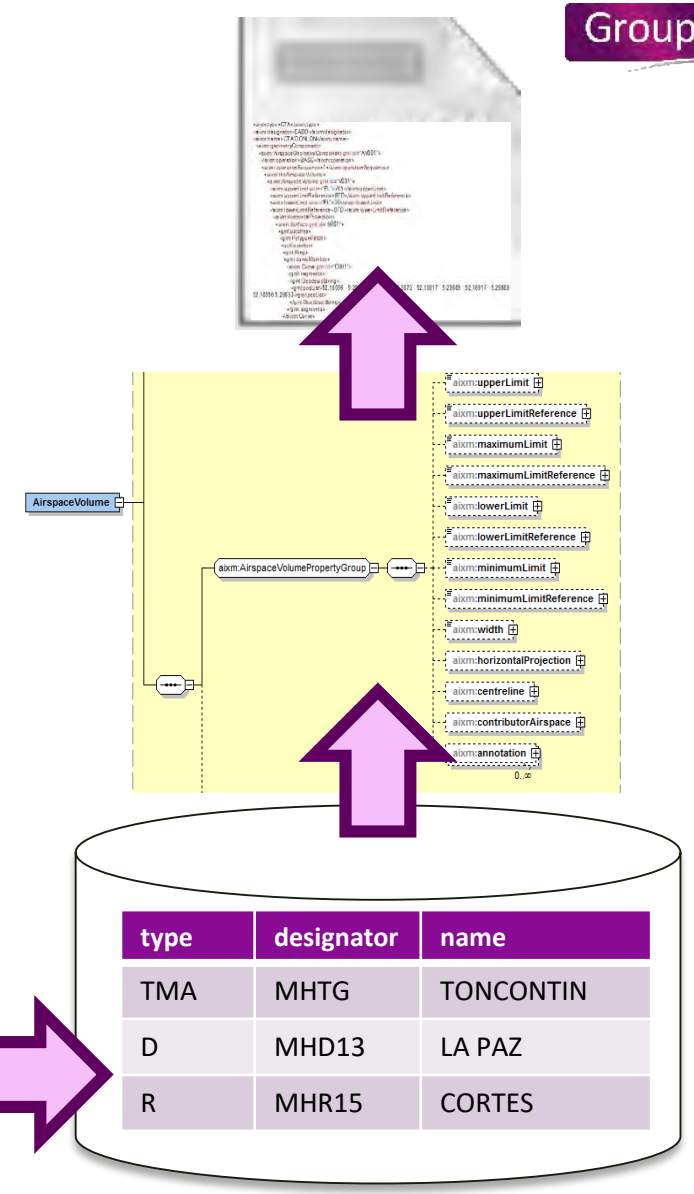
- Representación abstracta del mundo real (diagramas UML)
- Base de una base de datos

Un intercambio de datos

- Utiliza un esquema XML/GML
- Proporciona estructura a los mensajes

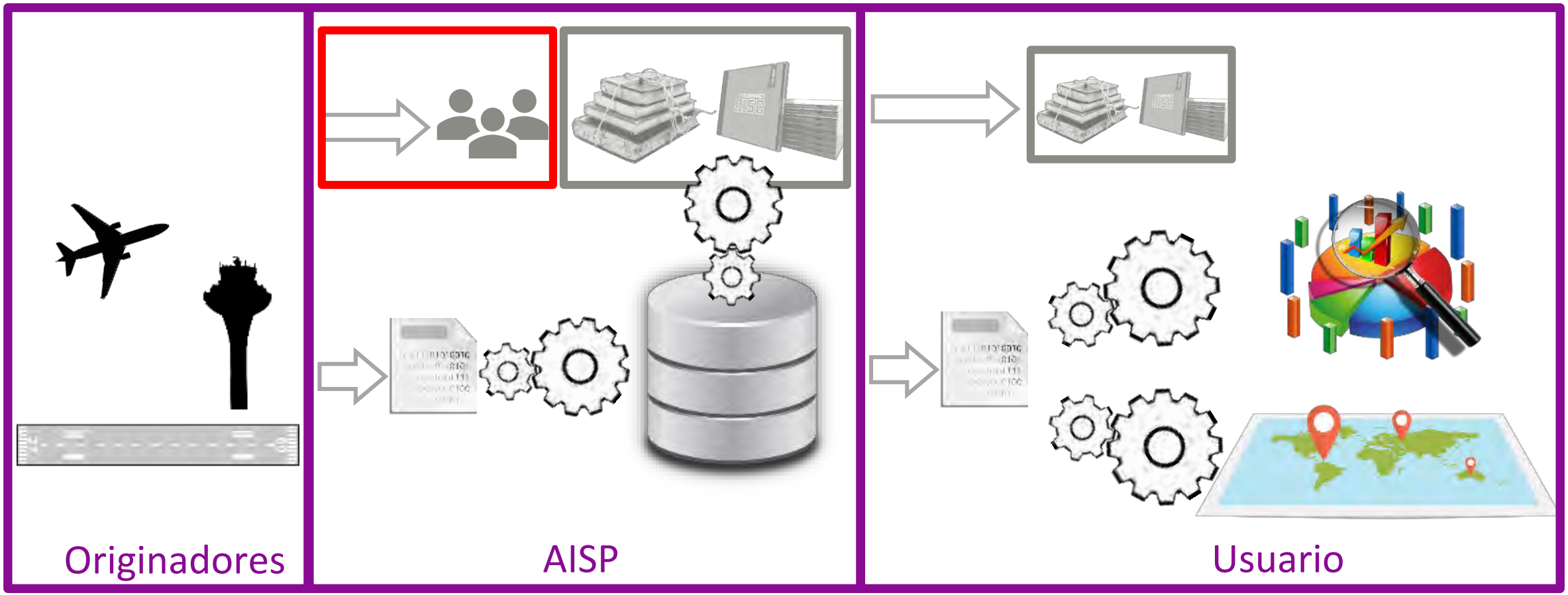






type	designator	name
TMA	MHTG	TONCONTIN
D	MHD13	LA PAZ
R	MHR15	CORTES

Flujo de Trabajo AIS/AIM



¿Debería preocuparme por AIXM?

- AIXM es el futuro estándar para el intercambio de información
- AIXM mejora la calidad, puntualidad y seguridad de la información
- AIXM es para AIM



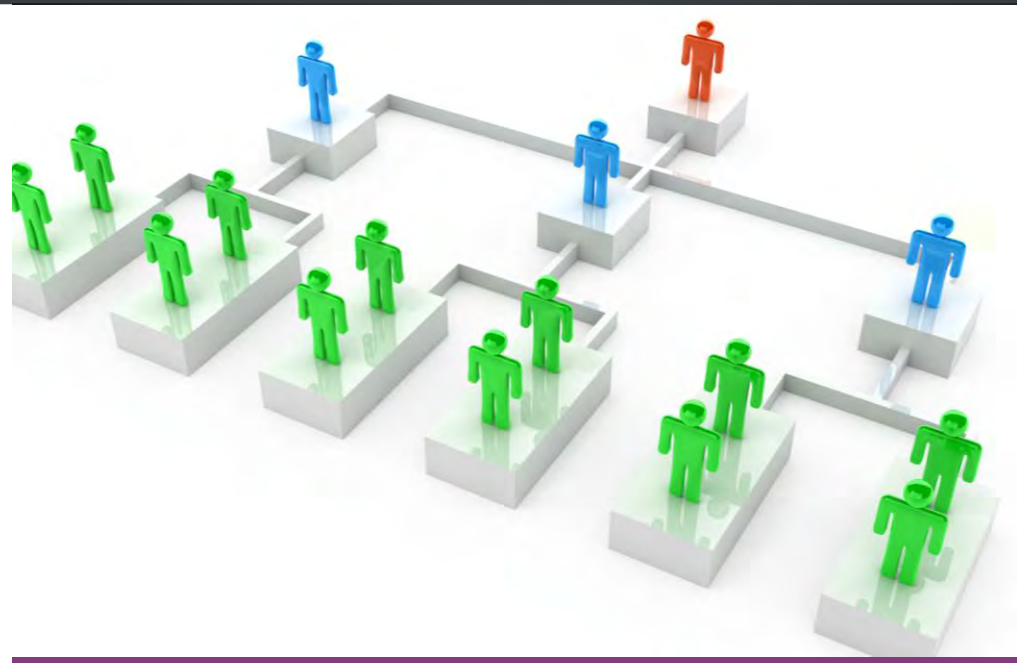
AIXM
Por y para AIM



Impacto de la Automatización en AIM

Personal de AIM

- Perfil actualizado
  - Impulsado por la tecnología
  - Tolerancia de cambio
- Nuevas habilidades y conocimientos
  - Sistemas AIM
  - Entorno SWIM
- Nuevos roles o puestos de trabajo
  - Procesamiento de datos
  - Verificación y validación de datos
  - Desarrollador de productos de dato

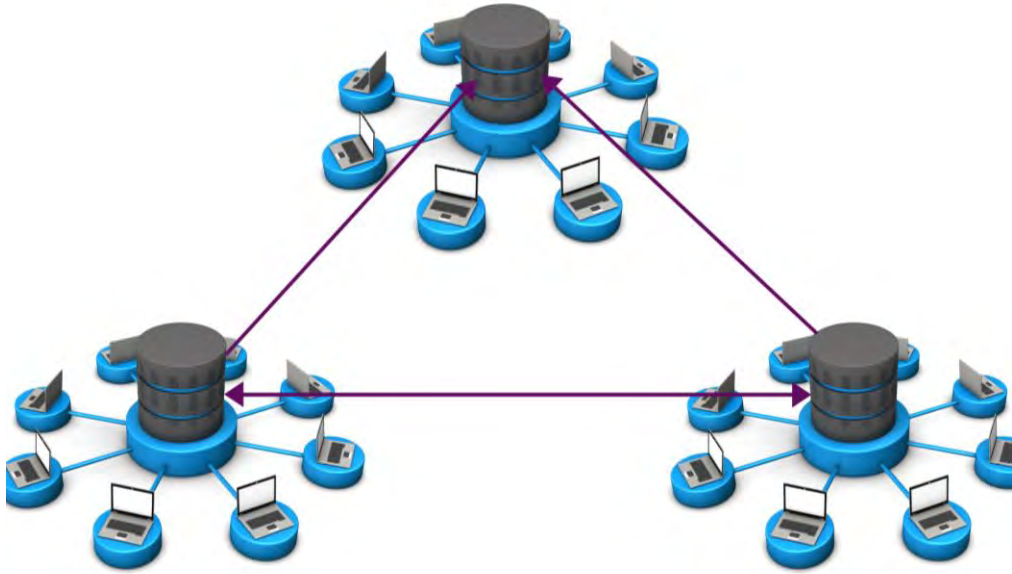


Personal AIM

Orientado a los datos

Herramientas AIM

- Nuevos sistemas
  - Herramientas de flujo de trabajo
  - Sistema AIM centralizado
  - AIP/eAIP
  - Cartas
  - P&D
  - Validación NOTAM
  - FP y soporte informativo
  - Productos digitales
- Integración con otros sistemas
  - Aeropuertos
  - ATM
  - SWIM



Herramientas AIM

Centralizadas e Integradas

Productos y servicios AIM

- Nuevos productos
  - Gráficos electrónicos
  - iPIB
- Nuevos servicios de datos
  - eFB
  - AIXM - Servicios SWIM
  - Servicios WFS y WMS
  - KML
  - Servicios de datos ATM
  - Servicios de datos de vuelo



By [illegible] https://commons.wikimedia.org/w/index.php?curid=32401363

Productos AIM

Electronicos y Accesibles


DATA
EDIT
HELP
3D
2D
1 : 21,316,136
TIME FILTER
MAP LAYERS
Grid
EA EADD OBS DS AREA 2 3 4 FULL 20191205
EA AIP DS FULL 20170701
Background
OBJECT PROPERTIES
60°
50°
40°
-070°
-060°
-050°
-040°
-030°
-020°
-010°
000°
HEXAGON
55°32'57", -010°46'52", -8280.92 ft
500 km
GroupEAD
CLEAR ALL MESSA

Abrazar la Automatización

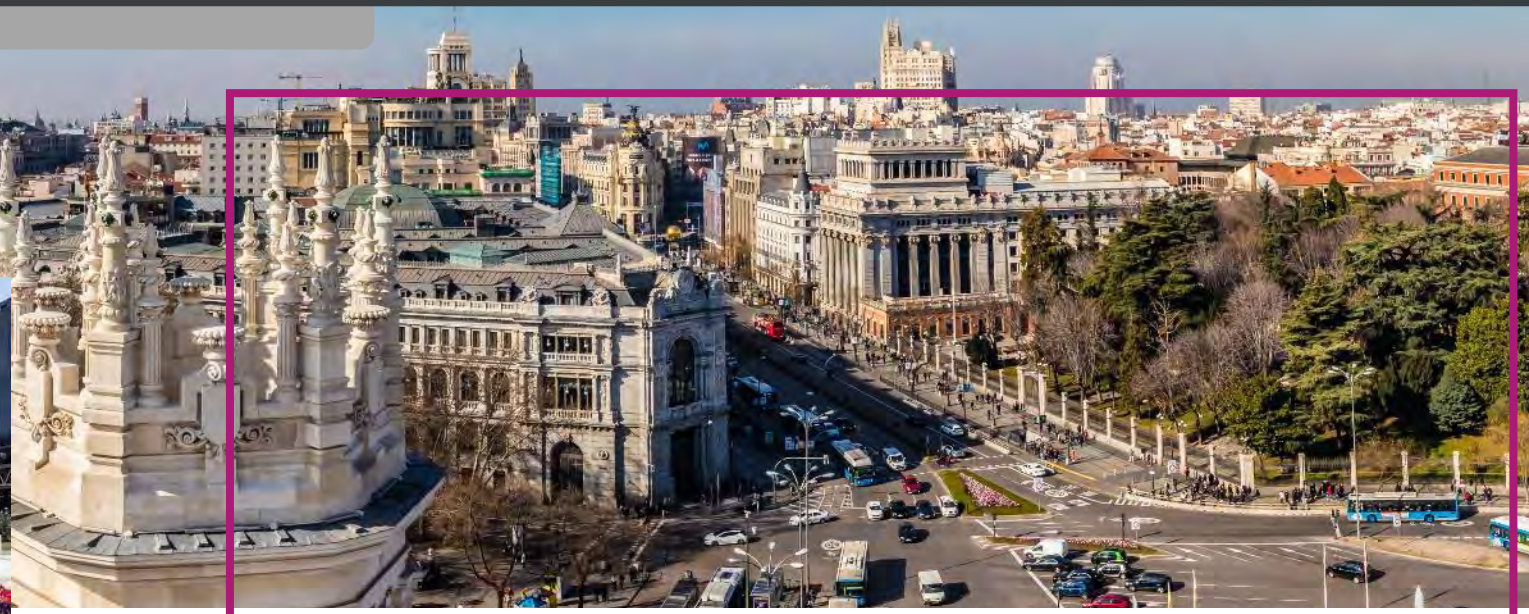


No podemos pararla
Aviación la necesita
AIM la necesita

GroupEAD

GroupEAD







• • •

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THANKYOU

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Verificación y validación de datos aeronáuticos

Verificación

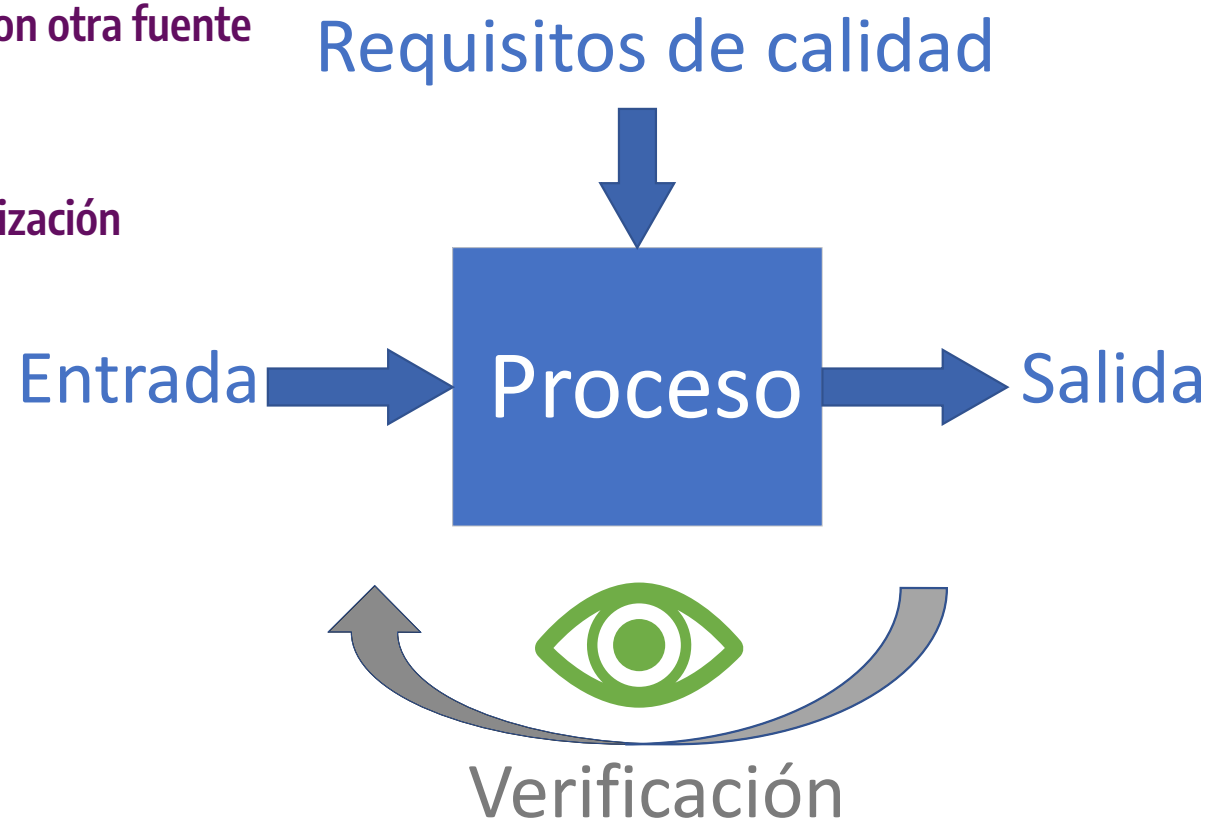
Validación

Ejemplo



Verificación de datos

- Proceso para comprobar la integridad comparando los datos con otra fuente
- No asegura que los datos sean correctos
- Asegura que los datos no han sido corrompidos en el proceso
- Debe considerar solo la porción controlada por la propia organización
- Depende del nivel de integridad

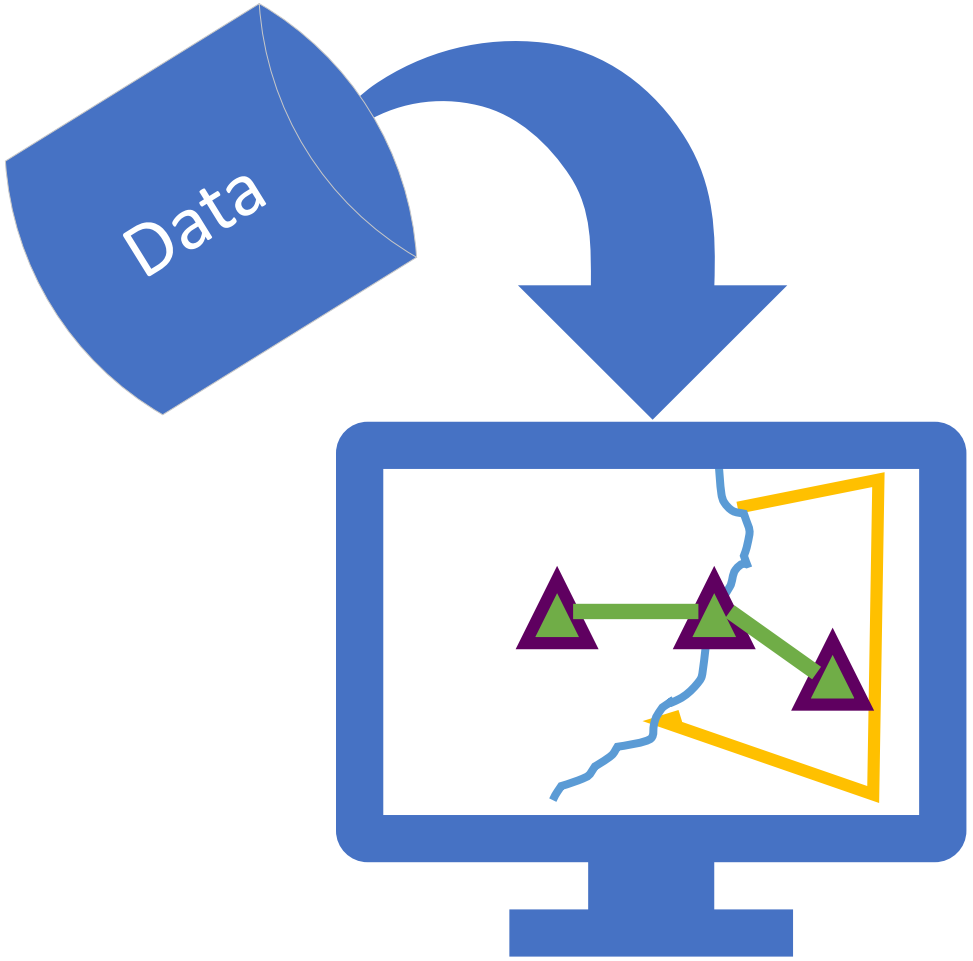


Ejemplos de técnicas

- Detección de errores de datos
  - Hash, CRC
- Retroalimentación
  - Salida vs. entrada
- Redundancia independiente
  - Comparación de 2+ procesamiento de datos
- Comparación de actualización
  - Actualizado vs. previo

Validación de datos

- Probar que los datos tienen sentido
- Comprobar que un conjunto de datos es aceptable para el uso previsto
- Considera toda la cadena de datos aeronáuticos



Ejemplos de técnicas

- Por aplicación
  - Inspección de vuelo
- Consistencia lógica
  - Reglas de negocio
- Consistencia semántica
  - Patrón, rango de valores
- Muestreo
  - Análisis estadístico para la confianza (AQL)

Verificación y validación

¿Por qué?

- Para garantizar que se cumplan y mantengan los requisitos de calidad de datos (DQR)

¿Cómo?

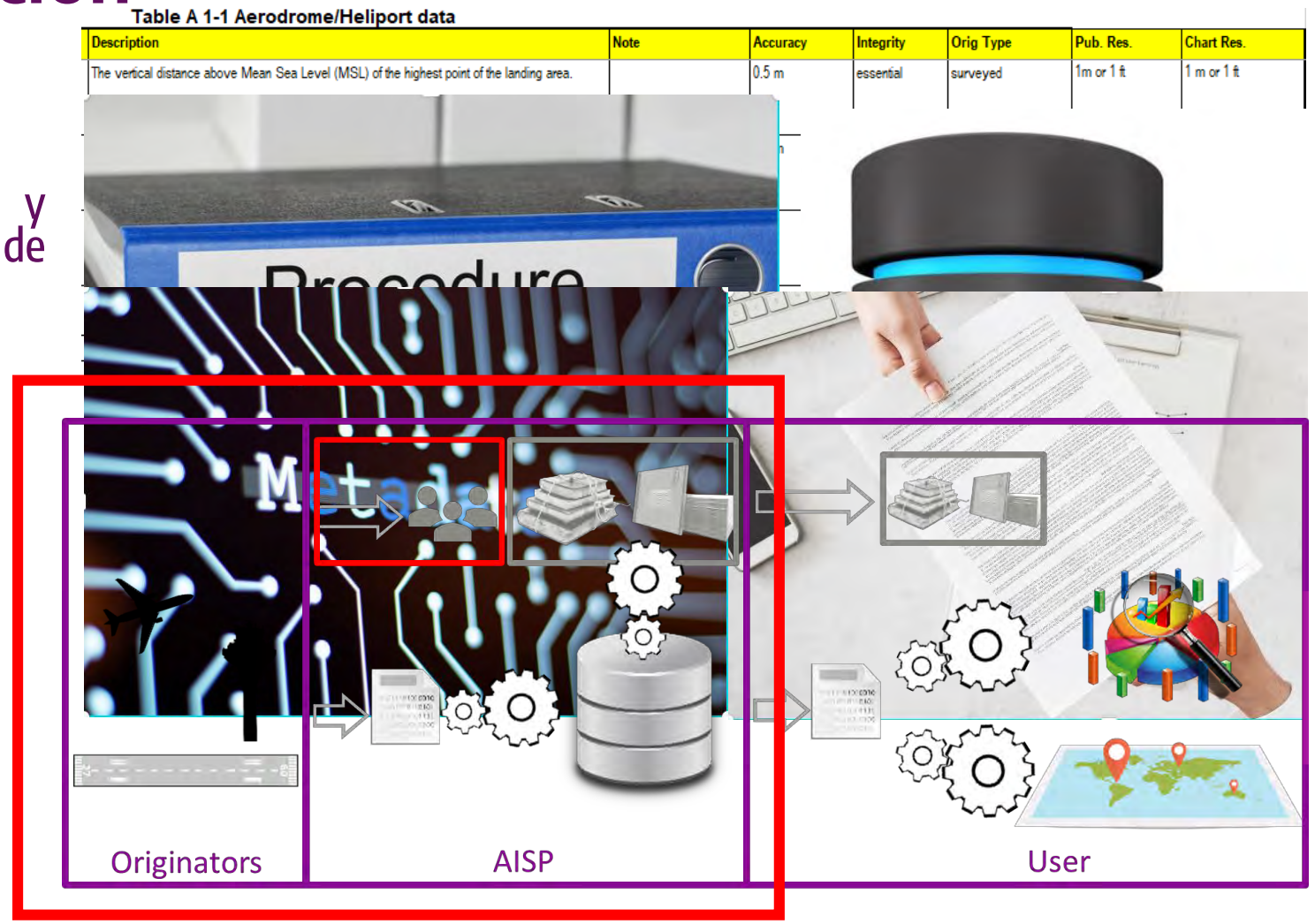
- Procedimientos
- Herramientas (técnicas digitales)

¿Dónde?

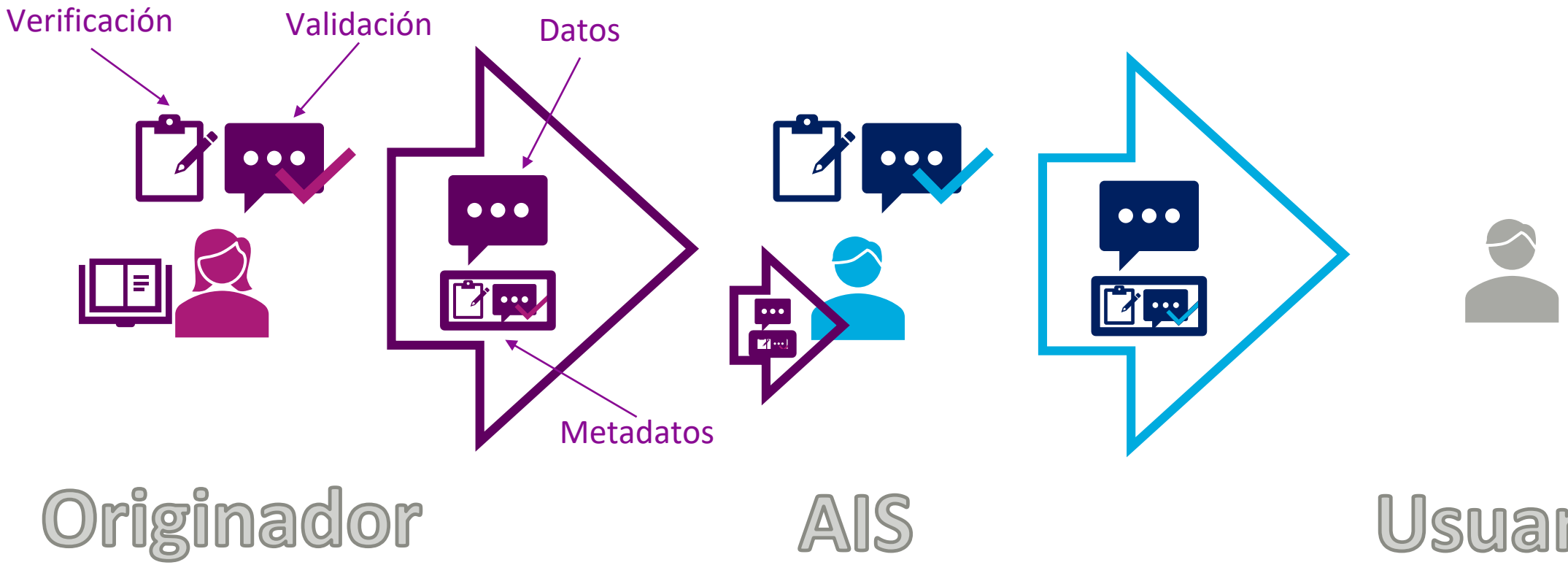
- Metadatos
- Disposiciones formales

¿Quién?

- Originador de datos
- AIS



Juego de teléfono roto – Versión mejorada



Ejemplo – Longitud RWY

Los datos se introducen manualmente en el sistema

- Valor = 2800
- UoM = M

Verificación

- Verificar dos veces de forma independiente o“blind re-key”
- Comparar la información del originador con el AIP producido

Validación

- Regla de negocio
  - La unidad de medida se especificará si se especifica un valor para una propiedad con atributo uom.
- Plausibilidad
  - Recálculo de la longitud considerando las coordenadas finales RWY.

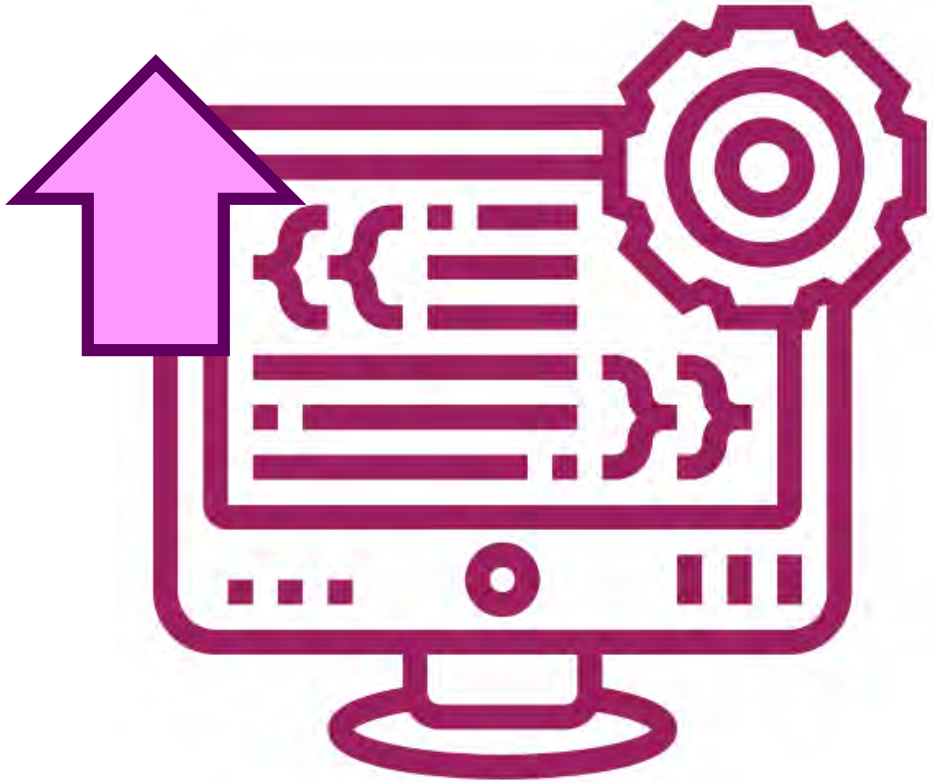


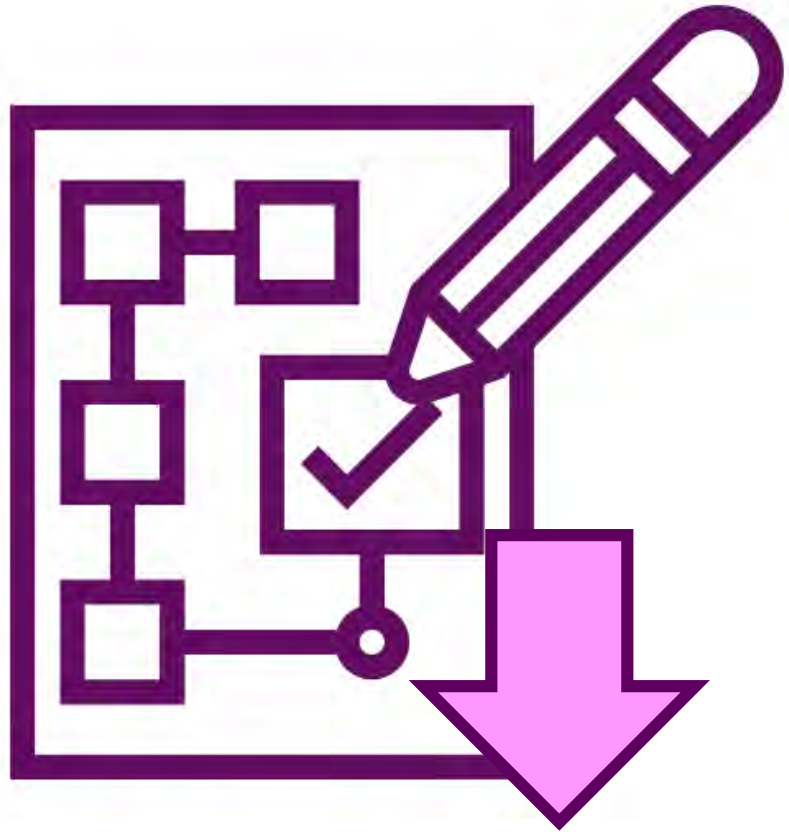
DQR:
Exactitud: 1 m
Integridad: **crítico**
Tipo de orig.: levantamiento
Pub. Res. 1m or 1ft
Chart. Res. 1 m

Designations RWY NR	*TRUE BRG*	*Dimensions of RWY (M)*
1	2	3
09L	085.23°	2 800 × 45



Herramientas vs Procedimientos





Herramientas Procedimientos

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• • •

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ICAO SAM AIM - 2023



2000+ Páginas

AIP completo

20+ Páginas

NOTAM

por hora de vuelo

30’

Briefing



Productos digitales AIM – Ruta para una implementacion exitosa

Digital AIM Products

Convencional vs. Digital

Requisitos de la UE (CP1)

Ruta de implementación



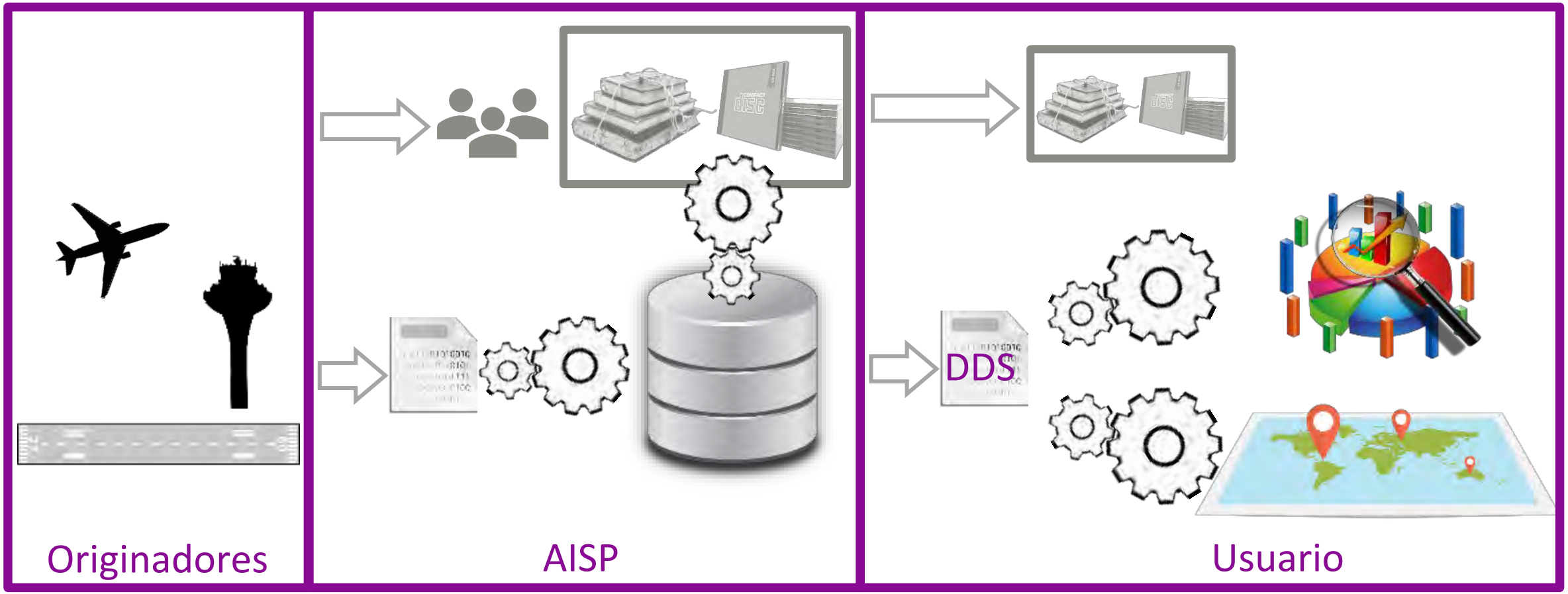


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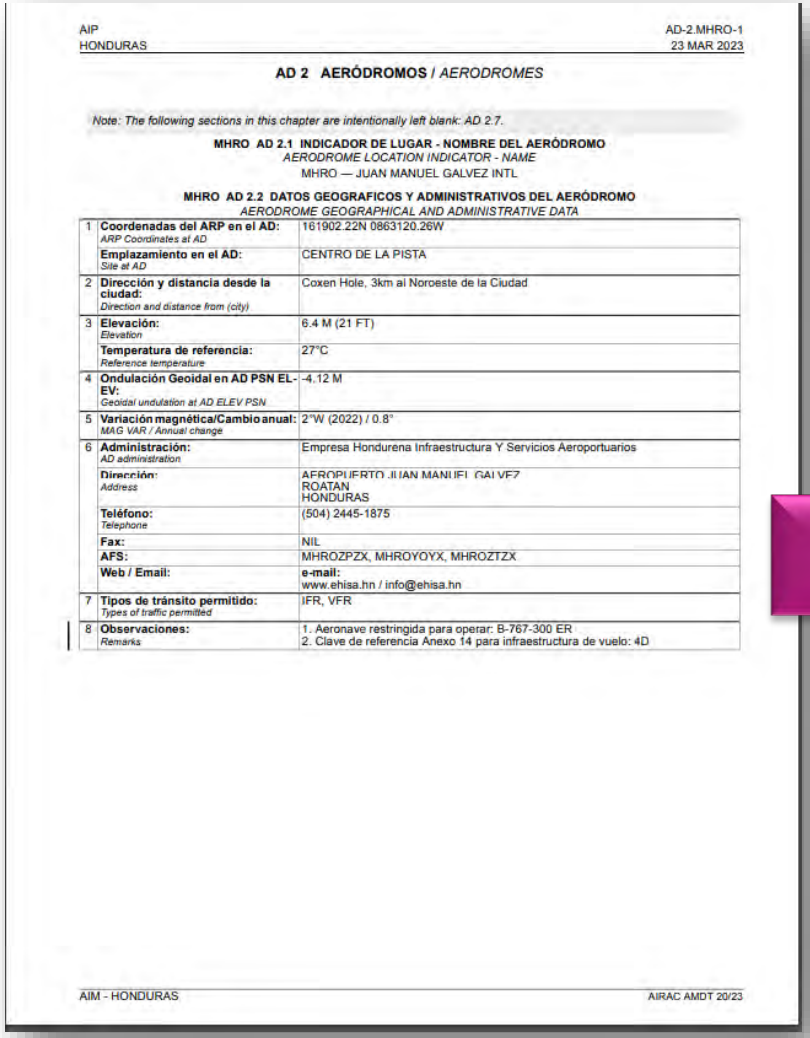
Productos
digitales AIM

Convencional vs. Digital

Flujo de información



AIP vs eAIP (No es un producto digital AIM... pero casi)



AIP
HONDURAS

AD-2 MHRO-1
23 MAR 2023

AD 2 AERÓDROMOS / *AERODROMES*

Note: The following sections in this chapter are intentionally left blank: AD 2.7.

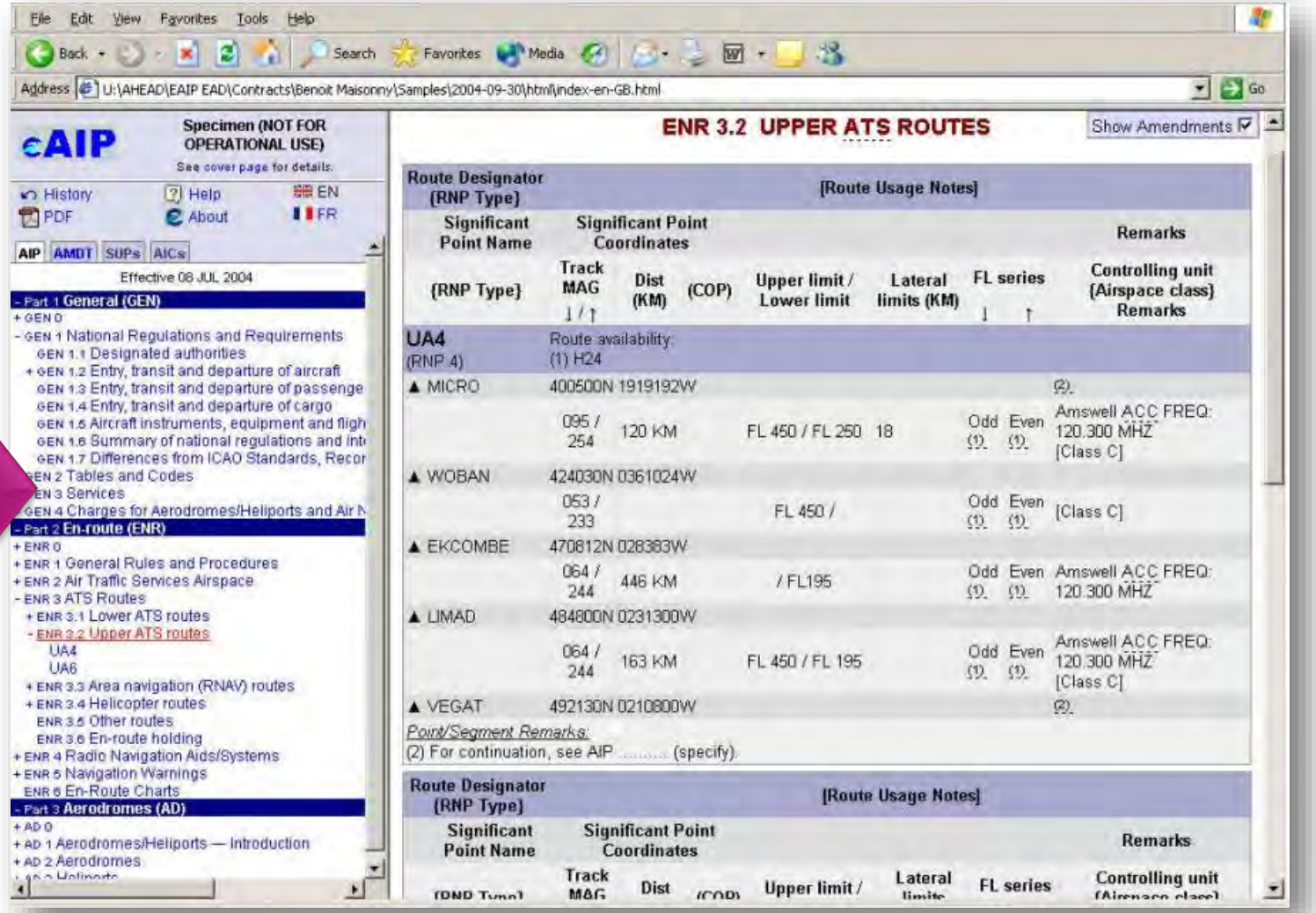
MHRO AD 2.1 INDICADOR DE LUGAR - NOMBRE DEL AERÓDROMO
AERODROME LOCATION INDICATOR - NAME
MHRO — JUAN MANUEL GALVEZ INTL

MHRO AD 2.2 DATOS GEOGRAFICOS Y ADMINISTRATIVOS DEL AERÓDROMO
AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

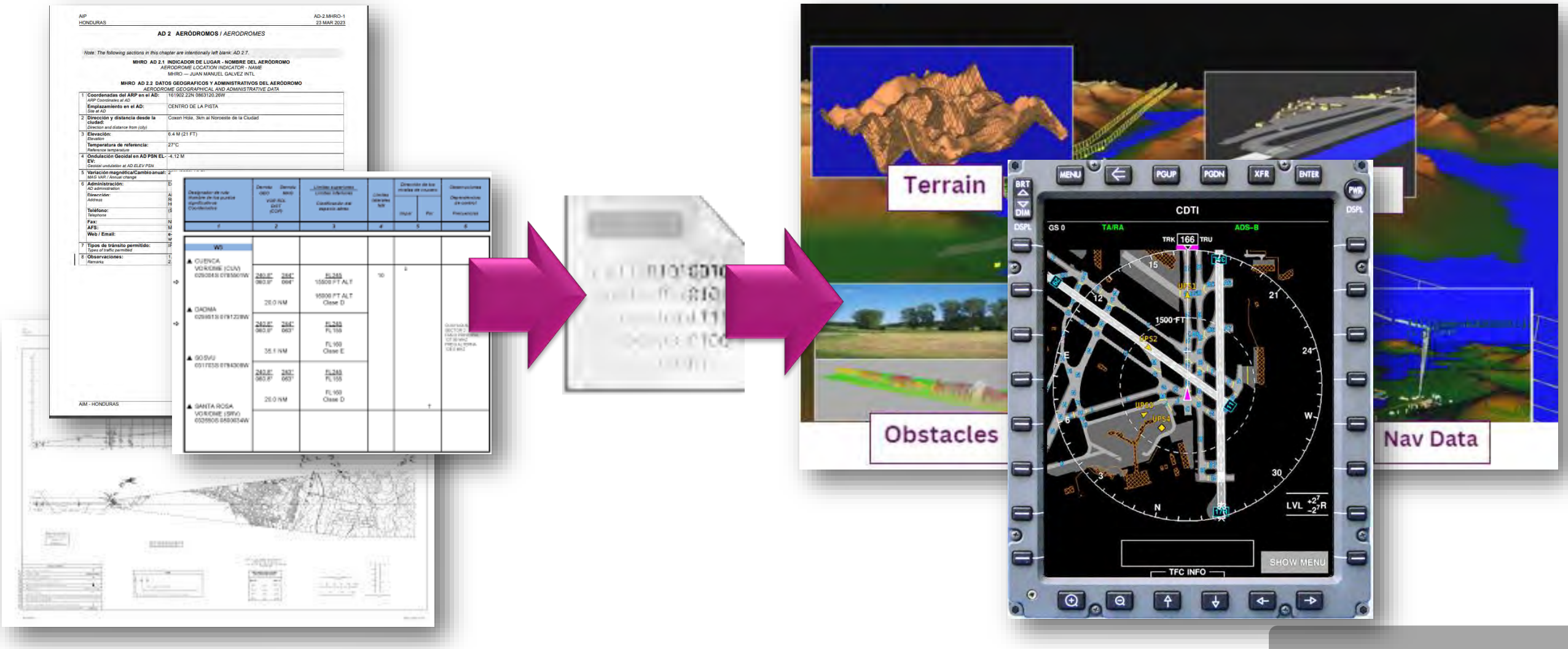
1	**Coordenadas del ARP en el AD:** *ARP Coordinates at AD*	161902.22N 0863120.26W
	Emplazamiento en el AD: *Site at AD*	CENTRO DE LA PISTA
2	**Dirección y distancia desde la ciudad:** *Direction and distance from (city)*	Coxen Hole, 3km al Noroeste de la Ciudad
3	**Elevación:** *Elevation*	6.4 M (21 FT)
	Temperatura de referencia: *Reference temperature*	27°C
4	**Ondulación Geoidal en AD PSN EL-EV:** *Geoidal undulation at AD ELEV PSN*	-4.12 M
5	**Variación magnética/Cambio anual:** *MAG VAR / Annual change*	2°W (2022) / 0.8°
6	**Administración:** *AD administration*	Empresa Hondurena Infraestructura Y Servicios Aeroportuarios
	Dirección: *Address*	AEROPUERTO JUAN MANUEL GALVEZ ROATAN HONDURAS
	Teléfono: *Telephone*	(504) 2445-1875
	Fax:	NIL
	AFS:	MHROZPZX, MHROYOYX, MHROZTZX
	Web / Email:	**e-mail:** www.ehisa.hn / info@ehisa.hn
7	**Tipos de tránsito permitido:** *Types of traffic permitted*	IFR, VFR
8	**Observaciones:** *Remarks*	1. Aeronave restringida para operar: B-767-300 ER 2. Clave de referencia Anexo 14 para infraestructura de vuelo: 4D

AIM - HONDURAS

AIRAC AMDT 20/23



AIP vs conjuntos de datos digitales



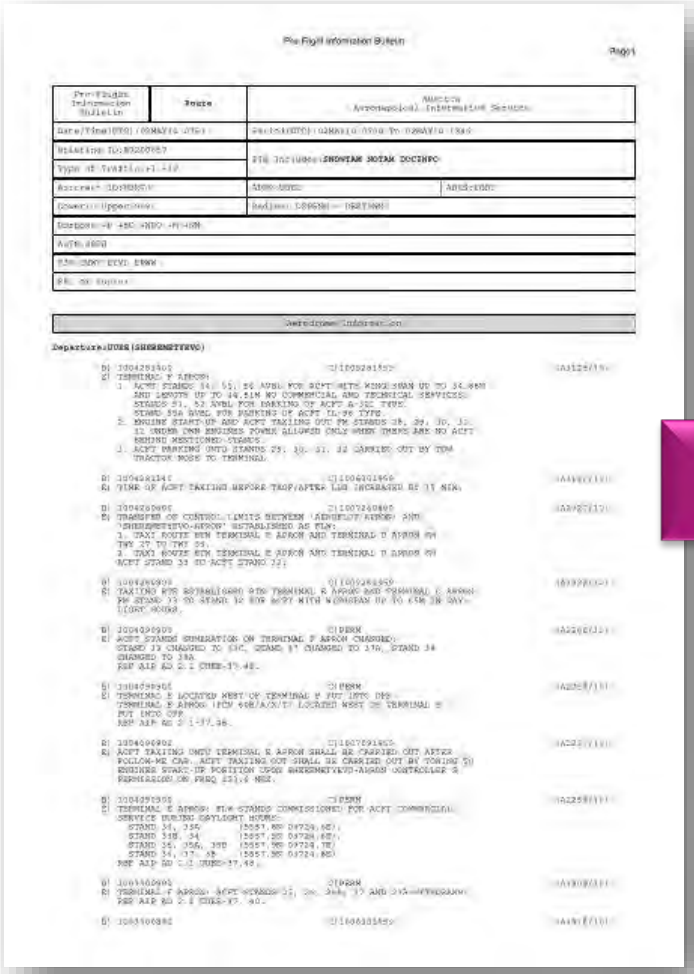
NOTAM vs Digital NOTAM

```
G____/22 NOTAMN
Q)LSAS/QMRLC/IV/NBO/A/000/999/4727N00833E005
A)LSZH
B)2205010000
C)2205312359
E)RWY 10/28 CLOSED DUE TO RUBBER REMOVAL
EQUIPMENT AND VEHICLES MOVING ON AND IN THE VICINITY OF THE RWY.
```

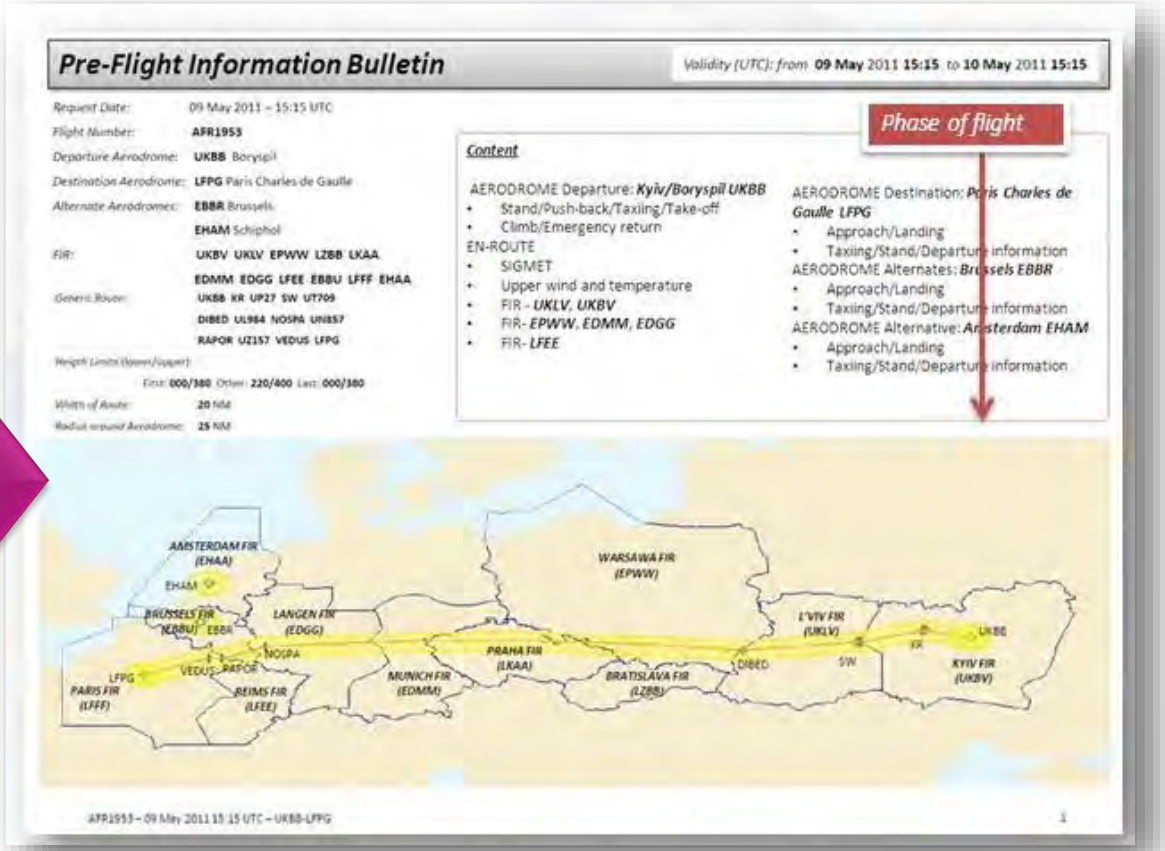




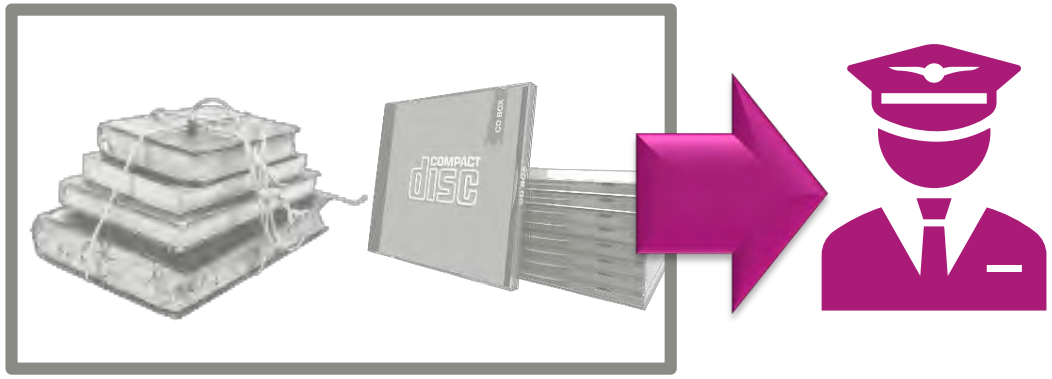
PIB vs ePIB

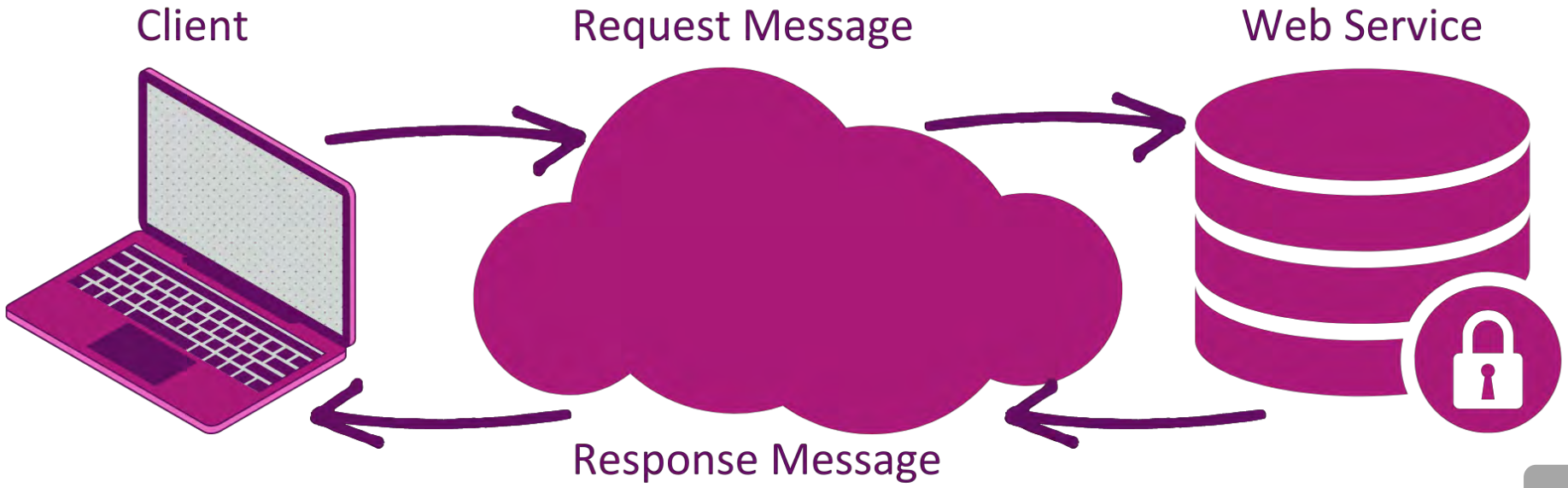





Pre-Flight Information Bulletin
Validity (UTC): from 09 May 2011 15:15 to 10 May 2011 15:15
Request Date: 09 May 2011 – 15:15 UTC
Flight Number: AFR1953
Departure Aerodrome: UKBB Boryspil
Destination Aerodrome: LFPG Paris Charles de Gaulle
Alternate Aerodromes: EBBR Brussels
EHAM Schiphol
FIR: UKBV UKLV EPWW LZBB LKAA
EDMM EDGG LFEE EBBU LFFF EHAA
UKBB KR UP27 SW UT709
DIBED UL984 NOSPA UN857
RAPOR UZ157 VEDUS LFPG
First: 000/380 Other: 220/400 Last: 000/380
Width of Route: 20 NM
Radius around Aerodrome: 25 NM
Phase of flight
Content
AERODROME Departure: Kyiv/Boryspil UKBB
Stand/Push-back/Taxiing/Take-off
Climb/Emergency return
EN-ROUTE
SIGMET
Upper wind and temperature
FIR - UKLV, UKBV
FIR- EPWW, EDMM, EDGG
FIR- LFEE
AERODROME Destination: Paris Charles de Gaulle LFPG
Approach/Landing
Taxiing/Stand/Departure information
AERODROME Alternates: Brussels EBBR
Approach/Landing
Taxiing/Stand/Departure information
AERODROME Alternative: Amsterdam EHAM
Approach/Landing
Taxiing/Stand/Departure information
AMSTERDAM FIR (EHAA)
EHAM
BRUSSELS FIR (EBBU)
EBBR
LANGEN FIR (EDGG)
WARSAWA FIR (EPWW)
NOSPA
VEDUS
RAPOR
LFPG
PARIS FIR (LFFF)
REIMS FIR (LFEE)
MUNICH FIR (EDMM)
PRAHA FIR (LKAA)
BRATISLAVA FIR (LZBB)
DIBED
L'VIV FIR (UKLV)
SW
UKBB
KYIV FIR (UKBV)
AFR1953 – 09 May 2011 15:15 UTC – UKBB-LFPG

AIP/NOTAM vs Web Feature/Map Service





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Productos digitales AIM

Requisitos de la UE (CP1)



Contexto europeo

EU 2021/116

- AKA CP1 – Proyecto común 1 (22.02.2021)
- Desarrollo de funcionalidades ATM(31.12.2025)
- AF 5 (SWIM)
    - Servicio de Datos de Información Aeronáutica
    - Servicio de mapas de aeródromos
    - Servicio digital NOTAM



CP1 (2021/116)

Servicios web de intercambio de datos aeronáuticos

Servicios web de intercambio de datos aeronáuticos

Datos de mapeo de aeródromo

Servicio de Mapas de aeródromos

Eventos de Aeródromo

Servicio Digital NOTAM



Aeródromo

Servicio de datos de Información Aeronáutica

AISP

User

Aeródromos afectados

- Adolfo Suarez Madrid-Barajas
- Amsterdam Schiphol
- Barcelona El Prat
- Berlin Brandenburg Airport
- Brussels National
- Copenhagen Kastrup
- Dublin
- Dusseldorf International
- Frankfurt International
- Milan-Malpensa
- Munich Franz Josef Strauss
- Nice Cote d'Azur
- Palma de Mallorca Son Sant Joan
- Paris-CDG
- Paris-Orly
- Rome-Fiumicino
- Stockholm-Arlanda
- Vienna Schwechat



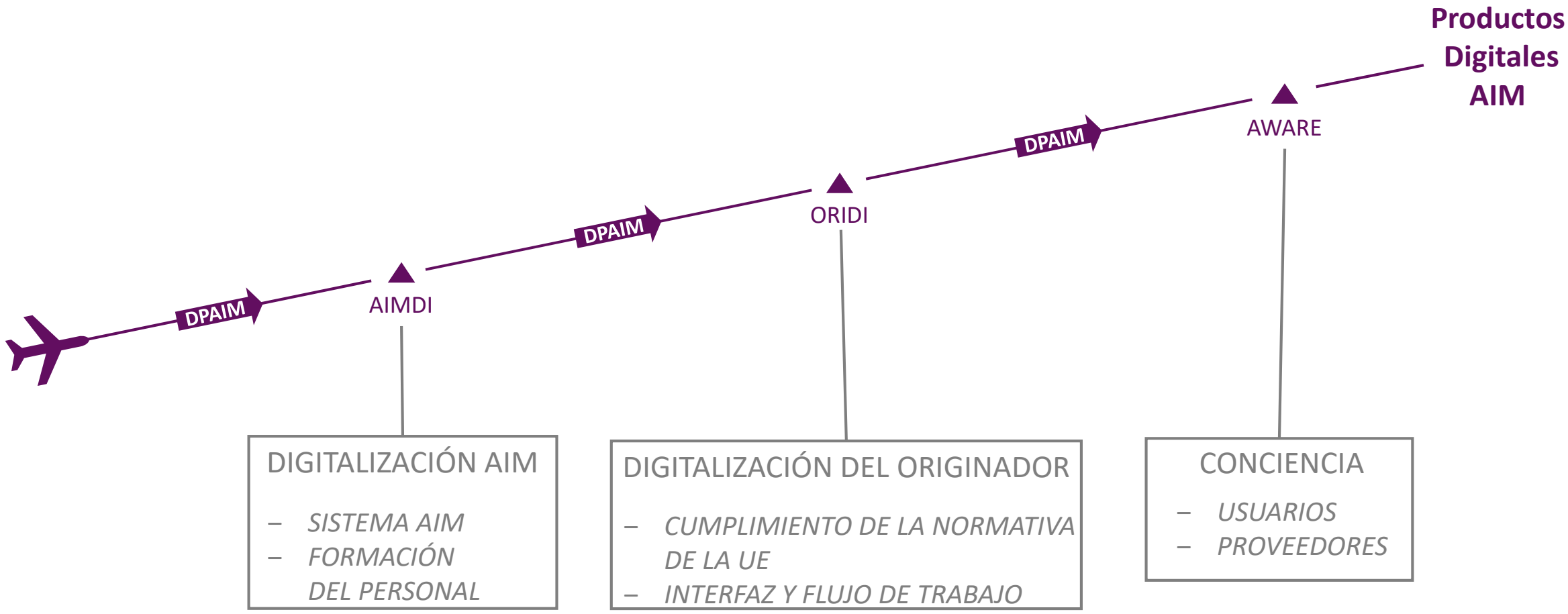


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Productos
digitales AIM

Ruta de implementación

Ruta de implementación




RWY
AIRSPACE
AIP
NOTAM
SUPP
RTE
TWY
APRON
AIC
AIRPORT

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• • •

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Apéndice J al Informe sobre la Cuestión 4 del Orden del Día




Hazlo a
tu
manera

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¿Cuál es el menú en AIS?





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¿Cuál es el ingrediente principal de AIM?





Conjunto de Datos Digitales y NOTAM Digital



Datos vs información

Conjunto de datos digitales

NOTAM digital

~~Ingredientes, platos y recetas~~



DATOS, INFORMACIÓN Y CONJUNTO DE DATOS DIGITALES

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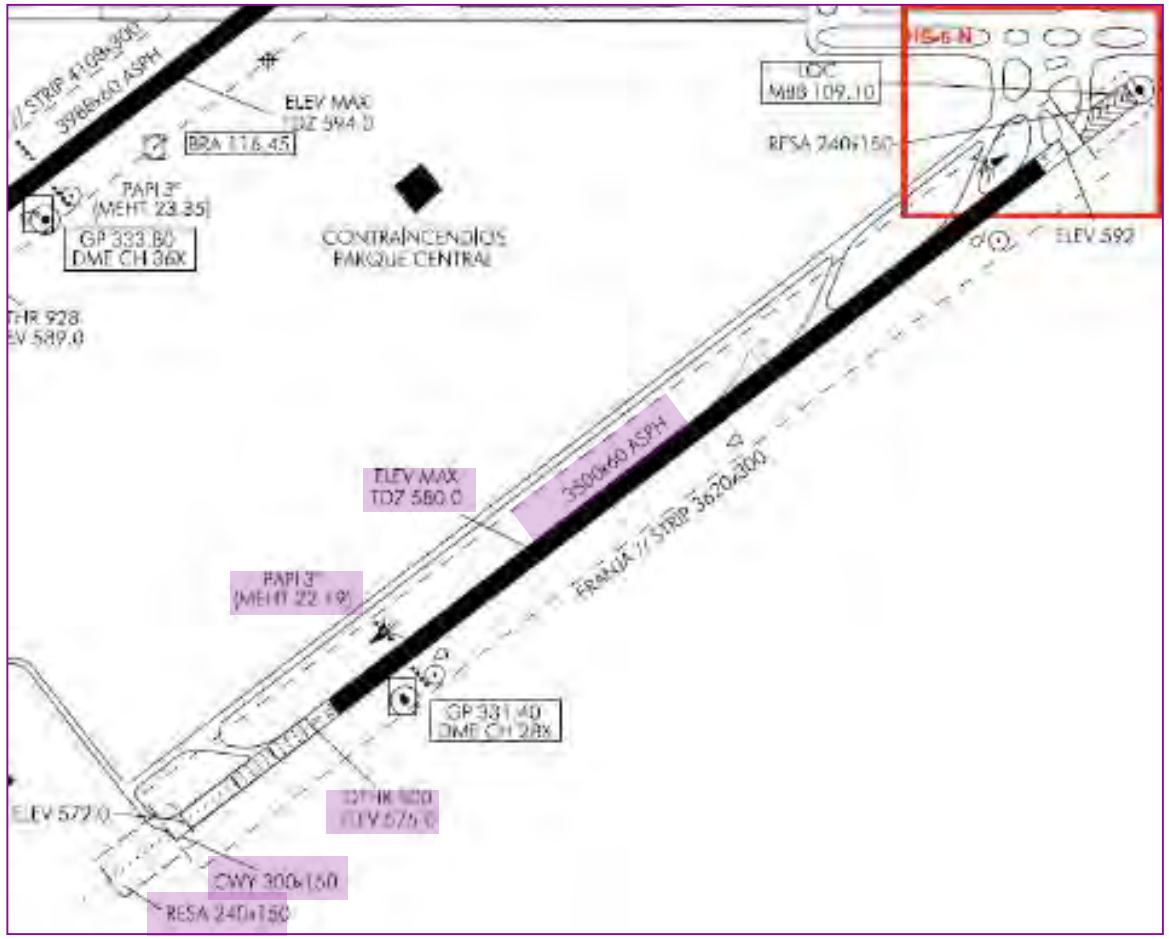
Definición | Datos aeronáuticos

- Representación de hechos, conceptos o instrucciones aeronáuticos de manera formalmente apta para la **comunicación, interpretación o tratamiento**.

RWY	Orientación Direction	DIM (m)	THR PSN	THR ELEV TDZ ELEV
14L (8) (9)	142.21° GEO 143° MAG	3500 x 60	402941.71N 0033328.33W	THR: 592 m / 1942 ft TDZ: No

Definición | Información aeronáutica

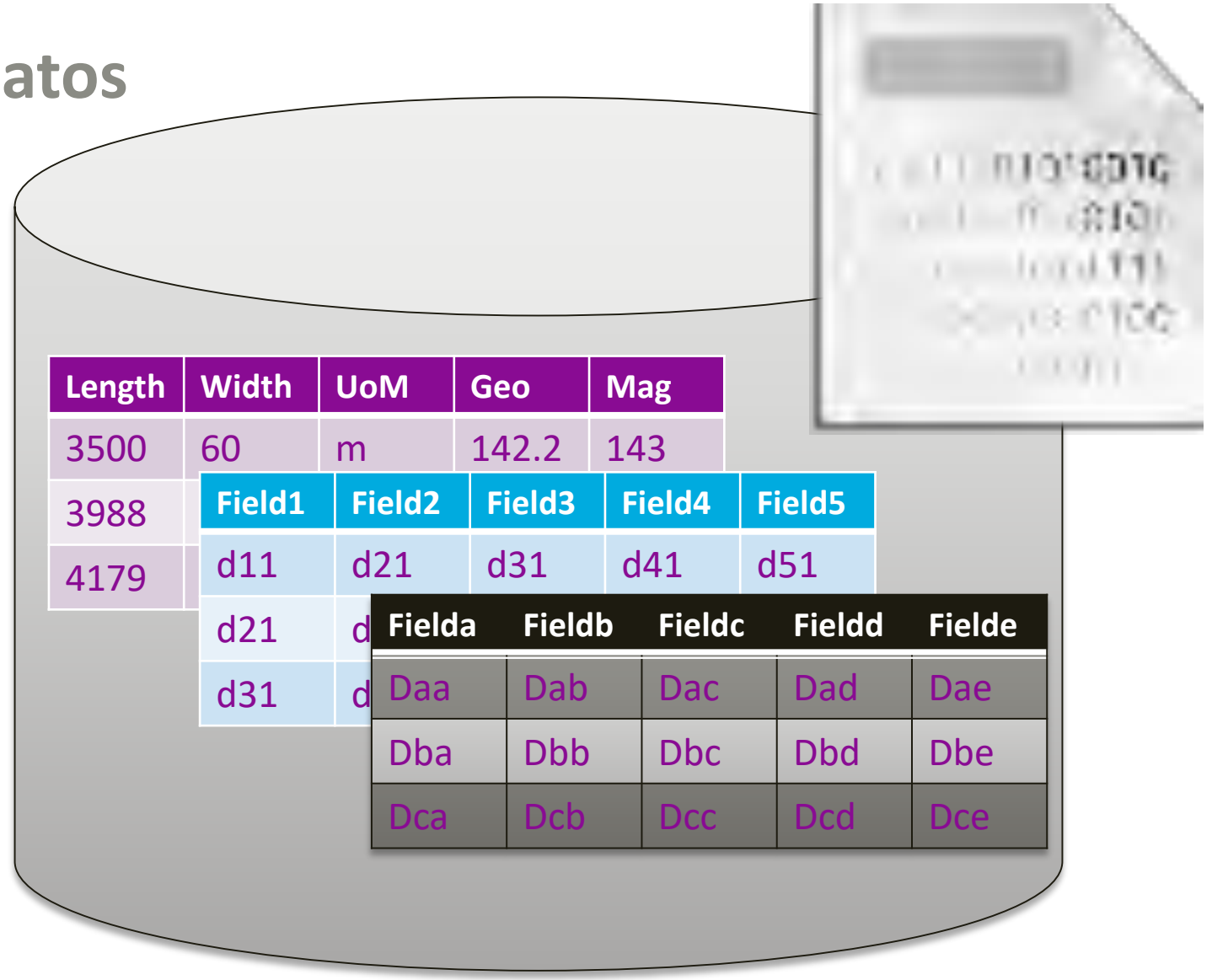
- Información resultante del **montaje, análisis y formateo** de datos aeronáuticos.



Definición | Conjunto de datos

- **Recopilación** identificable de datos

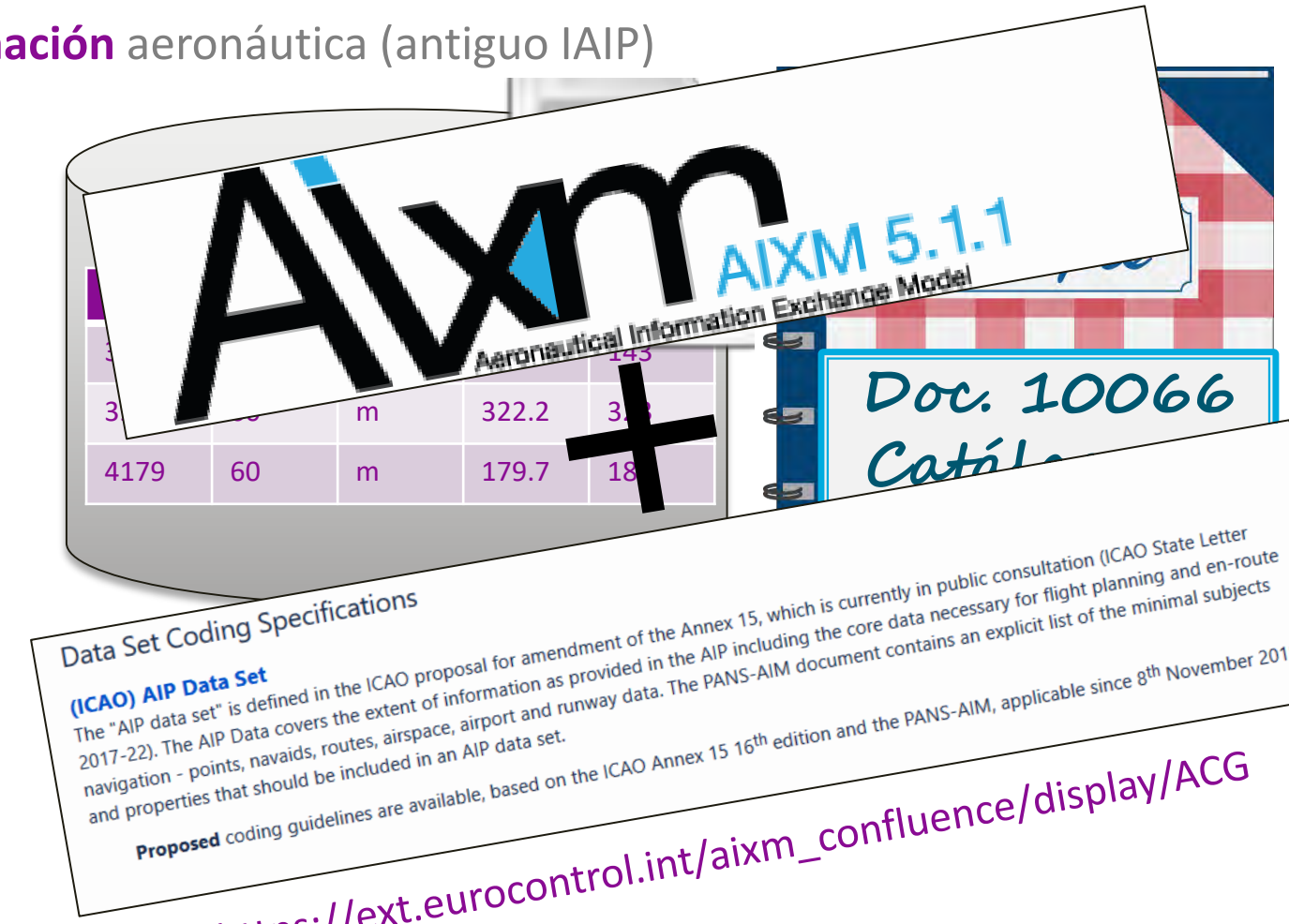
RWY	Orientación Direction	DIM (m)	THR PSN	THR ELEV TDZ ELEV
14L (8) (9)	142.21° GEO 143° MAG	3500 x 60	402941.71N 0033328.33W	THR: 592 m / 1942 ft TDZ: No
32R (1) (7)	322.22° GEO 323° MAG	3500 x 60	402824.85N 0033210.30W	THR: 574.8 m / 1886 ft TDZ: 579.9 m / 1903 ft
14R (8) (10)	142.20° GEO 143° MAG	3988 x 60	402905.50N 0033433.64W	THR: 608 m / 1995 ft TDZ: No
32L (2) (7)	322.21° GEO 323° MAG	3988 x 60	402747.10N 0033314.02W	THR: 589.1 m / 1933 ft TDZ: 594.2 m / 1949 ft
18L (3) (7)	179.76° GEO 181°MAG	3500 x 60	403141.22N 0033333.68W	THR: 585.9 m / 1922 ft TDZ: 587.7 m / 1928 ft
36R (8) (11)	359.76° GEO 001°MAG	3500 x 60	403003.97N 0033333.15W	THR: 592 m / 1942 ft TDZ: No
18R (4) (7)	179.76° GEO 181° MAG	4179 x 60	403122.40N 0033429.27W	THR: 606.9 m / 1991 ft TDZ: 606.9 m / 1991 ft
36L (8) (12)	359.76° GEO 001° MAG	4179 x 60	402933.32N 0033428.64W	THR: 605 m / 1985 ft TDZ: No



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Definición | Conjuntos de Datos Digitales de la OACI y AIXM

- Anexo 15: Uno de los productos de **información** aeronáutica (antiguo IAIP)
  - AIP — AIXM 5.1(1)
  - Obstáculos — AIXM 5.1(1)
  - Mapas Aerodromo — AIXM 5.1(1)
  - Instrument Flight Procedures — AIXM 5.2
  - Terreno — DTM/DEM

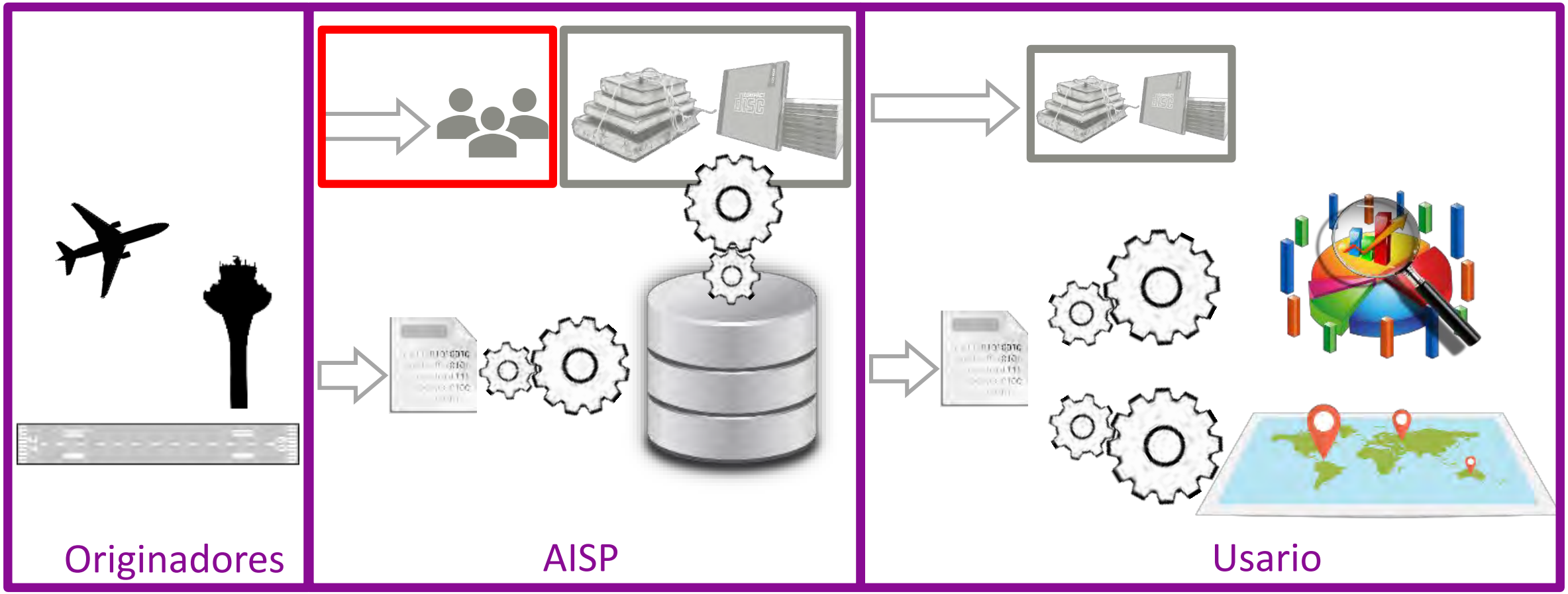


https://ext.eurocontrol.int/aixm_confluence/display/ACG

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Objetivo del conjunto de datos digitales

Permitir la gestión, el procesamiento, la verificación, el uso y el intercambio de **datos** de forma **estructurada y automática** en un entorno SWIM.



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Expectativa del cliente



EXPECTATIVAS DE LOS USUARIOS DE DATOS

¿Cuáles podrían ser los futuros servicios de datos en AIM?

- AIXM – Servicios SWIM
- Servicios WFS y WMS
- KML
- Servicios de datos ATM



By User:M_k - Own work, Public Domain, https://commons.wikimedia.org/w/index.php?curid=769046



By Santeri Viinamäki, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=52431635

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¿Qué productos diferentes puede crear el usuario utilizando los conjuntos de datos?

- eCartas
- eFB
- Pantallas ATM



By Robert Frola - https://www.flickr.com/photos/robertfrola/6485933503/, GFDL, https://commons.wikimedia.org/w/index.php?curid=32401363



By Licocavok - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=19790404

~~Servicio de entrega~~



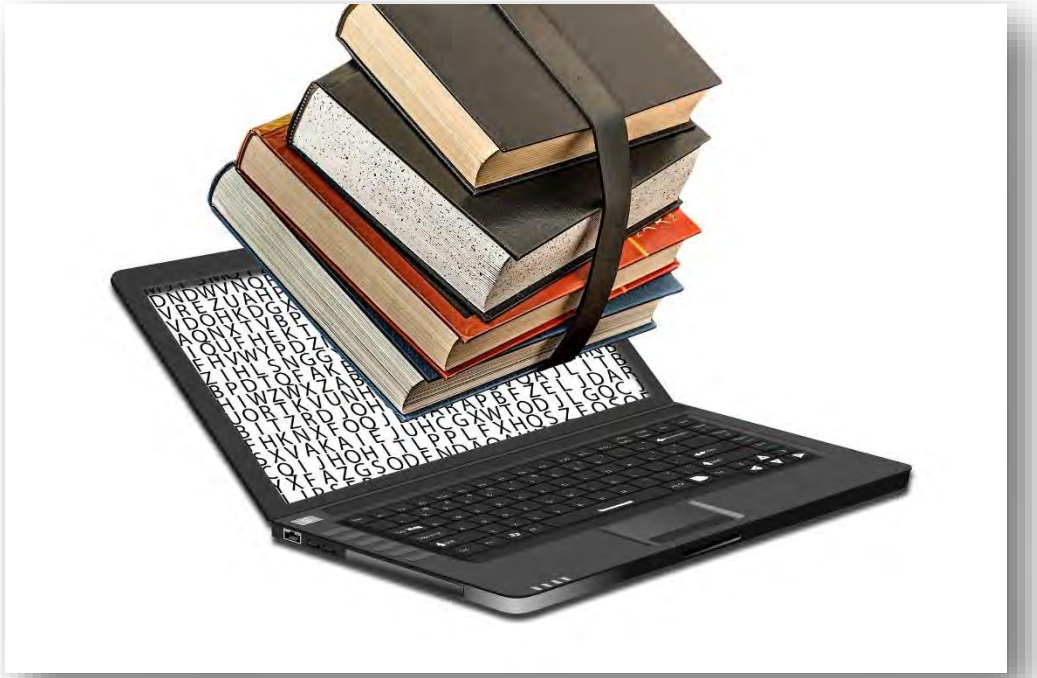
DISPOSICIÓN DEL CONJUNTO DE DATOS DIGITALES

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Digitación vrs Digitalización

Se aplica a productos analógicos
Automatiza el proceso
Datos/proceso no optimizados

Se aplica a las organizaciones
Más que digitalización
Transformación de procesos

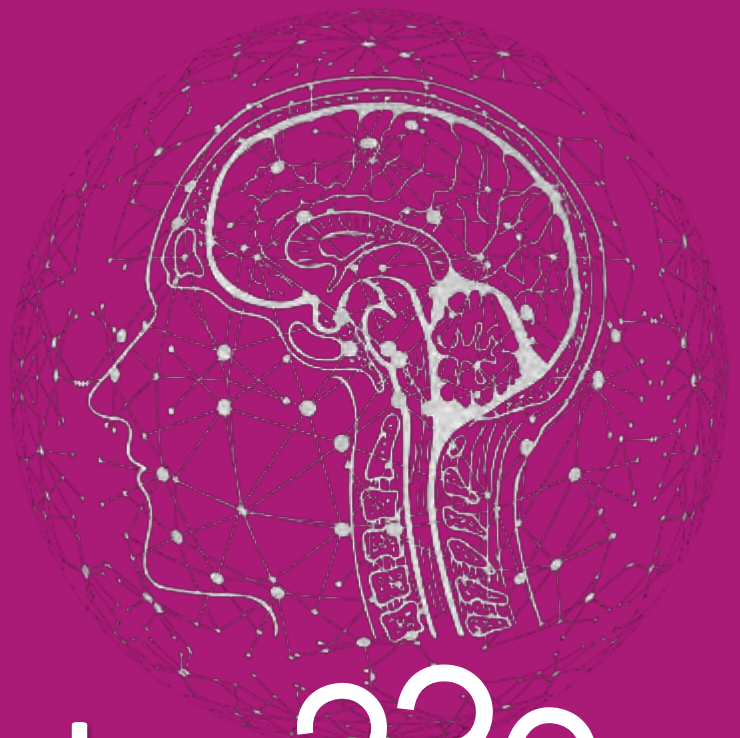




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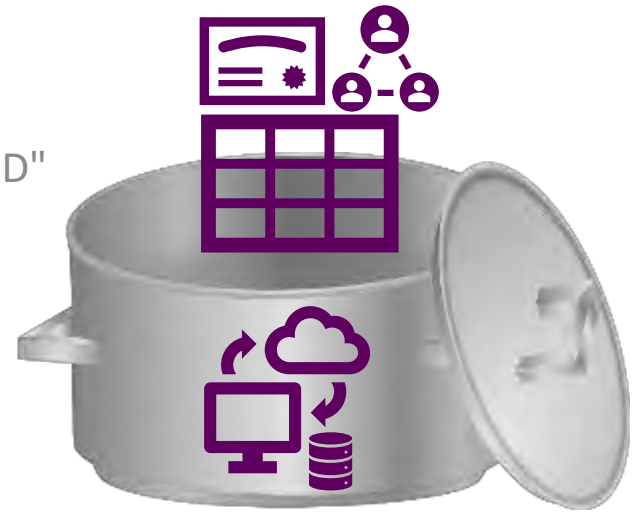
En AIM, nos estamos preparando para...

- [x] Conjunto de datos
- [x] Bases de datos
- [x] Cadena de datos
- [x] Integridad de datos
- [x] Intercambio de datos
- [ ] Mentalidad de datos???



Prepararse para CDD

- Capacitar al personal seleccionado para la adquisición del sistema
  - AIXM
  - Bases de datos
- Obtenga un sistema AIM "listo para CDD"
  - AIXM
  - Codificación
- Capacitar al resto del personal
  - AIXM
  - Bases de datos
- Recopilar y procesar datos
  - Cadena de datos (arreglos formales)
  - Aseguramiento de la calidad
- Construye tus productos convencionales
  - AIP
  - NOTAM
- Hacer que los datos estén disponibles
  - Website
  - WFS/WMS







Menu

Papel
AIP
Enmiendas
Suplementos
AIC
Cartas
NOTAM

Media
eAIP (CD/Online)
NOTAM (Online)

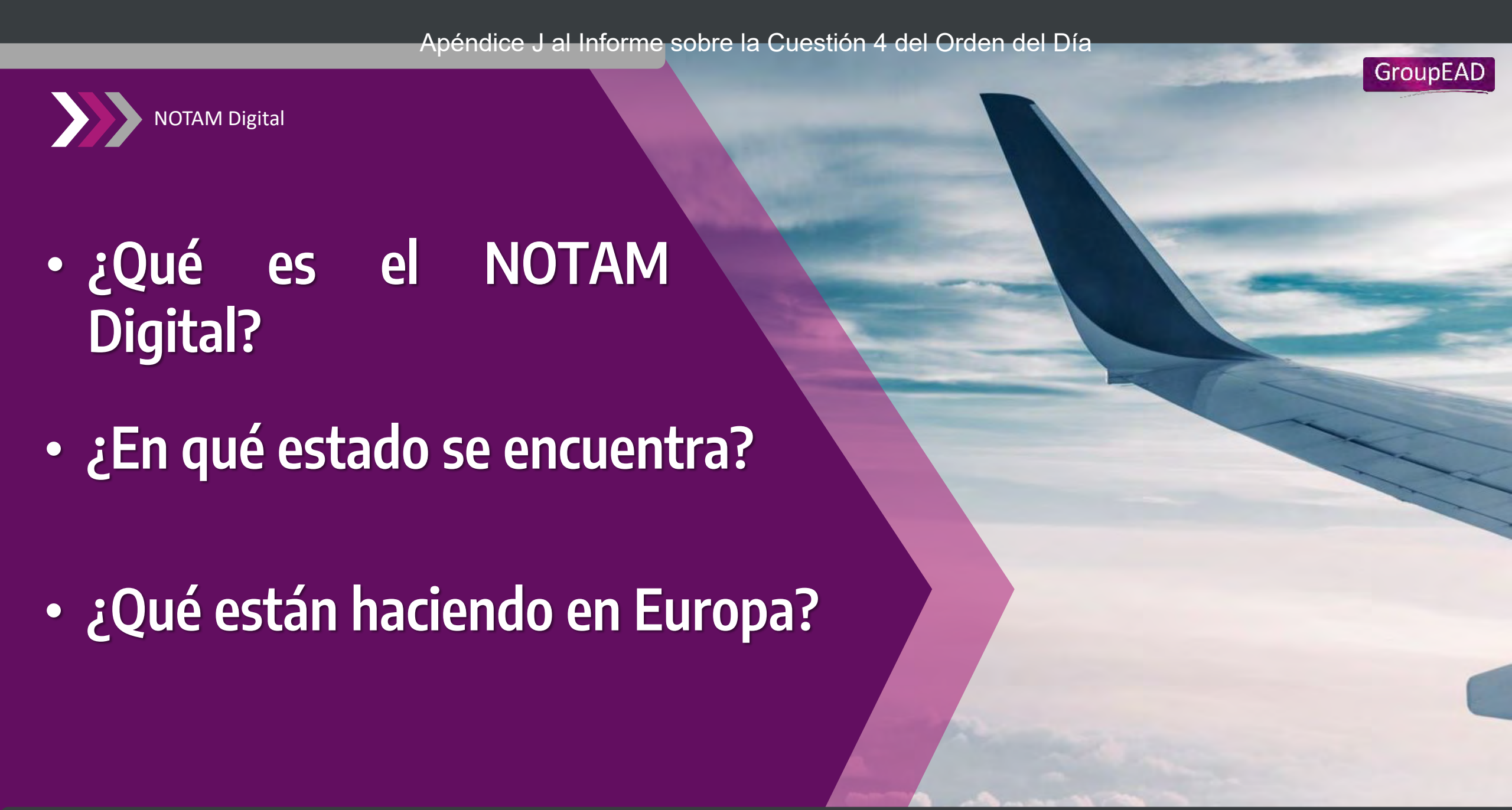
Conjunto de datos digitales
AIP, Obstáculos, AMD, IFPD y Terreno

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NOTAM Digital

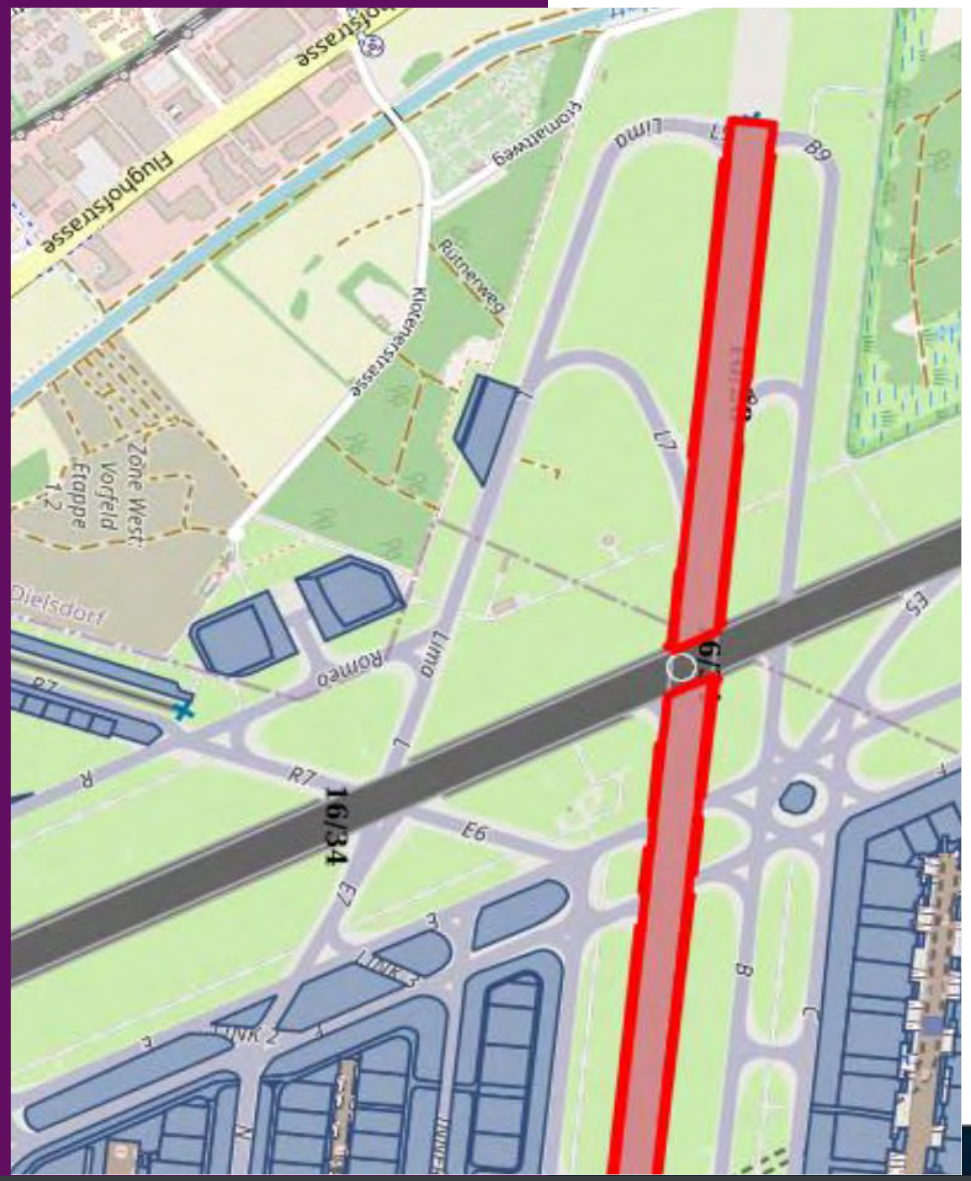
- ¿Qué es el NOTAM Digital?
- ¿En qué estado se encuentra?
- ¿Qué están haciendo en Europa?



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NOTAM Digital

¿Qué es el NOTAM Digital?



NOTAM Digital

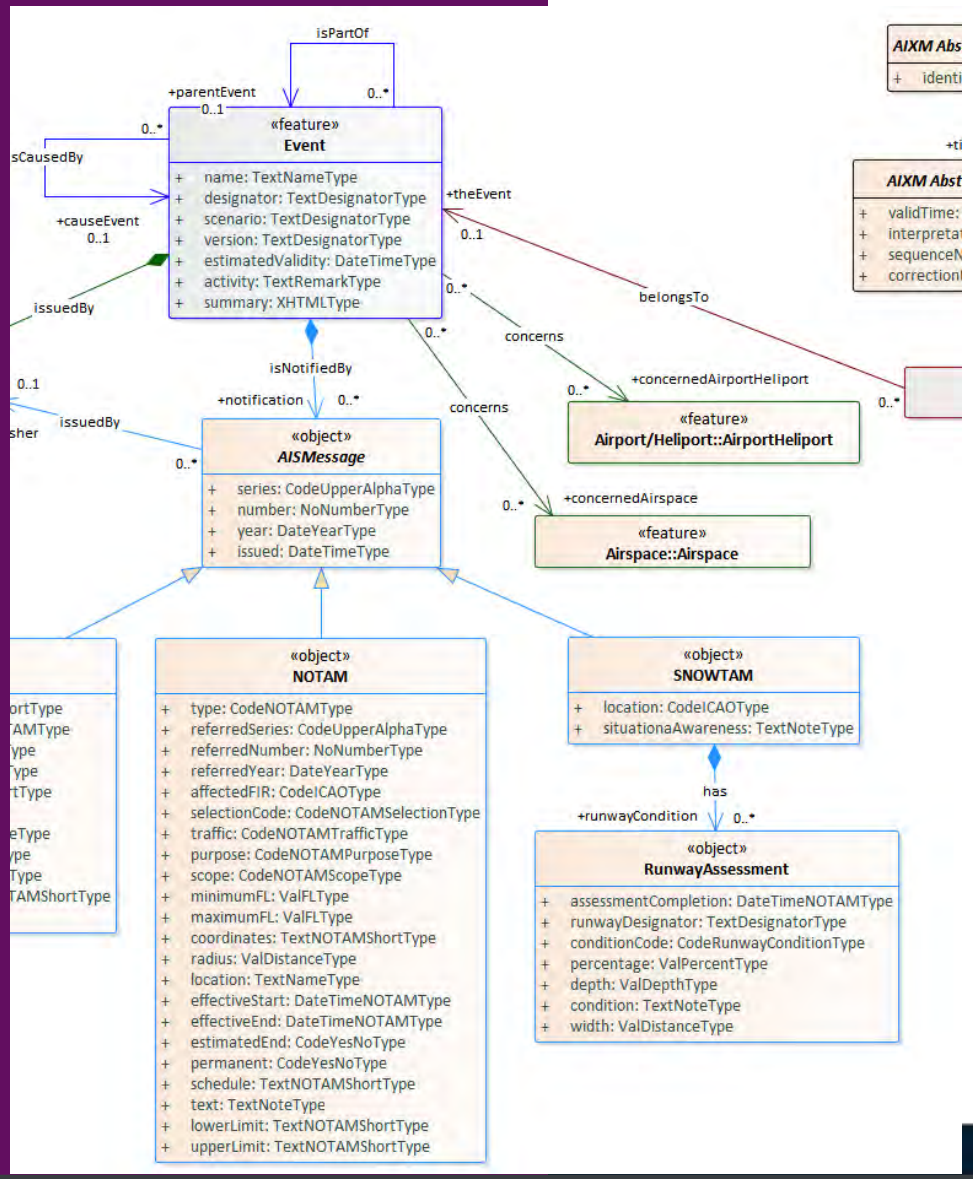
- Concepto en el que la información NOTAM se proveerá como un **conjunto de datos** estructurado a través de **servicios digitales de datos**.
- Soportado por AIXM 5.1 (y nuevas versiones)
- Complementado por reglas de codificación (EUROCONTROL)
- Posibilidad de mostrar gráficamente los cambios temporales
- Prerrequisito: Base de datos estáticos

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NOTAM Digital

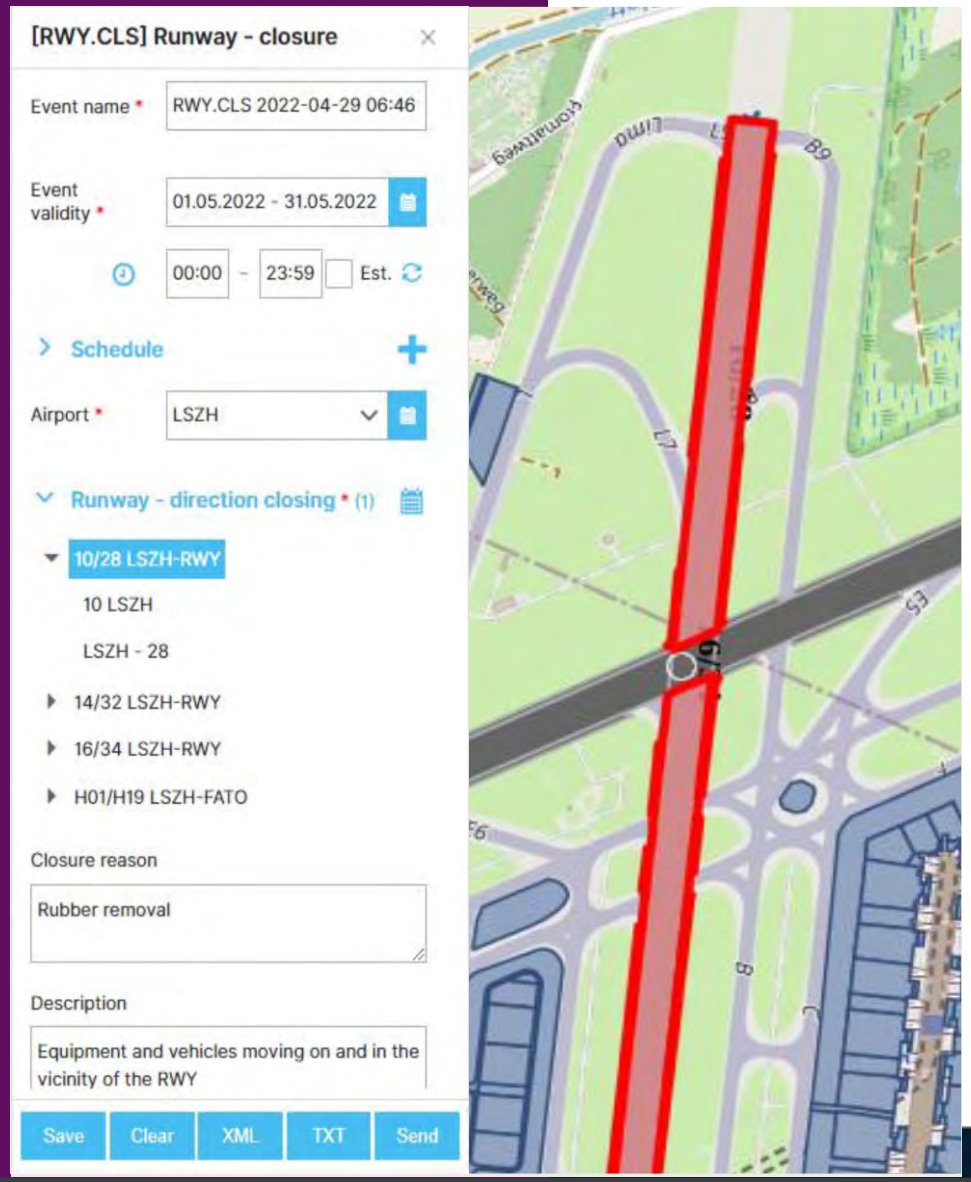
¿En qué estado se encuentra?





NOTAM Digital – Situación

- La temporalidad de AIXM 5.1 (TempDelta) habilita el NOTAM digital
- Especificación del NOTAM Digital
  - **Reglas/guías para codificar “eventos” en AIXM 5.1 de forma armonizada**
  - **Primera versión publicada en 2011**
  - **Segunda versión esta siendo desarrollada**
- FAA ha implementado el NOTAM Digital para mas de 350 Aeropuertos



Escenarios de codificación

- Situaciones comunes que son usualmente notificadas por NOTAM
  - **Cierre de pistas**
  - **Activación de espacios aéreos, etc.**
- Compuesto por:
  - **Sujeto (ej. AD, RTE, etc.)**
  - **Condición (ej. CLS, NEW, etc.)**
  - **Ej. AD.CLS**

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NOTAM Digital

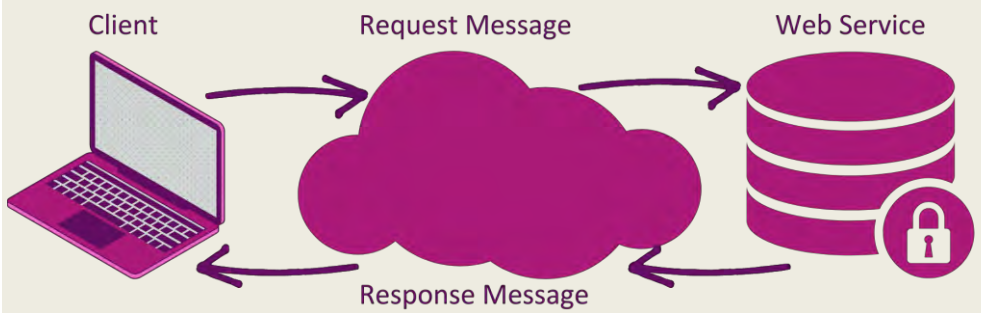
¿Qué están haciendo en Europa?

¿Que están haciendo en Europa?

Contexto Europeo

EU 2021/116

- AKA CP1 – Common Project 1 (22.02.2021)
- Desarrollo funcionalidades ATM (31.12.2025)
- AF 5 (SWIM)
  - Servicio de datos de Información Aeronáutica
  - Servicio de Mapas de Aeródromo
  - Servicio de NOTAM Digital

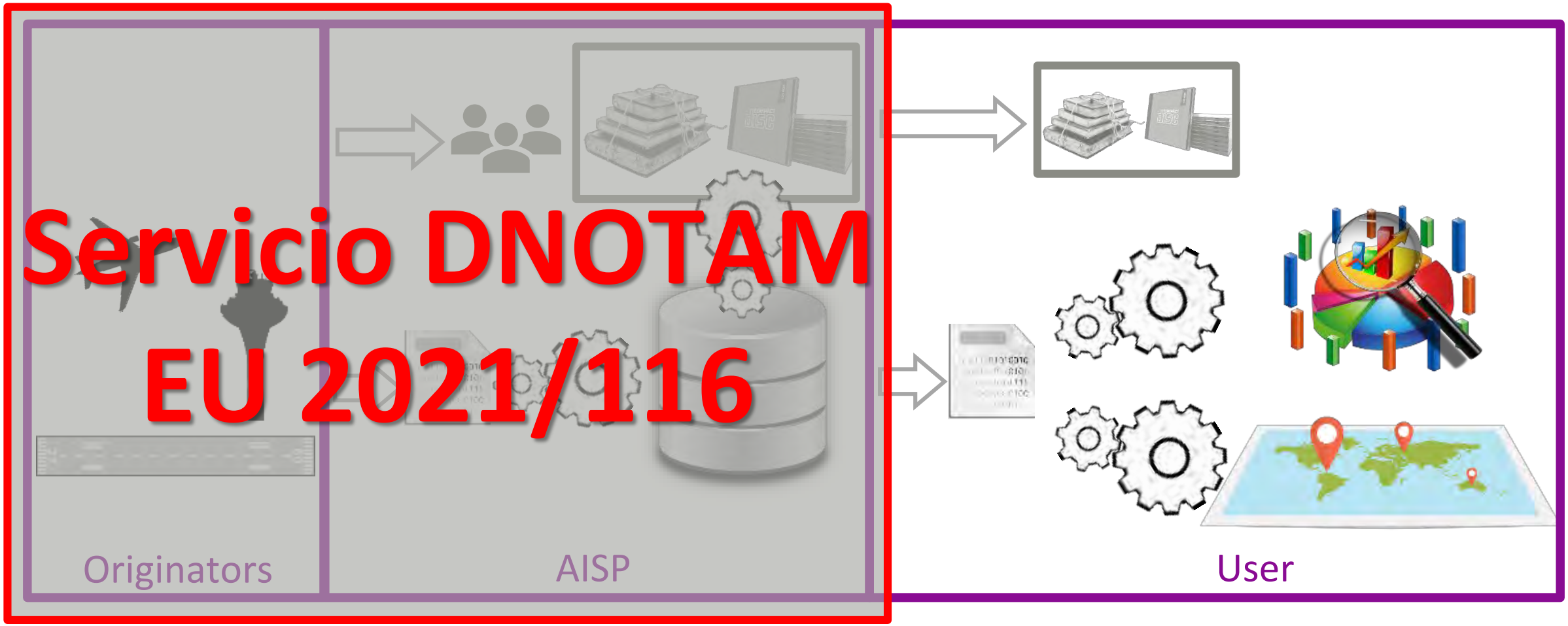


CP1 (2021/116)

Servicios web de intercambio de Datos Aeronáuticos

GroupEAD

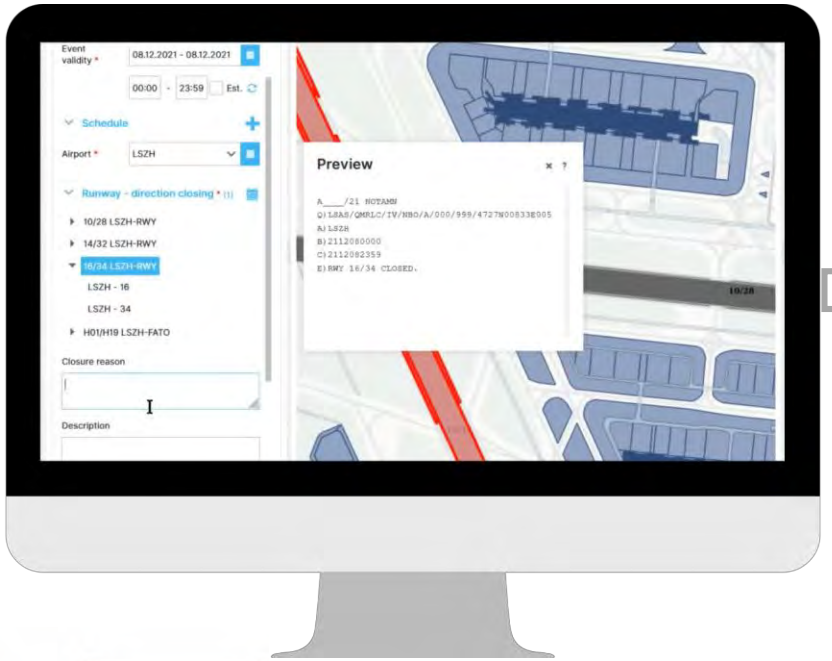
¿Que están haciendo en Europa?



GroupEAD

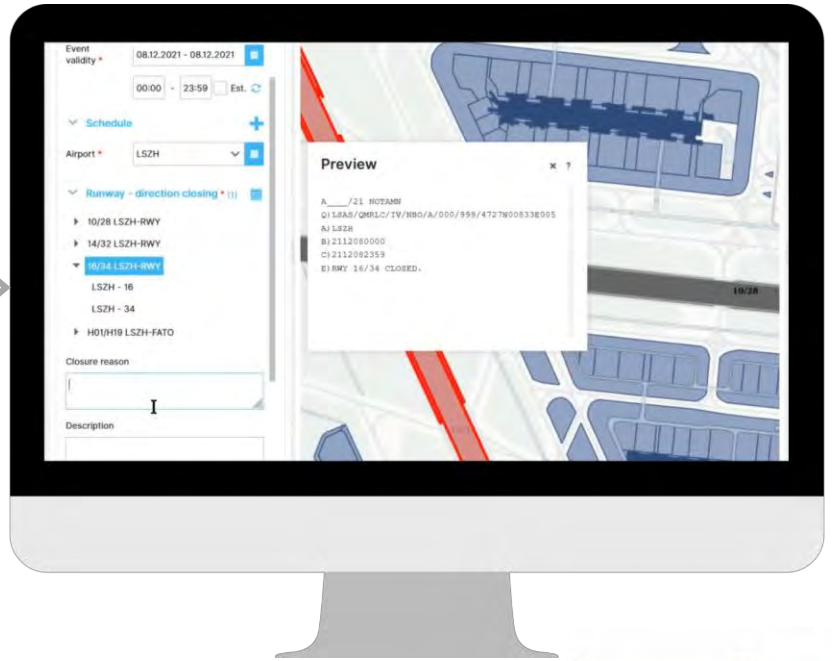
¿Que están haciendo en Europa?

Operador de Aeropuerto





AISP





GroupEAD

¿Que están haciendo en Europa?

- Aeropuertos afectados
  - Adolfo Suarez Madrid-Barajas
  - Ámsterdam Schiphol
  - Barcelona El Prat
  - Berlín Brandenburg Airport
  - Brussels National
  - Copenhagen Kastrup
  - Dublín
  - Dusseldorf International
  - Frankfurt International
  - Milan-Malpensa
  - Munich Franz Josef Strauss
  - Nice Cote d'Azur
  - Palma de Mallorca Son Sant Joan
  - Paris-CDG
  - Paris-Orly
  - Rome-Fiumicino
  - Stockholm-Arlanda
  - Vienna Schwechat



Apéndice J al Informe sobre la Cuestión 4 del Orden del Día



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• • •

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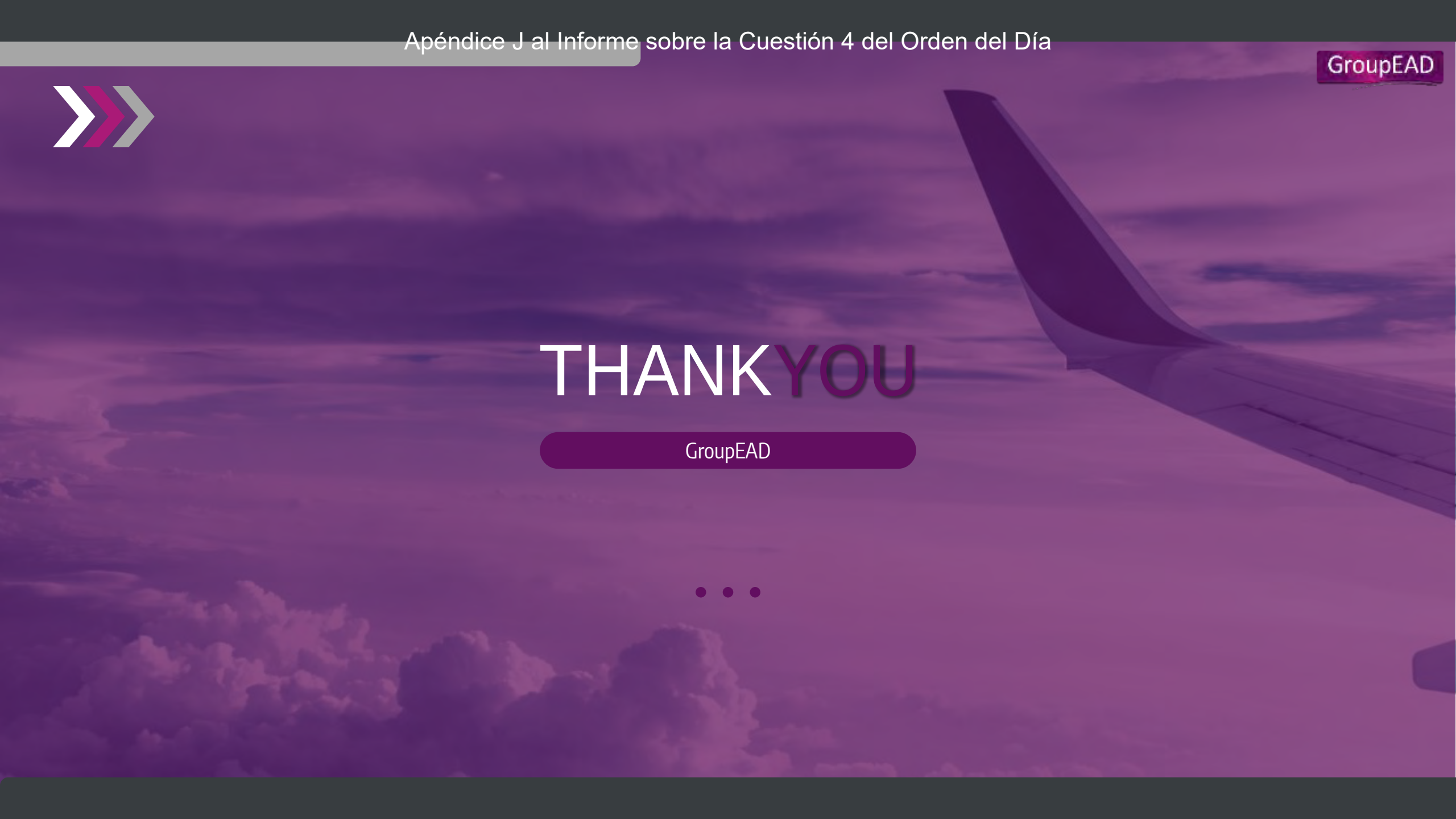
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info@groupead.com


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ICAO SAM AIM - 2023



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Servicios AIM/SWIM – Contexto Europeo



¿Que es SWIM?

EAD – Prototipo de SWIM

AIM/SWIM - Contexto Europeo

GroupEAD

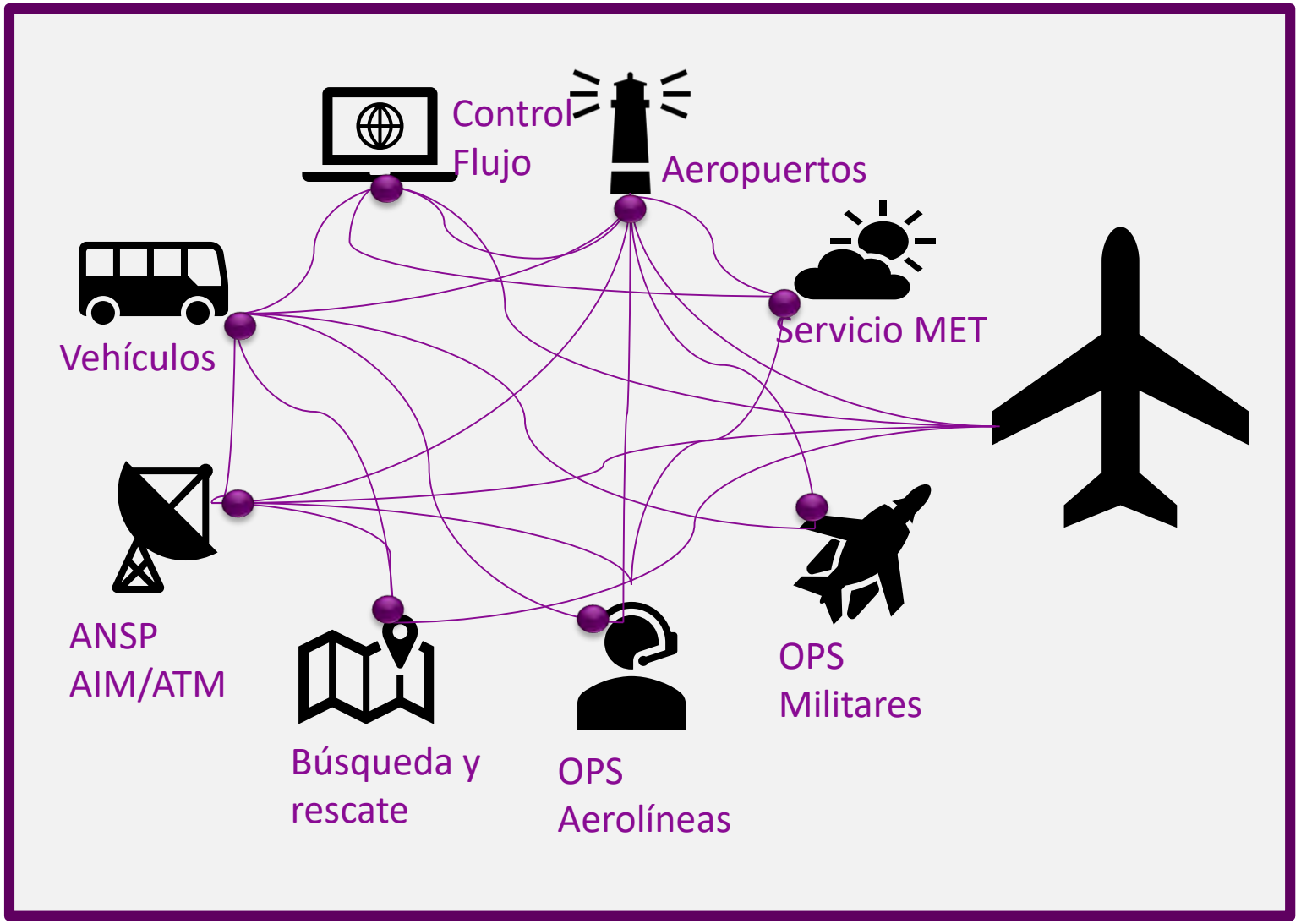
Servicios
AIM/SWIM –
Contexto Europeo

¿Que es SWIM?



¿Qué NO es SWIM?

- Red punto a punto
- Muchos protocolos de comunicación específicos
- Interfaces diseñadas personalizadas



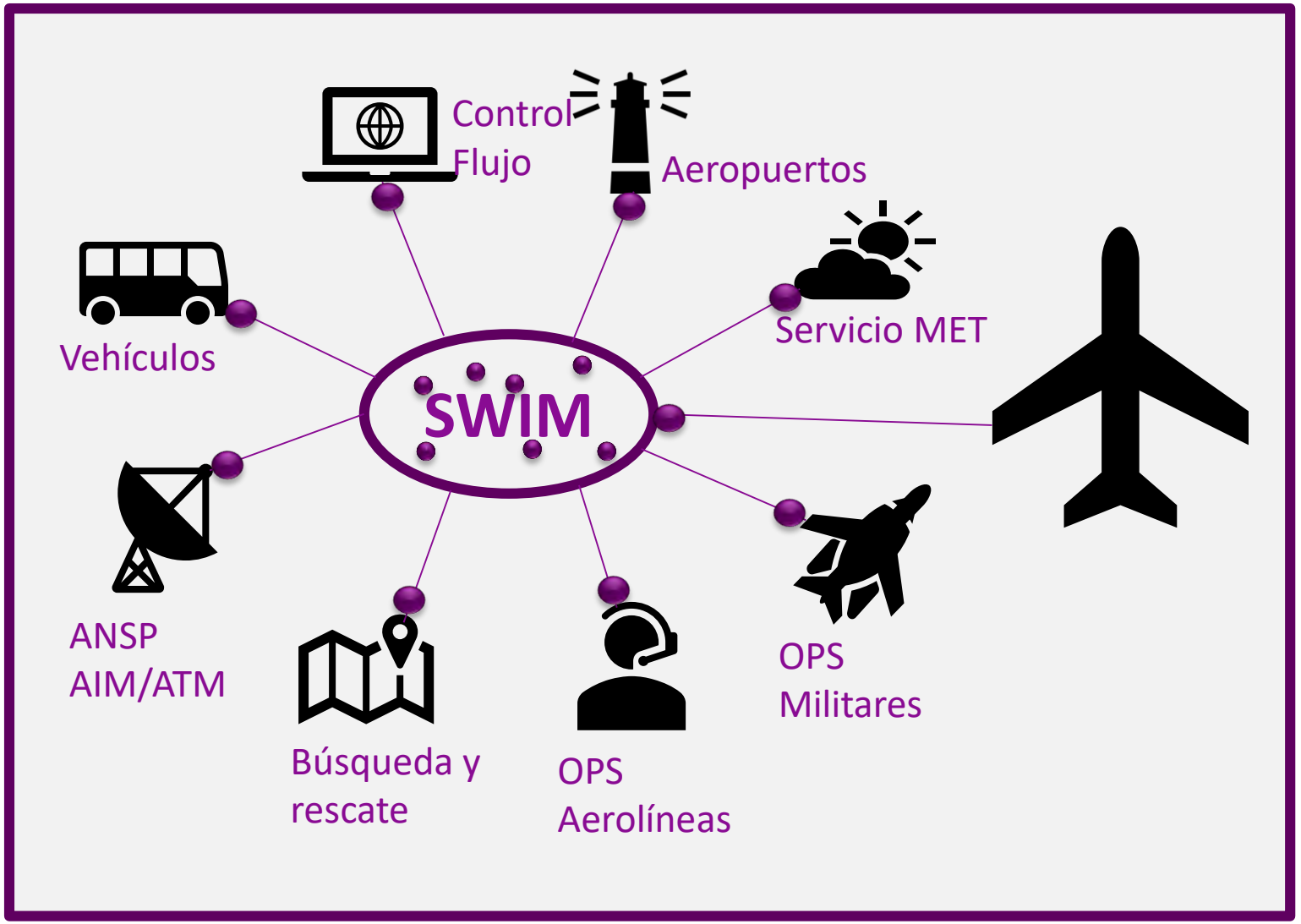
¿Qué SI es SWIM?

System

Wide

Information

Management

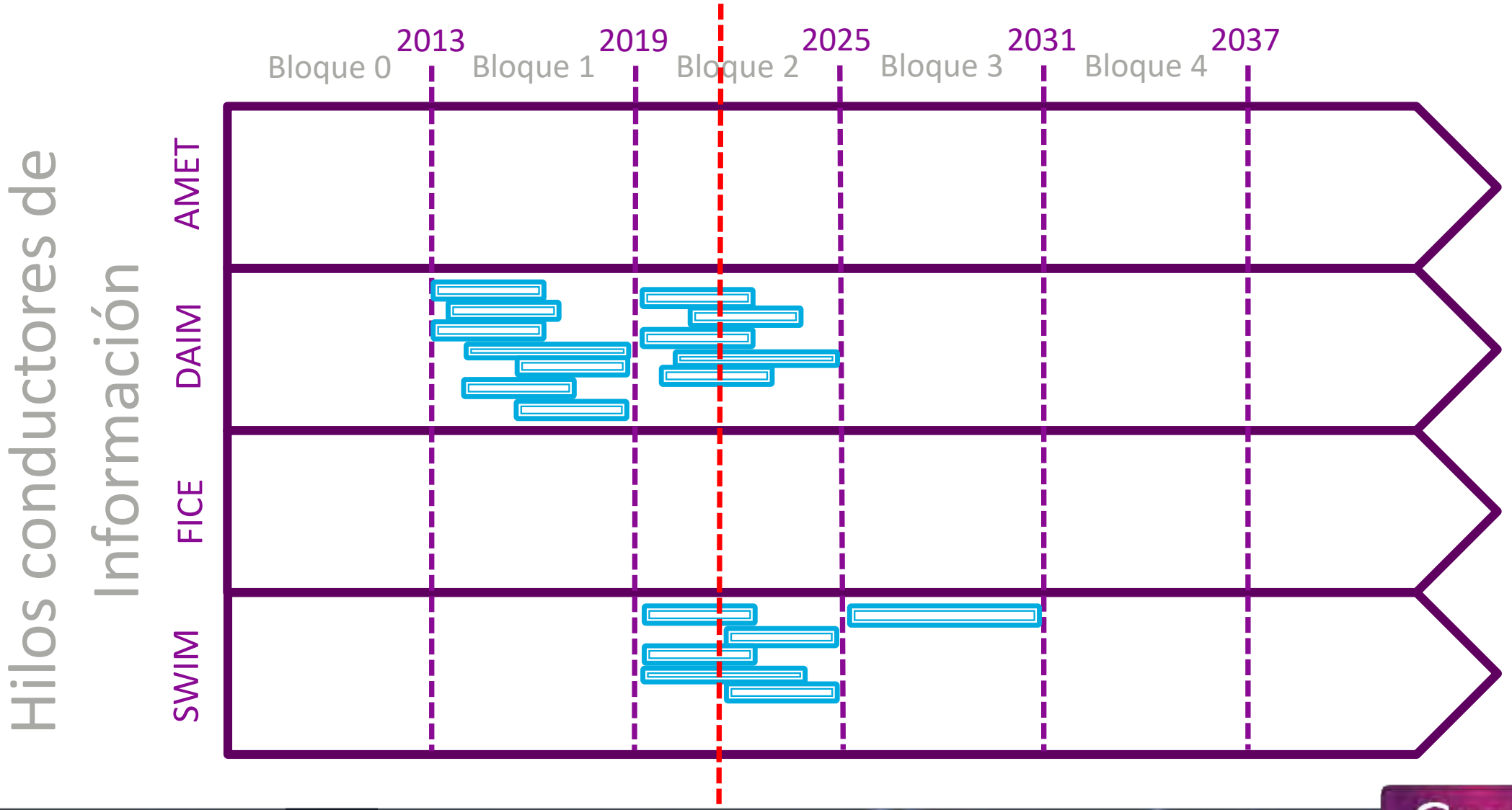


¿Qué SI es SWIM?

- Red de intercambio centralizada
- Protocolos de comunicación estándar
- Concepto global de operaciones

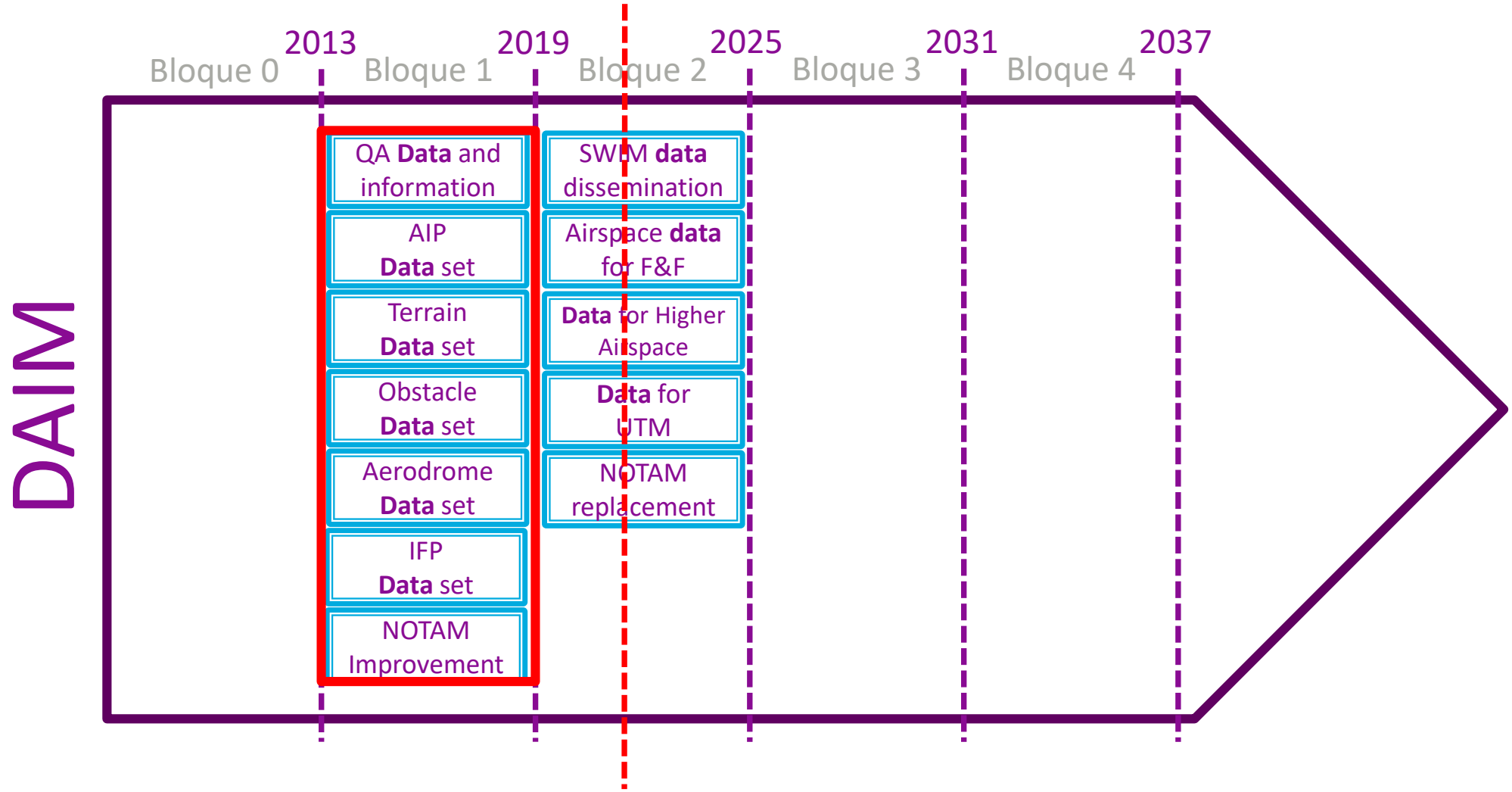


DAIM Y SWIM – Componentes esenciales de ASBU en el ICAO GANP



GroupEAD

DAIM – ¡Datos en todas partes!



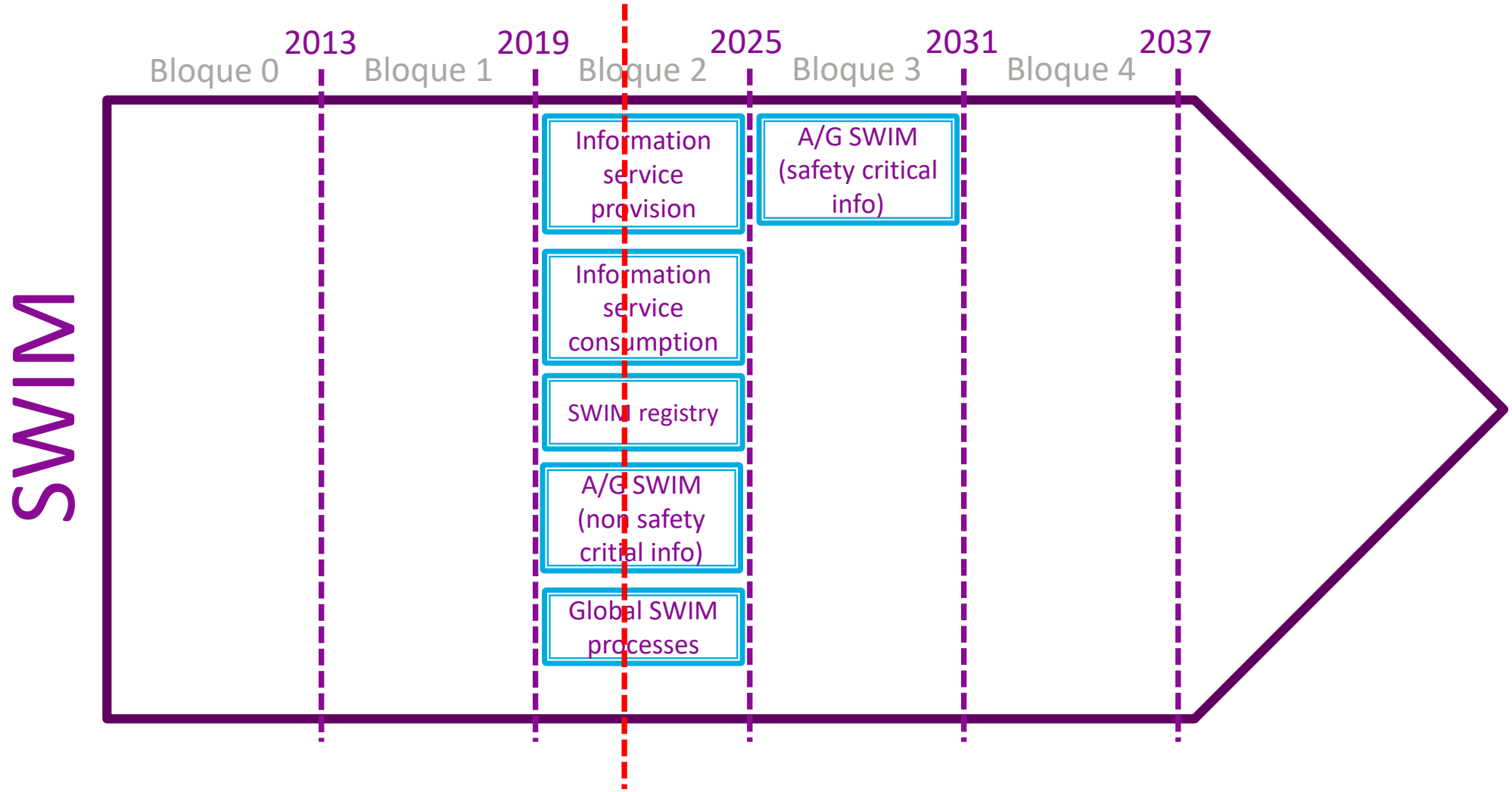
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DAIM en Bloque 2

- Intercambio completamente digital como **estándar** (SOA)
- El papel debe ser **abandonado**
- Mejora sobre la precisión de los datos de **posición y tiempo**
- Soporte a conceptos como **Alto Espacio Aéreo** (high airspace) o gestión de trafico de **Sistemas Aéreos no tripulados** (UAS)
- Una **base de datos de obstáculos rica y dinámica** y restricciones **geo-referenciadas** automatizadas.



SWIM en Bloque 2



GroupEAD

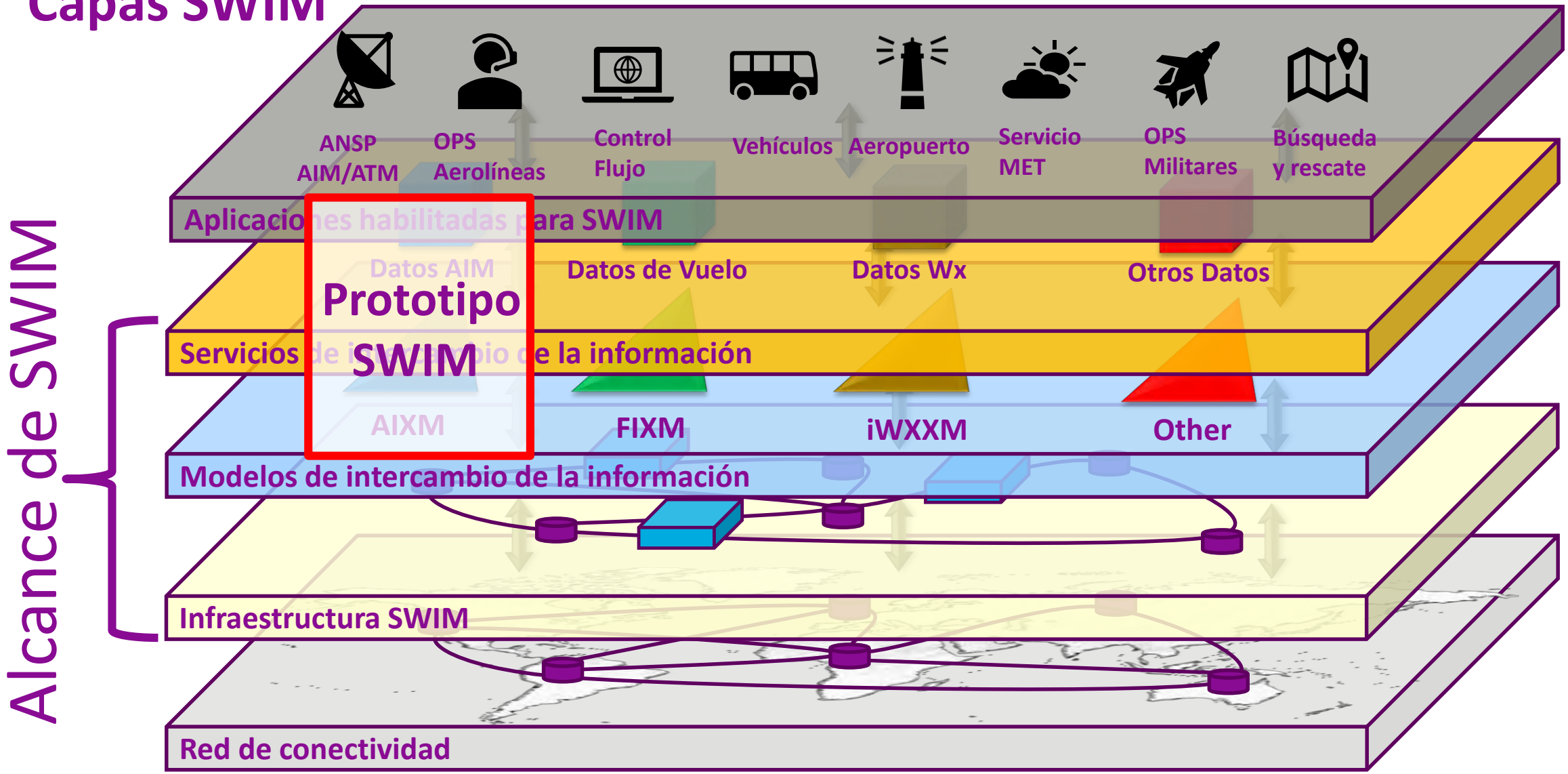
SWIM en Bloque 2

- **Internet** en vez de **punto-a-punto**
- **Publicación/Suscripción – Solicitud/Respuesta**
- **Aeronave** como un nodo en intercambio Aire/Tierra (información no crítica)



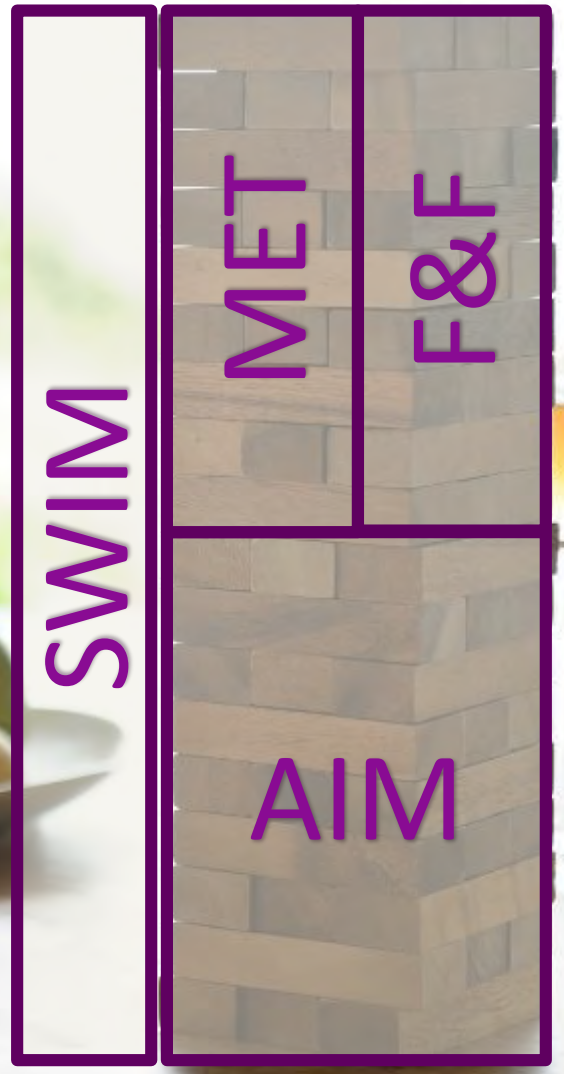
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Capas SWIM



GroupEAD

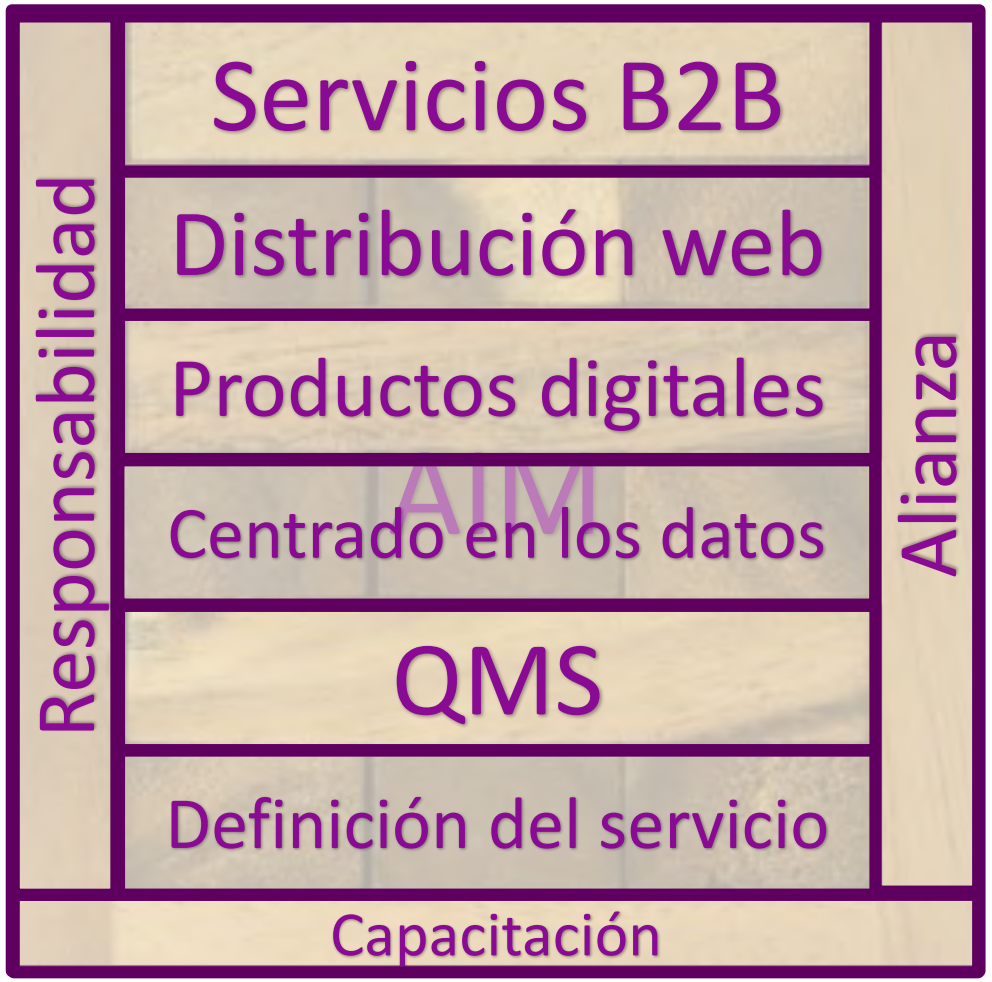
AIM el fundamento sólido de SWIM



AIM:

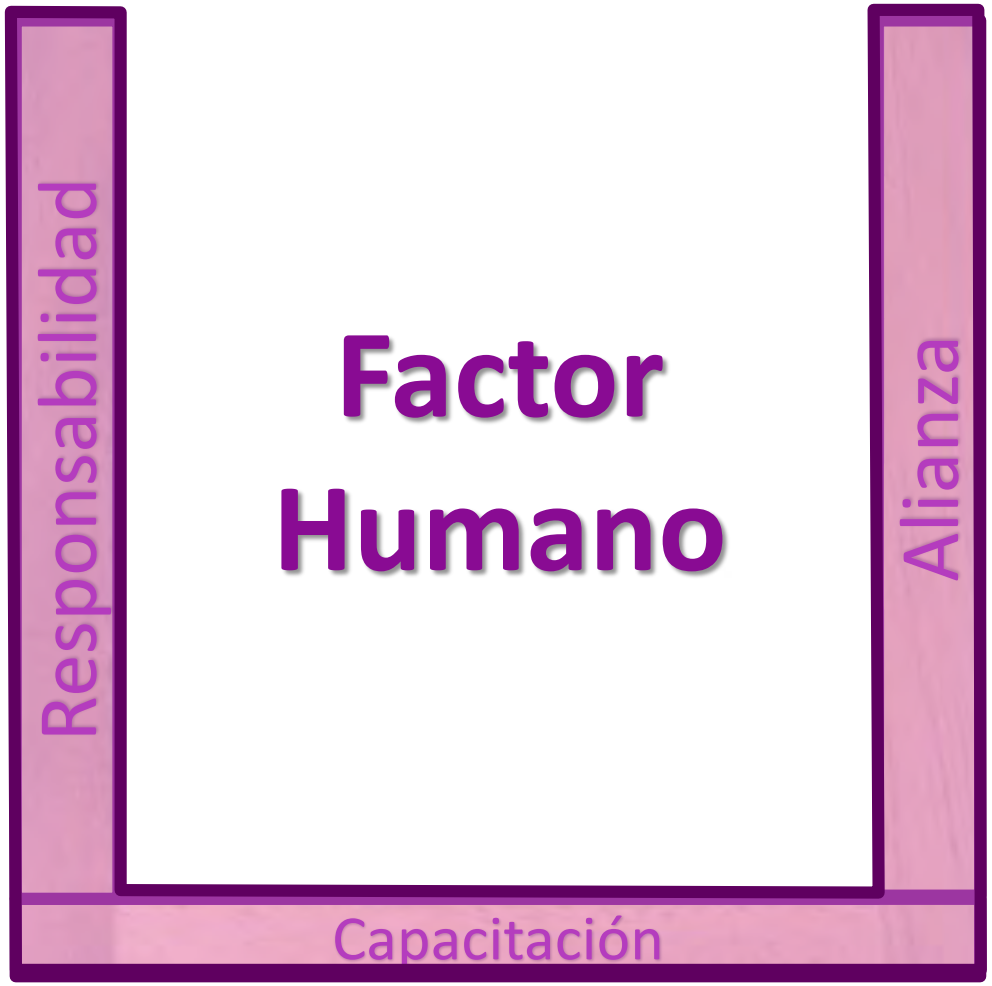
- Definición de las entidades aeronáuticas
- Datos dinámicos y estáticos
- Mecanismo de actualización

Bloques para un AIM sólido

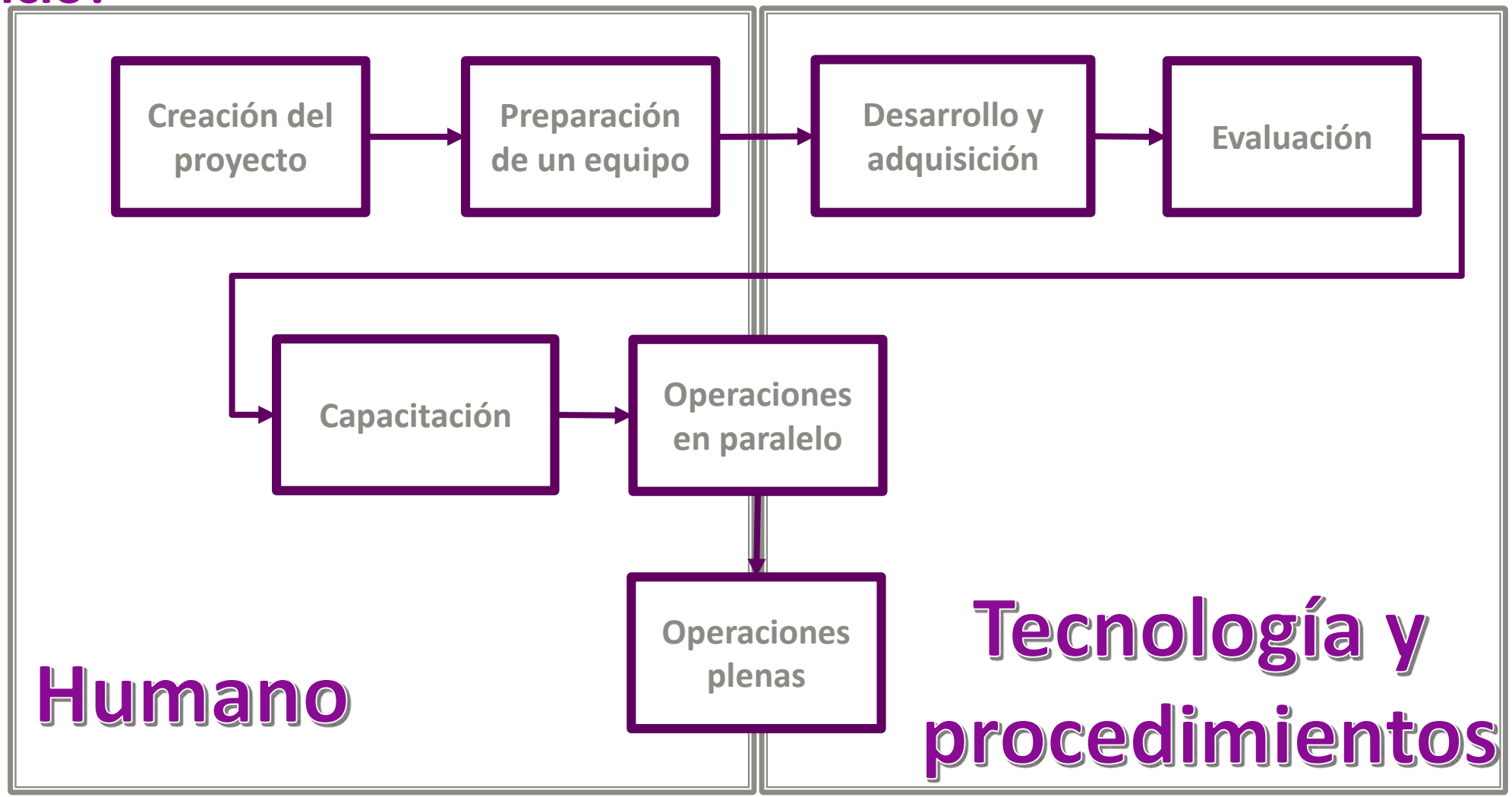




Bloques para un AIM sólido



Como construir un AIM sólido sin poner en riesgo la provisión del servicio?



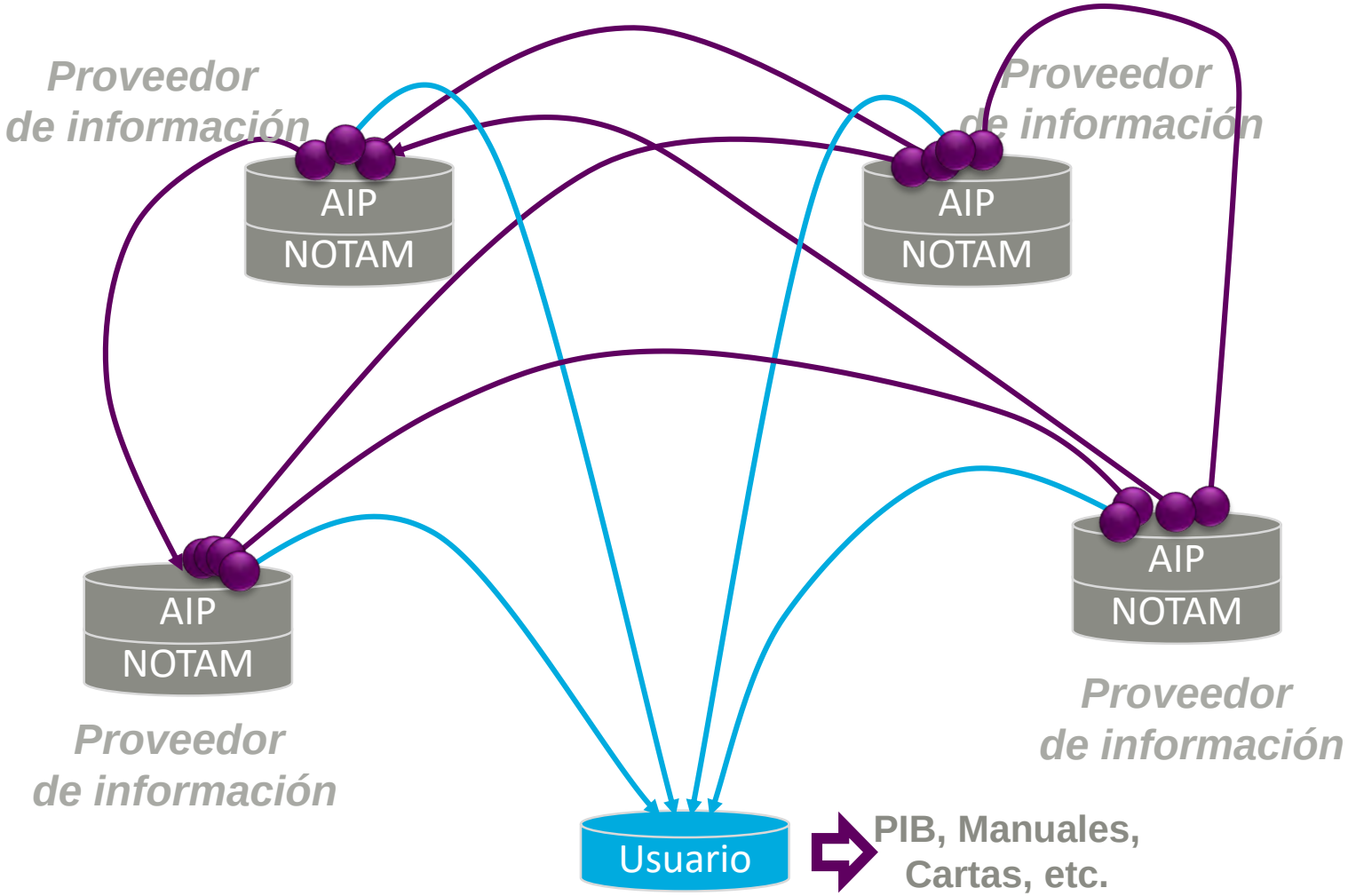
GroupEAD

Servicios
AIM/SWIM –
Contexto Europeo

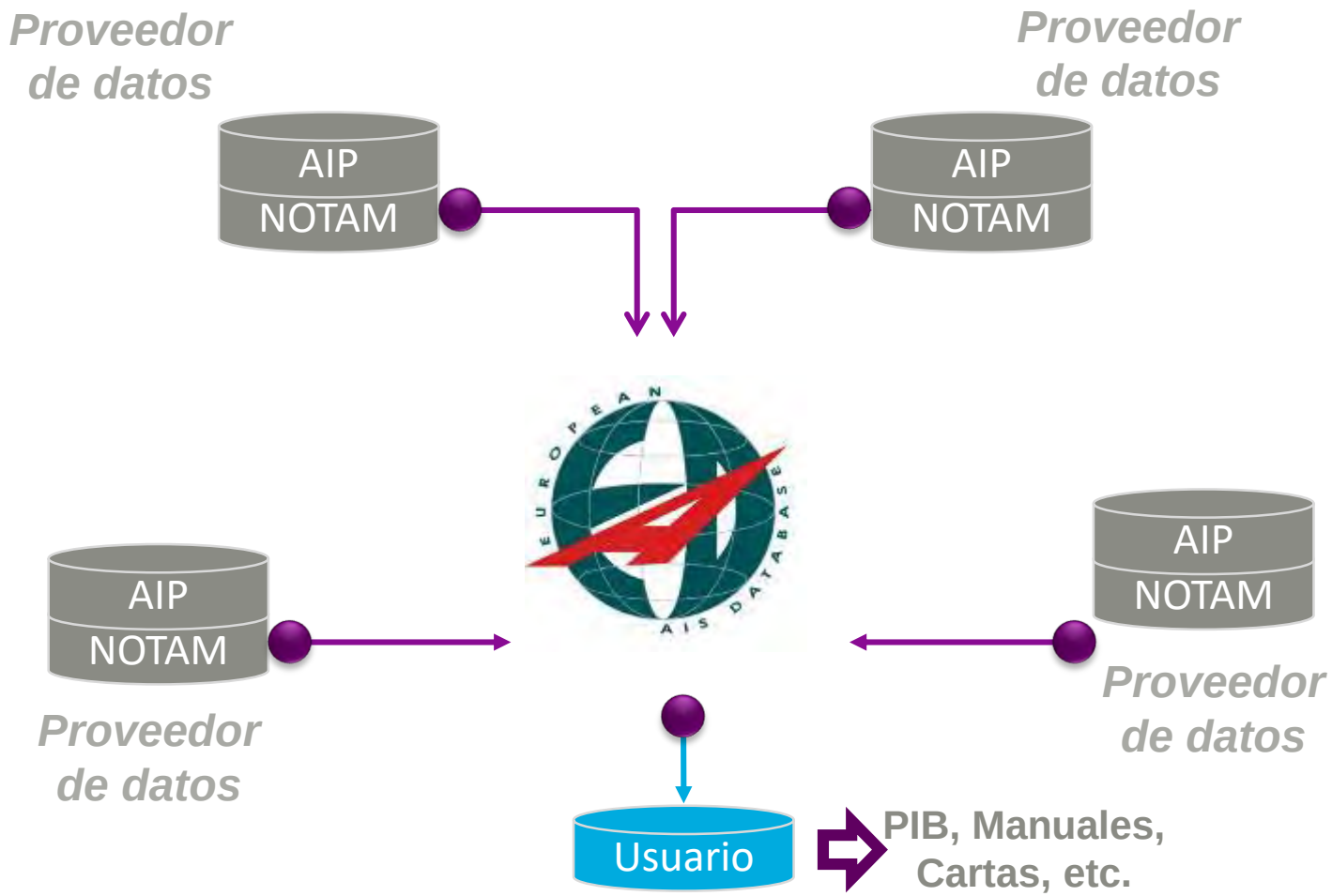
EAD – Prototipo de SWIM



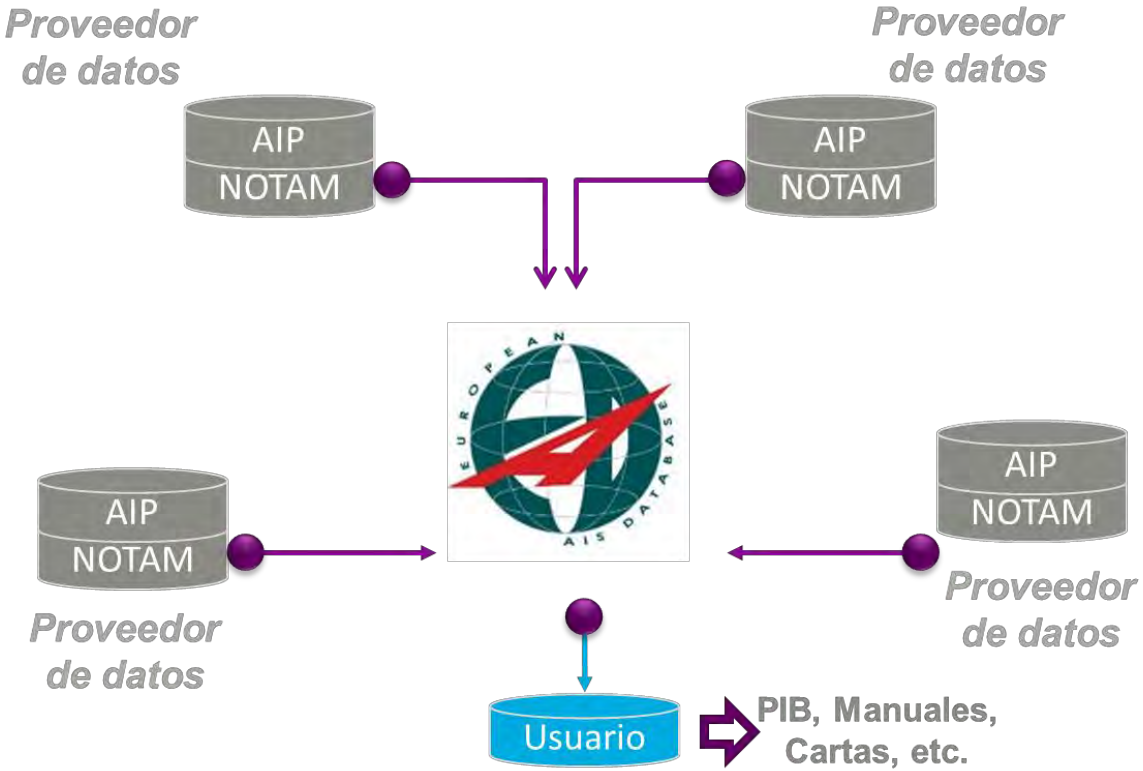
Erase una vez en Información Aeronáutica…

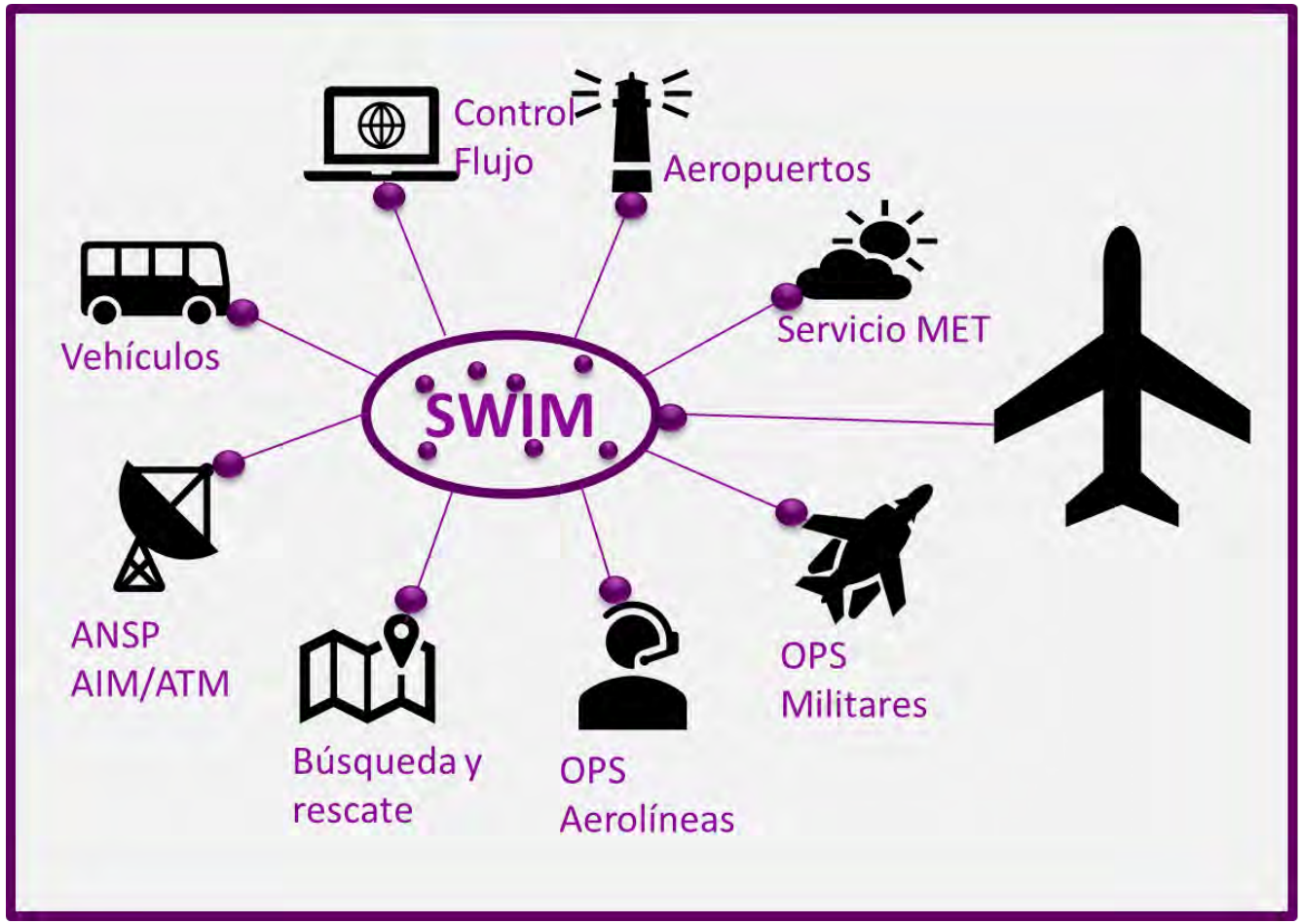


Intercambio centralizado de Información Aeronáutica



EAD - Prototipo de SWIM





GroupEAD



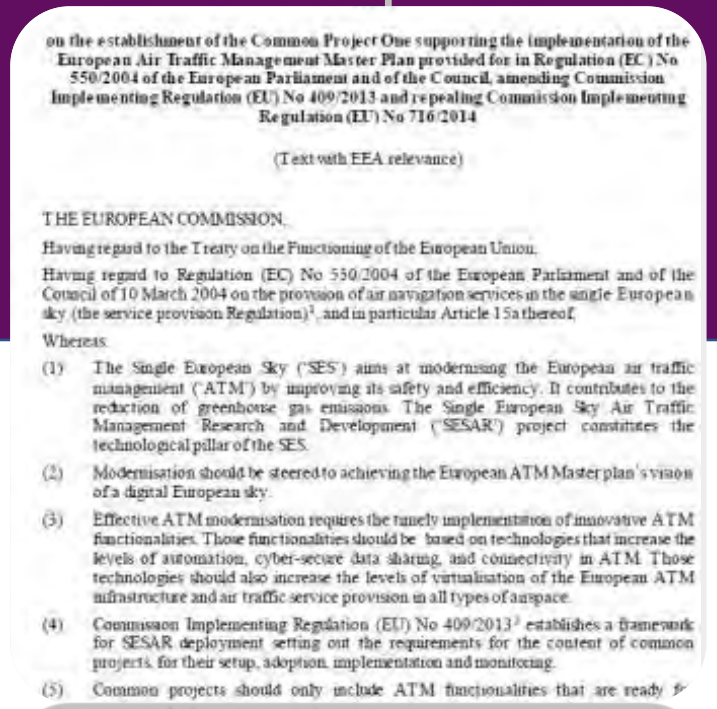
Servicios
AIM/SWIM –
Contexto Europeo

AIM/SWIM - Contexto Europeo

Marco Regulatorio



ATM Master Plan



on the establishment of the Common Project One supporting the implementation of the European Air Traffic Management Master Plan provided for in Regulation (EC) No 550/2004 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 409/2013 and repealing Commission Implementing Regulation (EU) No 716/2014

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 550/2004 of the European Parliament and of the Council of 10 March 2004 on the provision of air navigation services in the single European sky (the service provision Regulation)[1], and in particular Article 15a thereof,

Whereas:

(1) The Single European Sky ('SES') aims at modernising the European air traffic management ('ATM') by improving its safety and efficiency. It contributes to the reduction of greenhouse gas emissions. The Single European Sky Air Traffic Management Research and Development ('SESAR') project constitutes the technological pillar of the SES.

(2) Modernisation should be steered to achieving the European ATM Master plan's vision of a digital European sky.

(3) Effective ATM modernisation requires the timely implementation of innovative ATM functionalities. Those functionalities should be based on technologies that increase the levels of automation, cyber-secure data sharing, and connectivity in ATM. Those technologies should also increase the levels of virtualisation of the European ATM infrastructure and air traffic service provision in all types of airspace.

(4) Commission Implementing Regulation (EU) No 409/2013[2] establishes a framework for SESAR deployment setting out the requirements for the content of common projects, for their setup, adoption, implementation and monitoring.

(5) Common projects should only include ATM functionalities that are ready

CP1 – EU 2021/116



SDP



CP1 – Proyecto común 1

- Sucesor de PCP (Proyecto piloto común)
- Parte de SESAR (Cielo Único Europeo)
- Digitalización del ATM Europeo
- Funcionalidades ATM

Jun 2014
Regulación PCP

Feb 2021
Regulación CP1

Dic 2025
Implementación servicios AIM/SWIM

Airspace structure: EAUP/EUUP

Advanced flexible use of the airspace

Airspace availability: ARES

Service
Service provision
Coordination
Stakeholders concerned

CRC Mil

Network Manager

ACC provides the availability of ARES in collaboration with MIL

ACC

MIL

AMC

CP1 - 5.3.1 – Intercambio de información aeronáutica

Aerodrome Mapping

Aeronautical Features

Digital NOTAM

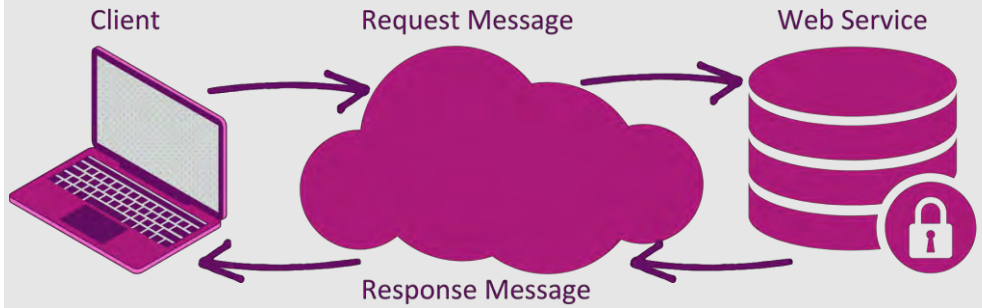
Aeronautical information service provider

Air Navigation Service Provider

CP1 – Proyecto común 1

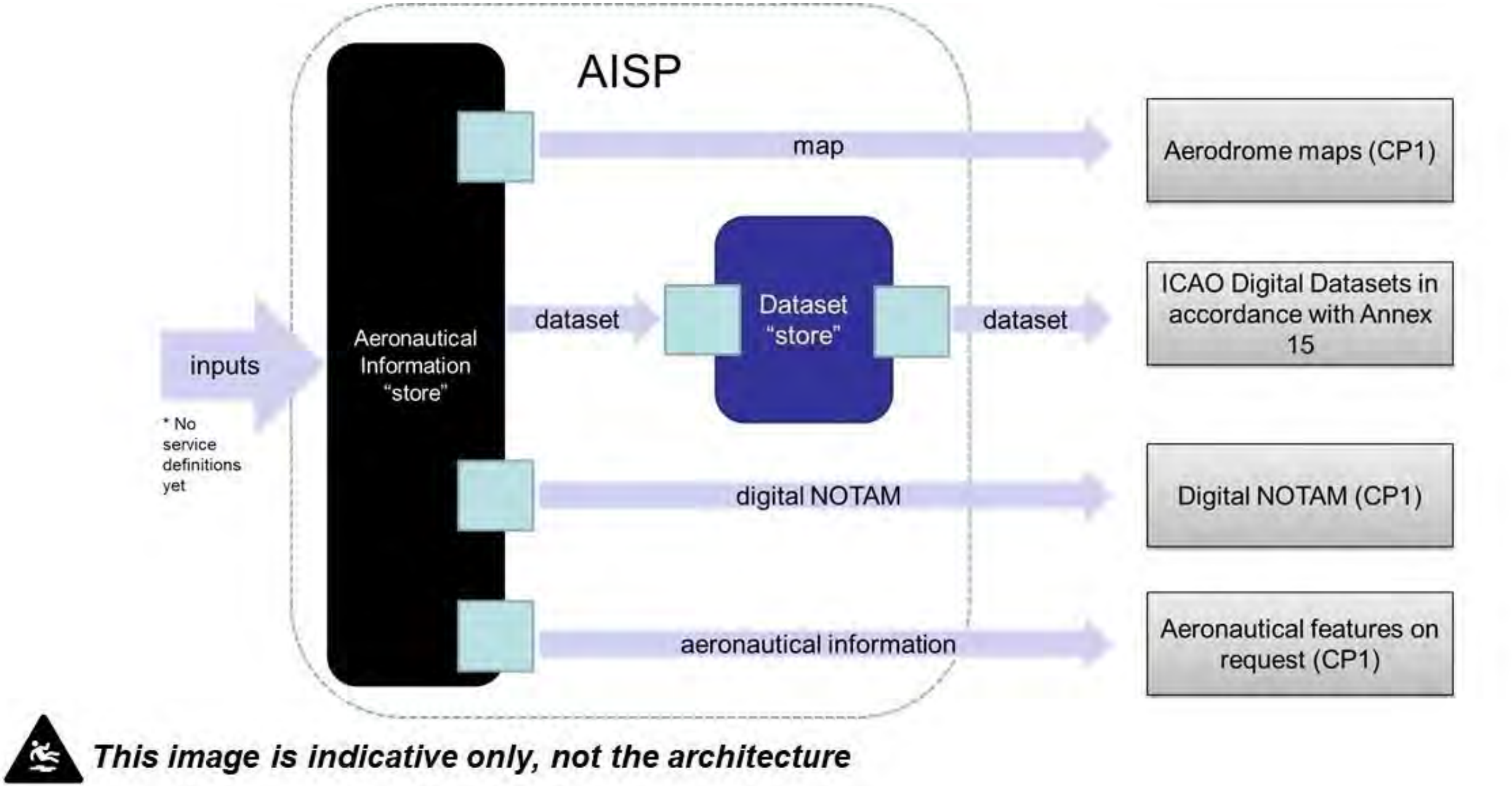
EU 2021/116

- AF 5 (SWIM)
  - Servicio de datos de Información Aeronáutica
  - Servicio de Mapas de Aeródromo
  - Servicio de NOTAM Digital



CP1 (2021/116)

Servicios web de intercambio de Datos Aeronáuticos

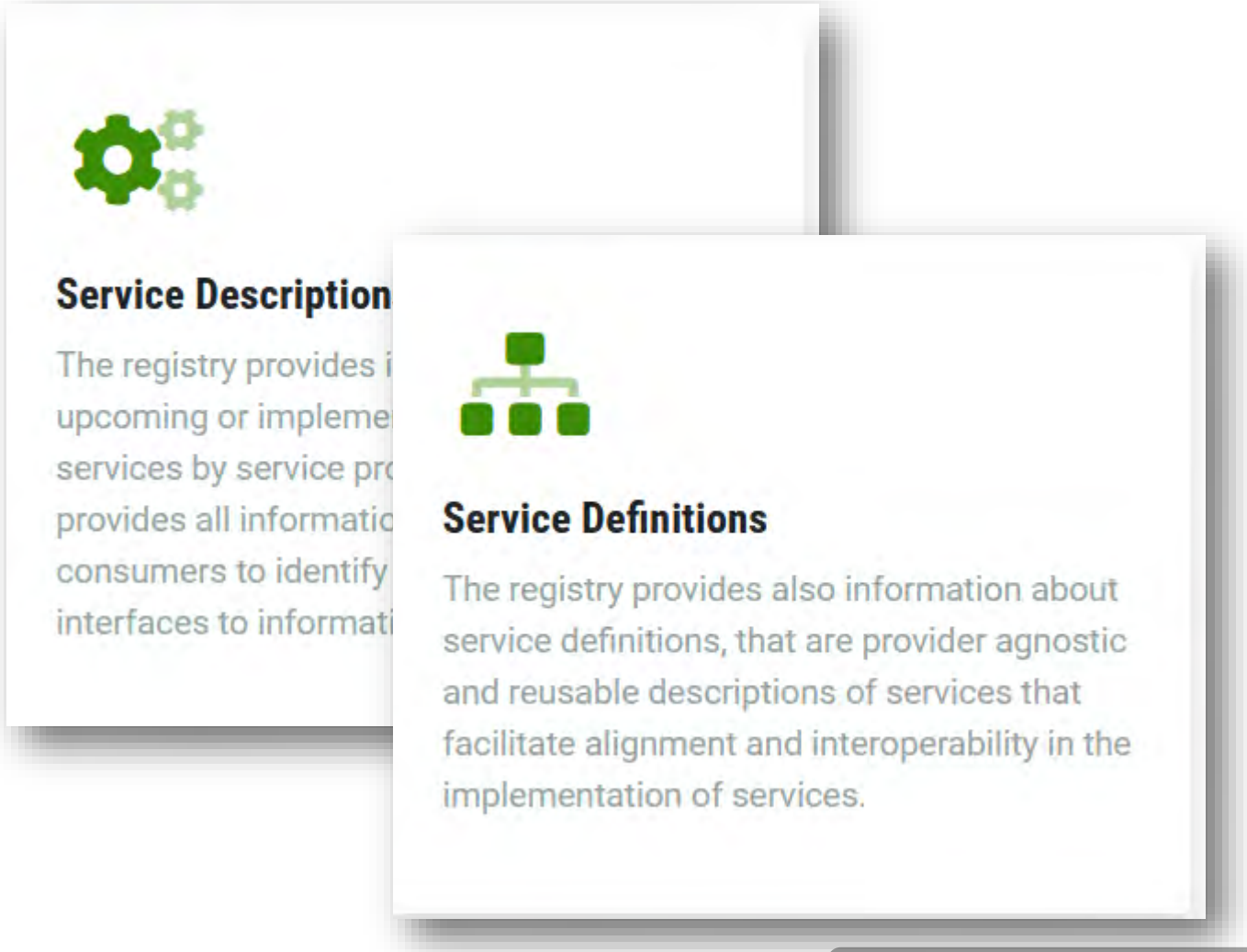


This image is indicative only, not the architecture

Registro SWIM



https://eur-registry.swim.aero/home



Servicios AIM/SWIM – Registro Eurocontrol

Aeronautical Data Set Management Service 1.0.0



Abstract

The Aeronautical Data Set Management Service allows an aeronautical information service (AIS) to upload and manage ICAO Annex 15 digital data sets, customised data sets and accompanying metadata within a data set store.

The service provides support for the management of data set series, data sets and data product specifications.

The service is part of a series of services that supports the provision of digital data sets as defined by ICAO Annex 15.

Aeronautical Data Set Request Service 1.0.0



Abstract

The Aeronautical Data Set Request Service allows the service consumer to request a data set, based on a set of filters, from a data set store. The service is part of a series of services that supports the provision of digital data sets as defined by ICAO Annex 15.

Aeronautical Information Request Service 01.00.00



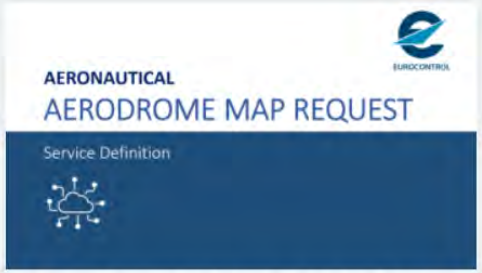
Abstract

The Aeronautical Information Request Service allows the service consumer to get aeronautical information concerning the actual and future infrastructure to be used by air traffic such as aerodromes, airspaces, navigation aids and ATS routes. The exact information needed by the service consumer can be specified in the request e.g. based on feature name or the location of the feature. The information returned is in the form of an AIXM 5.1.1 message.

Servicios AIM/SWIM – Registro Eurocontrol

Aeronautical Aerodrome Map Request Service

01.00.00



Abstract

The Aeronautical Aerodrome Map Request Service provides a capability for on-request aeronautical aerodrome maps that are generated from aerodrome mapping data. Note: Aerodrome mapping data are based on the ICAO Annex 15 notion of aerodrome mapping data and the related aerodrome mapping datasets. Aeronautical aerodrome maps are a graphical representation of aerodrome mapping data. The service generates aeronautical aerodrome maps from current or next AIRAC cycle aerodrome mapping data available in the service back-end. The service encodes the aeronautical aerodrome maps in a graphical format. The consumer of the service can specify in the aerodrome map request: - the individual aerodrome, - the aerodrome map layers to be included, and - the geographical area of interest. The provided aeronautical aerodrome map is used in visualisation contexts as a backdrop map. The service capability enables various use cases (e.g. Digital NOTAM overlay in ePIB applications). The Aeronautical Aerodrome Map Request Service definition provides a common specification for the implementation of Aeronautical Aerodrome Map Request Service instances that conform with EU Implementing Regulation 2021/116 - Common Project One. Note: In the context of European SWIM deployment the Aeronautical Aerodrome Map Request Service capability realizes the SESAR Deployment Programme Aerodrome Mapping Service - Map part. The capability to request airport layout features (i.e. aerodrome mapping data) is realized by the Aeronautical Information Request Service.

Digital NOTAM Subscription and Request Service

01.00.00



Abstract

The Digital NOTAM Subscription and Request Service allows the service consumer to get aeronuatical information in accordance with the Digital NOTAM specification. The aeronautical information conforms to the event scenarios that are supported by Digital NOTAM such as runway closures. The service consumer may subscribe to the service, specifying the event scenarios of interest. It is also possible to send a direct request to the service to get the aeronautical information. The information returned is in the form of an AIXM 5.1.1 message. This supports the integration of the latest information into an existing aeronautical information store in the various ATM systems.

Proyecto iNM

Integrated Network Manager

- Will enable to manage 13.8 Million flights by 2030
- Ensures efficiency
- Reduces flight delays
- Reduces environmental impact
- Supports aviation growth



iNM

New digital products (big data, AI, cloud, etc.)

300+ M Euros

Proyecto iNM - eEAD

Wave 1

- Mantenimiento de datos AIS
- Servicio de NOTAM Digital (8 Escenarios)

Wave 2

- Reemplazo de la EAD
- Servicio de DDS (OACI)
- Servicio de NOTAM Digital (CP1 - 20+ Escenarios)
- Servicio de datos de información aeronáutica (CP1)
- Servicio de mapas de aeródromo (CP1)



eEAD

Wave 1 – Nov 2024

Wave 2 – May 2025


GroupEAD
Responsabilidad
Servicios B2B
Distribución web
Productos digitales
Centrado en los datos
QMS
Definición del servicio
Alianza
Capacitación

GroupEAD





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THANKYOU

GroupEAD

Agenda Item 5: NOTAM Contingency Plans, AIS Contingency Plan for Volcanic Ash and ICARD System

5.1 Under this agenda item, the Meeting reviewed the following papers:

- **WP/08** – NOTAM contingency plan (presented by the Secretariat)
- **WP/09** - AIS contingency plan for volcanic ash (presented by the Secretariat)
- **WP/10** – Follow-up to the resolution of issues related to the ICARD system (presented by the Secretariat)

5.2 Under this agenda item, the Meeting analyzed the NOTAM Contingency Plan, the Volcanic Ash Contingency Plan, as well as the issues related to ICARD.

5.3 Regarding the NOTAM Contingency Plan, data from Bolivia and Panama have been updated. The status of the NOTAM Contingency Plans is presented as **Appendix A** to this part of the report.

5.4 In addition, efforts have been made with Venezuela and Colombia to sign letters of agreement to establish back-up NOF offices.

5.5 In relation to the same issue, Paraguay and Chile have reported on tests carried out to verify the validity of the NOTAM Contingency Plan and the support provided by the Chilean NOF to the Asunción NOF.

5.6 Regarding the Volcanic Ash Contingency Plan, the Secretariat informed the States that on September 15 the VOLCEX (virtual) meeting will be held to establish the coordination for the 2024 VOLCEX exercise.

5.7 The delegates also provided information regarding the Volcanic Ash Contingency Plan. The current status is included as **Appendix B** to this part of the report.

5.8 With regard to ICARD, the Secretariat has worked closely with the States to resolve the difficulties that arise in the database in relation to the SAM Region.

5.9 Thanks to this coordinated work, Bolivia has eliminated all duplicate codes in use and Venezuela has revised more than 400 codes to reflect the codes in use in the State in ICARD.

5.10 The Secretariat congratulated all the States for the effort made to resolve a high percentage of the duplicate code problems and for reflecting in ICARD all the codes in use in the State.

5.11 The Secretariat committed to continue working, in coordination with the States, to reduce the discrepancies observed in the ICARD database in the SAM Region.

APÉNDICE A / APPENDIX A

Catálogo de los Planes de Contingencia NOTAM de la Región SAM **Fecha:** **18 de Agosto del 2023**
Catalogue of NOTAM Contingency Plans in the SAM Region **Date:** **August, 18th, 2023**

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Argentina	Uruguay		X	NOF Ezeiza Tel: 541 4480 2294 Fax: 541 4480 2260 Email: nofezeiza@eana.com.ar NOF Montevideo Tel: 5982 6040067 Email: ais@adinet.com.uy : aisnof@dinacia.gub.uy	AFS, Tel/Fax, REDDIG, Internet	AMHS
Bolivia	Perú		X	NOF La Paz Tel: 5912821732 int 288 Mobile: +5972028265 Email : nofbolivia@naabol.gob.bo NOF Lima Tel: +511 2301419 +511 2301416 Mobile : +51 978471875 Email: aislima@corpac.gob.pe aislimaperu@gmail.com	AFS, Tel, REDDIG, Internet	
Brasil/Brazil				NOF Brasil Tel: 5521 21016976 552121016879 Mobile: +5521985543390 Email: nofbrazil@decea.mil.br	Tel, Internet	CRONOS

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Chile	Ecuador		X	NOF Chile Tel: 56224392081 Email: nofchile@dgac.gob.cl NOF Guayaquil Tel: 5934 2924940 Email: nof_ecuador@dgac.gob.ec	AFS, Tel/ REDDIG, Internet	IAT-WIN
Colombia				NOF Bogotá Tel: 571 2962991 Email: ais@aerocivil.gov.co; solicitudes.notam@aerocivil.gov.co		Actual Banco Web / Current Web Bank AMHS
Ecuador	Chile		X	NOF Guayaquil Tel: 5934 2924940 Email: nof_ecuador@aviacioncivil.gob.ec NOF Chile Tel: 56224392081 Email: nofchile@dgac.gob.cl	AFS, Tel/ REDDIG, Internet	IAT-WIN

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Guyana	Suriname		X	NOF Guyana Telefax: 592 2612279 Tel: 592 2612269 Cel: 592-632-0416 AFS: SYCJYNYX Cable: TIMAIRPORT GUYANA Email: aisguyana@gcaa-gy.org NOF Suriname Tel: 597 0325103 Email: ais.sur@hotmail.com ais@cadsur.sr	AFS, Tel/Fax, REDDIG, Internet	AMHS
Guyana Francesa/ French Guiana						
Panamá	Perú		X	NOF Panamá Tel: +507520-1647, +507520-1636 y +507520-1646 Mobile: +50764062071 +50768703783 Email: aisnof@aeronautica.gob.pa aisnoftum@gmail.com NOF Lima : +511 2301419 +511 2301416 +51 978471875 Email: aislima@corpac.gob.pe aislimaperu@gmail.com	AFS, Tel/Fax, REDDIG, Internet	AMHS AMHS

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Paraguay	Chile		X	NOF Asunción Tel: 59521 645952 Email: ais_adnof@dinac.gov.py NOF Chile Tel: 56224392081 Email: nofchile@dgac.gob.cl	AFS, Tel/Fax, REDDIG, Internet AFS, Tel/ REDDIG, Internet	AMHS IAT-WIN
Perú	**Bolivia**		X	NOF Lima Tel: : +511 2301419 +511 2301416 +51 978471875 Email: aislima@corpac.gob.pe aislimaperu@gmail.com NOF La Paz Tel: 5912821732 int 288 Mobile: +5972028265 Email : nofbolivia@naabol.gob.bo		AMHS
Suriname	Guyana		X	NOF Suriname Tel: 597 0325103 - Email: ais.sur@hotmail.com ais@cadsur.sr NOF Guyana Telefax: 592 2612279 Tel: 592 2612269 Cel: 592-632-0416 AFS: SYCJYNYX Cable: TIMAIRPORT GUYANA Email: aisguyana@gcaa-gy.org	AFS,Tel/Fax, REDDIG, Internet	AMHS

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Uruguay	**Argentina**		X	NOF Montevideo Tel: 5982 6040067 Email: ais@adinet.com.uy aisnof@dinacia.gub.uy NOF Ezeiza Tel 5414 480 2294 Fax 5414 480 2260 Email: nofezeiza@eana.com.ar	AFS, Tel/Fax, REDDIG, Internet	AMHS, SISNOTAM
Venezuela	Perú	X		NOF Lima Tel: +511 2301419 +511 2301416 +51 978471875 Email: aislima@corpac.gob.pe aislimaperu@gmail.com		

Nota/Note:

Columna 1: Indicar Estado, Territorio u Organismo Internacional / *Indicate State, Territory or International Organization*.

Columna 2: Indicar Estado, Territorio u Organismo Internacional con quien debe coordinarse el Plan de Contingencia del Estado citado en la Columna 1 / *Indicate State, Territory or International Organization with whom the Contingency Plan of the State mentioned in Column 1 should be coordinated*.

Columna 3: Marcar con X en el caso que el Plan de Contingencia se encuentre en proceso para su armonización con el Estado en cuestión / *Mark with an X in case the Contingency Plan is in process for its harmonization with the referred State.*

Columna 4: Marcar con X en el caso que el Plan de Contingencia se encuentre armonizado con el Estado en cuestión / *Mark with an X in case the Contingency Plan is in process for its harmonization with the referred State.*

Columna 5: Indicar cargo del Punto de Contacto y medio de comunicación a utilizar en caso de ser necesario / *Indicate position of the Point of Contact and communications means to be used, if necessary.*

Columna 6: Indicar cuáles son, en general, las facilidades y los servicios disponibles mientras el Plan de Contingencia se encuentra activado / *Indicate which are, in general, the facilities available services while the Contingency Plan is activated.*

Columna 7: Banco NOTAM / *NOTAM Bank*.

APÉNDICE B / APPENDIX B

Plan de Contingencias AIS/AIM por Cenizas Volcánicas / Contingency Plan for Volcanic Ash

Número / Number	Estado / State	¿Cuenta su Estado con un Plan de Contingencia? / Does your State have a Contingency Plan?	Servicios y organizaciones involucrados en su Plan de Contingencia / Services and organizations involved in the Contingency Plan
1	Argentina	Está prevista en su Regulación y el ANSP lo incluirá en su MADE del NOF en desarrollo (sujeto al acuerdo que está en revisión). También esta en revisión los acuerdos con el SEGEMAR Para el AGA, Apendice 2 de la RAAC 153. Establece procedimientos y responsabilidades para cada área y la activación del COE / It is foreseen in their regulation and the ANSP will include it in its NOF MADE being developed (subject to the agreement that is under review). Agreements with SEGEMAR are also under review. For AGA, Appendix 2 to RAAC 153 establishes procedures and responsibilities for each area and the activation of the Emergency Management Committee.	ANAC, EANA, SMN, SEGMEAR, AGA
2	Brazil	Tiene un Plan CIRCEA 63-2 / A plan CIRCEA 63-2 is in place.	
3	Bolivia	Están en tranisción de los documentos y lo prepararan para la gestión del 2023.	

		Bolivia cuenta con la Regulación en relación al tema. / They are in the process of drafting the documents to have them ready for 2023. Bolivia has regulations on the subject.	
4	Chile	Cuenta con una Carta con SERNAGEOMIN. Están trabajando en un Procedimiento de Contingencia con ATS/MET/AIS. / Currently, they have a letter signed with SERNAGEOMIN. They are working on a contingency procedure with ATS/MET/AIS.	
5	Colombia	Están organizando unas mesas de trabajo para firmar cartas de acuerdos ATS/AIS/MET (Aerocivil e IDEAM) e Ingeominas para revisar, actualizar y mejorar este Plan. Para el primer semestre del 2023. El Plan de Contingencia está ingresado en el Sistema de Gestión de Calidad. / They are organising working groups to sign letters of agreement with ATS/AIS/MET (Aerocivil and IDEAM) and Ingeominas to review, update and improve this plan. For the first half of 2023. The contingency plan is included in the Quality Management System.	ATS, AIS, MET, Meteorological centre
6	Guyana		
7	Ecuador		
8	French Guiana		

9	Panama	Cuenta con su Plan de Contingencia Nacional pero están en proceso de armonizarlo al Plan Regional. No hay fecha porque lo está trabajando el servicio MET. / They have a national contingency plan, which is being harmonised with the Regional Plan. There is no date defined because the MET service is working on it.	
10	Paraguay	No tienen un Plan de Contingencia por VA. Esperan desarrollarlo para el primer semestre del 2023. / They do not have a VA contingency plan. They expect to have it by the first half of 2023.	
11	Peru	No publican ASHTAM. Verificar publicación de diferencias. / They do not publish ASHTAMs. Check publication of differences.	
12	Suriname		
13	Uruguay	Cuentan con un Plan de Contingencia por Cénizas Volcánicas para el AIS. / Volcanic ash contingency plan for AIS in place.	
14	Venezuela	Estan en proceso de revision del Plan de Contingencia con SERMETAVIA para implementar en el 2023. / They are in the process of reviewing the contingency plan with SERMETAVIA for implementation in 2023.	

Agenda Item 6: Review of the implementation of Doc. 8126 - AIS/AIM Personnel Competency Evaluation and Training of AIS/AIM Personnel

6.1 Under this agenda item, the Meeting reviewed the following papers:

- **WP/16** – Implementation of the new NOTAM, SNOWTAM and ASHTAM series in Brazil (Presented by Brazil)

6.2 During the consideration of this matter, the Meeting analyzed the actions implemented by States, in relation to the implementation of Competency Evaluation of AIS/AIM personnel, both Authorities and Service Providers, as part of the analysis of the implementation of Doc 8126, Part I.

6.3 States have reported that they have national procedures, within Civil Aviation Authorities, for the evaluation of personnel competencies. The Secretariat urged to review these national procedures for Competency Evaluation and align them with the requirements of Part I of Doc. 8126 - AIS Manual.

6.4 Suriname informed the Meeting of the number of staff working in the AIS Offices. In addition, it reported on the course proposals for capacity building and strengthening the competencies of AIS/AIM personnel in the State. The report is included as **Appendix A** to this part of the report.

6.5 Additionally, the AIS Staff Training, and the requirements that will be introduced as of November 2024, which will require that Training and Evaluation must be Competency based, was discussed. The States committed to review the AIS Training Plans and align their Training Programs, Specialized Training and recurrent AIS courses to the competency based Training and Evaluation requirements and submit them to the Secretariat in 2024.

6.6 Regarding training, the industry (GroupEAD) made a presentation related to competency-based training. This is included as **Appendix B** to this part of the report.

6.7 Brazil also presented its Work Plan for the implementation of NOTAM, SNOWTAM and ASHTAM, based on the guidelines of Doc. 8126, Seventh Edition. The presentation of this Plan is included as **Appendix C** to this part of the report.

AIS SURINAME

J. A. Pengel International Airport (NOF and AD unit):

3 Supervisors AIS Officer

5 AIS Officers

New personnel: already 7 candidates for the next AIS training.

All of them are at J. A. Pengel International Airport, divided for the NOF and AD unit.

Drafting new personnel is still in progress, we should soon have more candidates for the AIS.

Zorg en Hoop aerodrome (HQ and AD unit):

Headquarter:
Acting Coordinator AIS Officer
1 Supervisor AIS
1 AIS Officer

AD unit:
1 Supervisor AIS
1 AIS Officer

At J. A. Pengel international airport the shift are from 1100 UTC till 0100 UTC.

Because of lack of personnel we had to downgrade the 24/7 shift.

When enough AIS personnel are trained, there will be 24/7 AIS service again.

At Zorg en Hoop aerodrome, the working hours are 10.45 UTC till 1800 UTC, from Monday till Friday.

Due to lack of personnel there is not always the possibility to work from sunrise to sunset

These should be the working times schedule at this aerodrome.

Our schedule for refreshing & training:

- 8 persons for AIS refreshing (local)
- 10 persons for AIM training (online from T & T)
- 3 persons for Training Developers Course (ICAO)
- 2 persons for Training Aviation Charting (local)
- 5 persons for Management training (local)
- 5 persons for Training Instructors Course (online from T & T)
- AIS training for new personnel (we do not have the exact number yet)

Thank you for your attention!



GroupEAD

ICAO SAM AIM - 2023



¿Sabes usarlo?

- El 75% de los usuarios admite que no lee el manual de instrucciones.
- El 93% de los Milenials no lee el manual de instrucciones.
- El 86% de los Seniors ha buscado algún videotutorial en YouTube.



¿Es igual de fácil en el ámbito profesional?

- ¿Cuáles son los retos en el Capacitación en el AIM?
- ¿Qué soluciones tenemos?
- ¿Cómo podemos colaborar?



Capacitación en AIM – CBTA

Retos

Soluciones

Estrategia de implementación

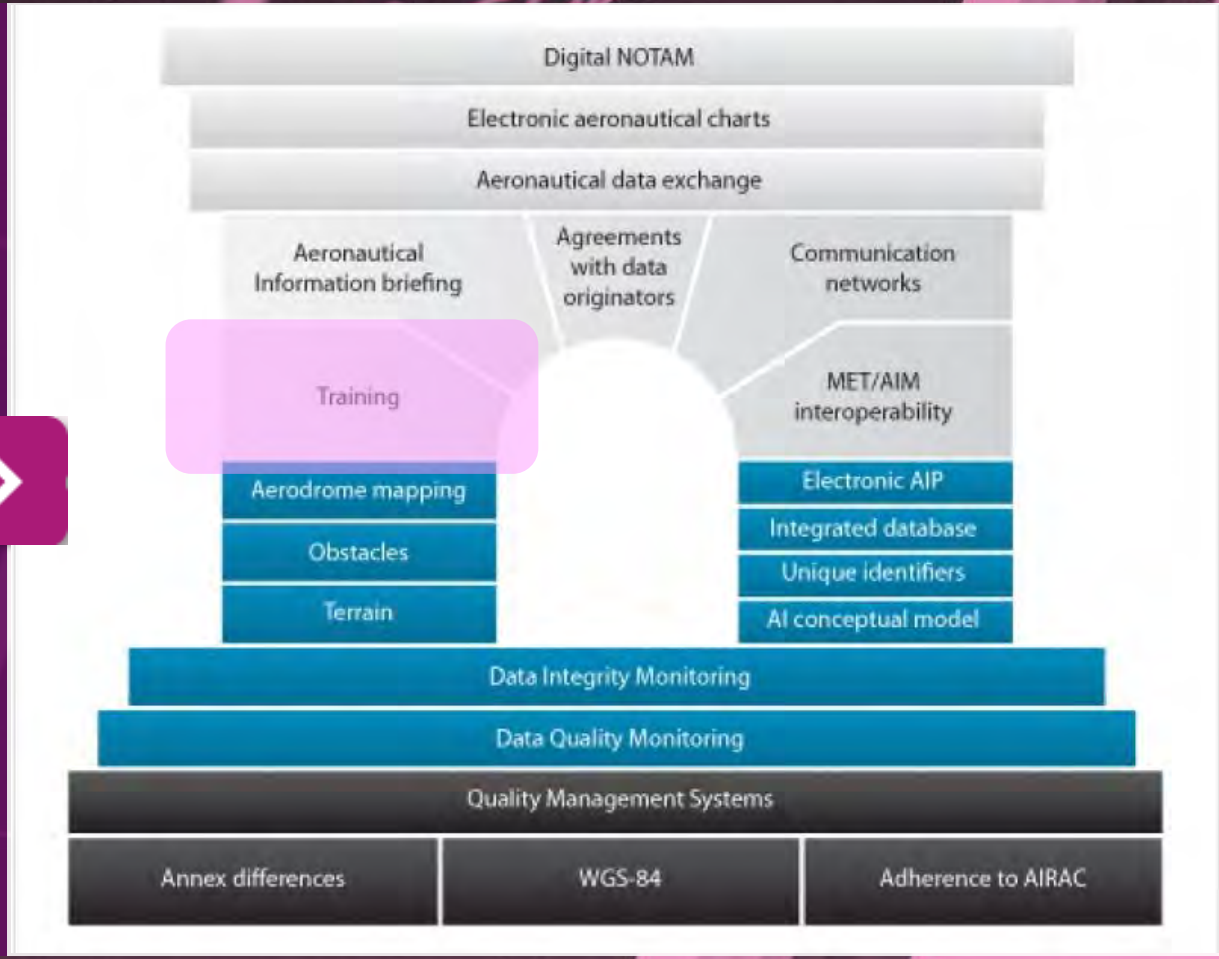




Capacitación del personal AIS/AIM

GroupEAD

Hoja de Ruta del AIS al AIM





Retos

Falta de recursos

- Humano
- Financieros
- Tecnológicos

Capacitación en AIM – CBTA

El mayor obstáculo para la transformación digital de las organizaciones es... **las personas.**



Capacitación en AIM – CBTA

Henry Ford:

"Sólo hay algo peor que capacitar a tus empleados y que se vayan …

No formarlos y que se queden."

Richard Branson:

"Capacita bien a la gente para que pueda marcharse…

trátales mejor para que no quieran hacerlo"

Derek Bok:

"Si crees que la capacitación es cara…. **prueba con la ignorancia"**



Retos

Falta de tiempo

- ¿Instructores adecuados?
- ¿Participantes adecuados?
- ¿Puedo prescindir de los participantes?



Retos

Nuevas destrezas y competencias

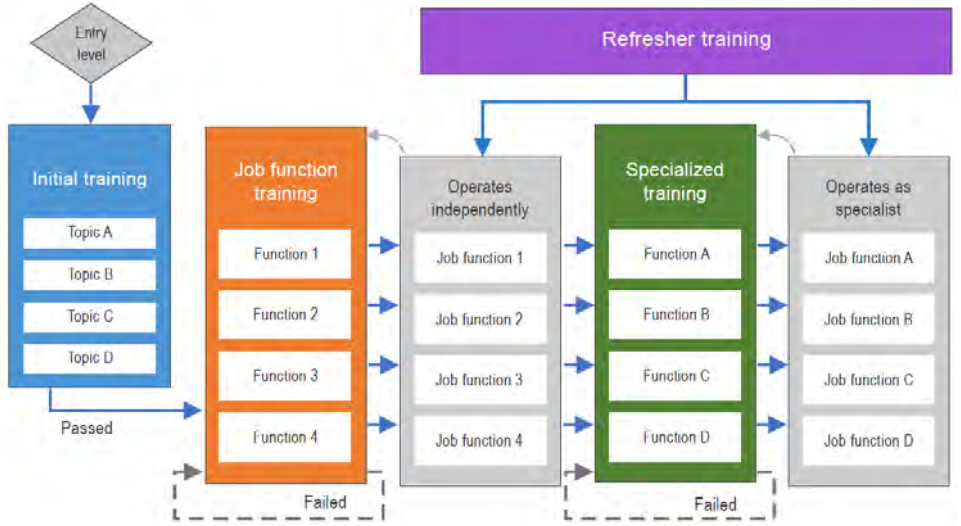
- Nuevos conceptos
- Nuevos entornos de trabajo
- Nuevas tecnologías

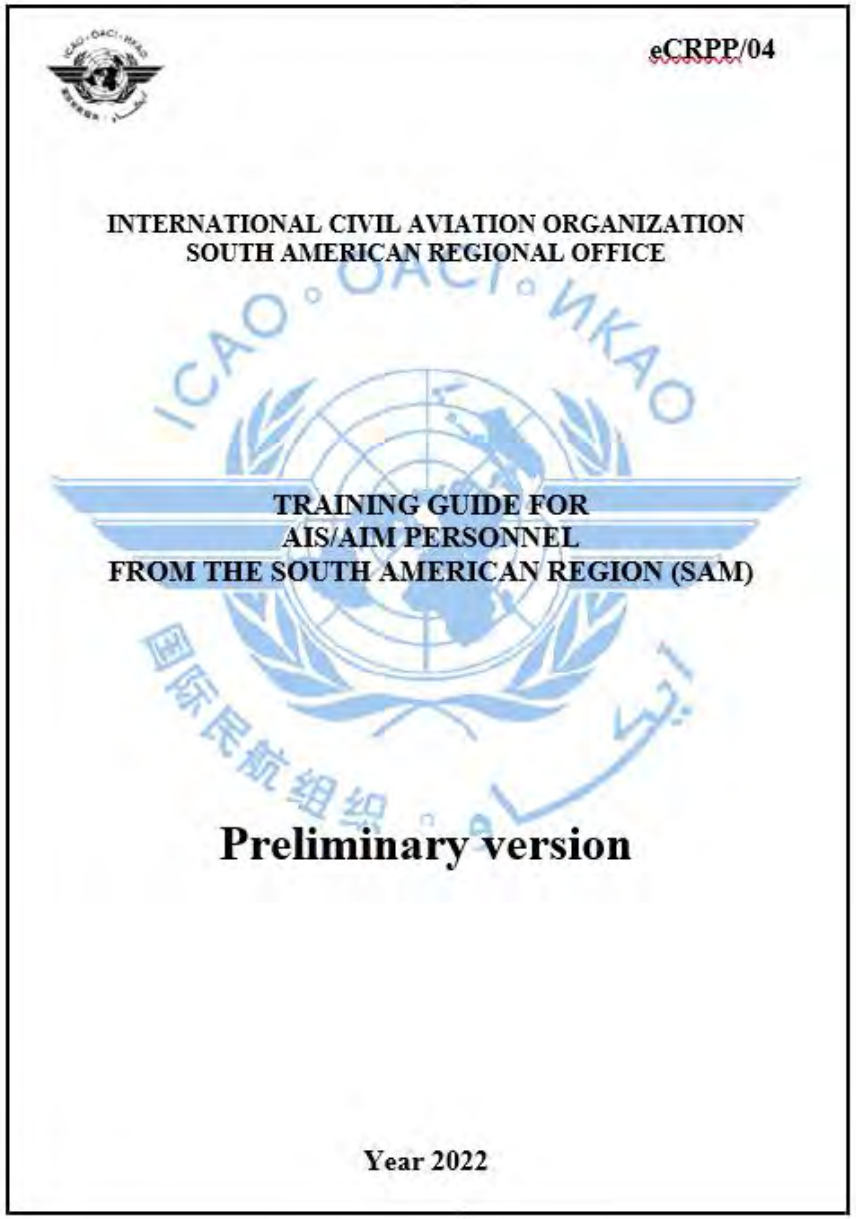


Soluciones

Material de apoyo – Doc. 9991

- Capacitación basada en las competencias
- No define un único programa
- Fases de la capacitación




eCRPP/04

INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE

TRAINING GUIDE FOR
AIS/AIM PERSONNEL
FROM THE SOUTH AMERICAN REGION (SAM)

Preliminary version

Year 2022

Soluciones

Material de apoyo – Guía AIS/AIM SAM

- Basado en el Doc. 9991
- Define hitos teóricos del modelo de competencia, etapas del diseño de la capacitación y su evaluación
- No define un programa standard



Soluciones

Mirar a los demás

- ¿Quien ya ha estado allí?
- Lecciones aprendidas



Soluciones

Buscar colaboración externa

- Partir de una posición de liderazgo

- Resuelve problemas:
  - Falta de recursos humanos
  - Falta de tiempo

GroupEAD

Estrategia de implementación



Estrategia de implementación



Preparación Proyecto



Manual de CBTA y procedimientos AIM



Asesores AIM



Herramienta de evaluación



Concientización personal



Preparación
Proyecto

Estrategia de implementación

- Gestión de proyecto
  - Planificación y presupuesto
    - Hardware y software
    - Recursos
    - Concientización y capacitación
- Alcance
  - Unidades AIS (NOF, PUB, Chart)
  - Diseño de procedimientos
  - ARO
  - COMM
- Benchmarking (evaluación comparativa)
  - Selección de proveedor de capacitación
  - Selección de equipo (ej. AIM, Regulador, RRHH)



Manual de CBTA y procedimientos AIM

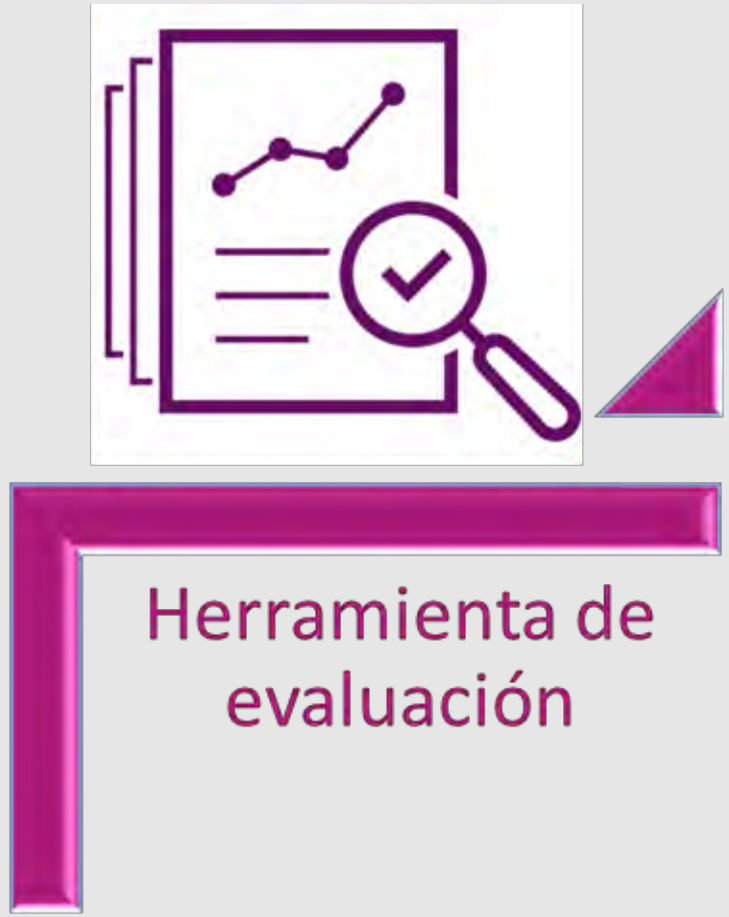
Estrategia de implementación

- Política de evaluación
  - Certificado de competencia y validez
  - Tipo de aprobación
  - Mantenimiento de competencia
  - Fallo en la evaluación de la competencia
  - Retiro de certificado de competencia
- Procedimientos de evaluación
  - Tipos
    - Evaluación local
    - Evaluación en línea
    - Evaluación oral/practica
  - Publicación de resultados
- Programa, planes, programas de estudio y registros de capacitación
- Modelo adaptado de competencias AIS



Estrategia de implementación

- Designación de asesores
- Calificaciones de los asesores
- Capacitación de los asesores



Estrategia de implementación

- Selección de herramienta
  - Convencional vs online
- Creación de preguntas
- Implementación
  - Sistema de prueba y simulación
  - Sistema de producción



Estrategia de implementación

- Campañas de concientización
- Uso de herramienta

$$(C+H)xA$$

GroupEAD





• • •

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(Frankfurt, GERMANY)

www.groupead.com

+49 6196 7696 0

info@groupead.com

THANKYOU

GroupEAD



NOTA DE ESTUDO - SAM/AIM/16-NE/16 - Examen de la aplicación del Doc 8126 - Evaluación de las competencias del personal AIS/AIM y formación del personal AIS/AIM.

Wilson Lopes Neves Junior - Especialista en Información Aeronáutica.

Líder del Equipo del Proyecto de la División de Proyectos del Instituto de Cartografía Aeronáutica

SAM/AIM/16-NE/16 - IMPLANTACIÓN DE LAS NUEVAS SERIES NOTAM, SNOWTAM Y ASHTAM EN BRASIL

En consideración al AMDT número 7 del Doc 8126 - OACI, Brasil ha establecido un Grupo de Trabajo (GT) compuesto por especialistas en AIS que integran el Sistema de Control del Espacio Aéreo Brasileño (SISCEAB)

LA ESTRUCTURA DE LA AUTORIDAD AERONÁUTICA BRASILEÑA

A estructura de la Autoridad Aeronáutica Brasileña, DECEA, y del proveedor de AIM, Instituto de Cartografia Aeronáutica (ICA), así como de otros proveedores que forman parte de la cadena de información, formación e inspección de la seguridad operacional



SAM/AIM/16-NE/16 - IMPLANTACIÓN DE LAS NUEVAS SERIES NOTAM, SNOWTAM Y ASHTAM EN BRASIL

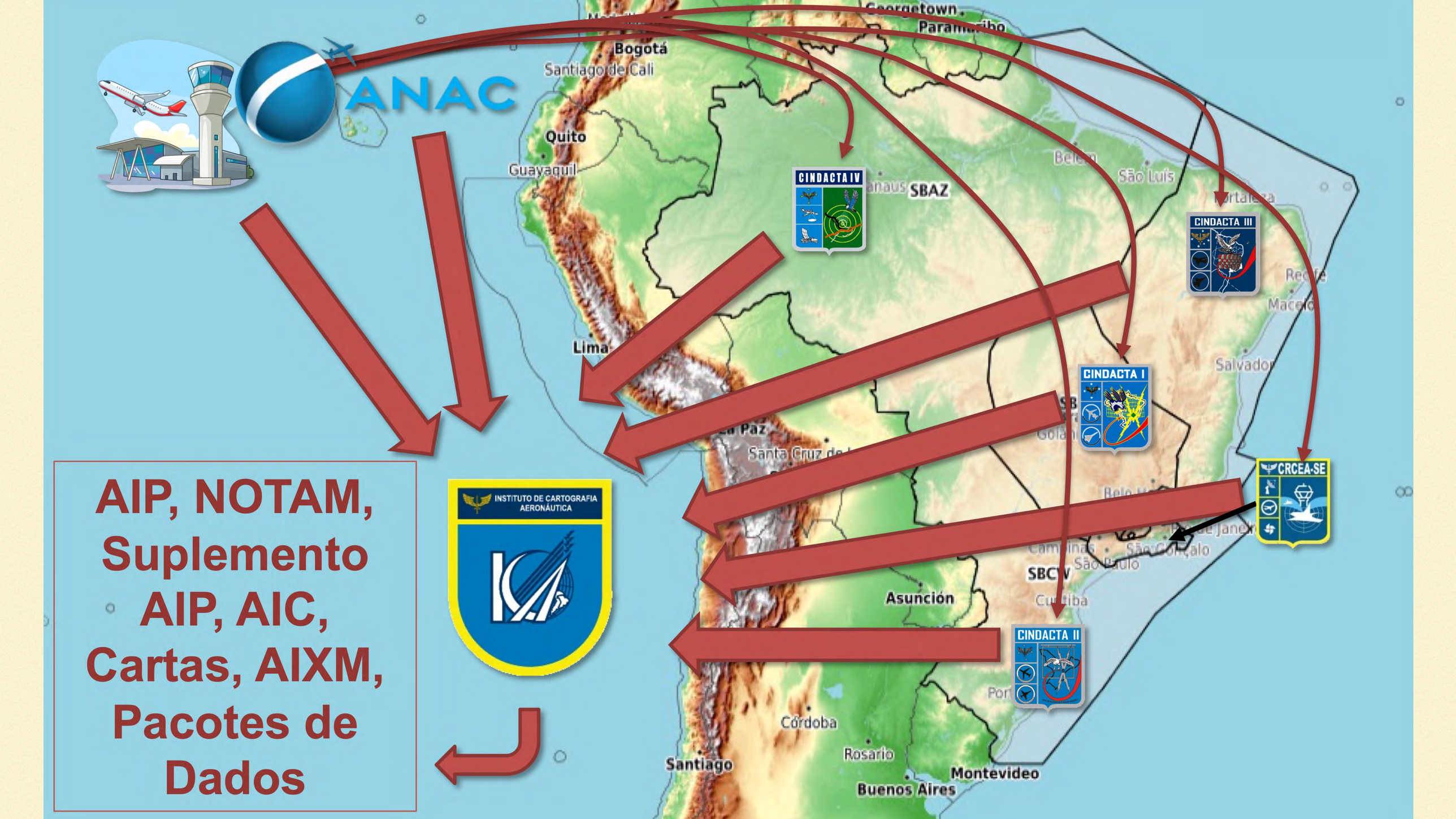
El Grupo de Trabajo (GT) es coordinado por el Instituto de Cartografía Aeronáutica (ICA) y cuenta con la participación de miembros del Departamento de Control del Espacio Aéreo (DECEA), de los cinco Órganos Regionales Brasileños y del Centro de Gestión de Navegación Aérea (CGNA), que son los principales proveedores de datos e información aeronáutica en el escenario brasileño, con el objetivo de realizar análisis específicos de cada ítem del Doc 8126.

Miembros del grupo de trabajo



SAM/AIM/16-NE/16 - IMPLANTACIÓN DE LAS NUEVAS SERIES NOTAM, SNOWTAM Y ASHTAM EN BRASIL

El Instituto de Cartografía Aeronáutica (ICA) está directamente subordinado al Departamento de Control del Espacio Aéreo (DECEA), que forma parte del Comando de Aeronáutica. El Instituto de Cartografía Aeronáutica (ICA) es el proveedor brasileño responsable de la cartografía, la información aeronáutica, el AIM y la elaboración de procedimientos de navegación aérea y espacio aéreo.


ANAC
Bogotá
Santiago de Cali
Quito
Guayaquil
Lima
Georgetown
Paramaribo
Belem
São Luís
Fortaleza
Recife
Maceió
Salvador
Manaus
SBAZ
La Paz
Santa Cruz de
Goiânia
Belo Horizonte
Campinas
São Paulo
São Gonçalo
Rio de Janeiro
SBCV
Curitiba
Asunción
Córdoba
Rosario
Santiago
Montevideo
Buenos Aires
CINDACTA IV
CINDACTA III
CINDACTA I
CINDACTA II
CRCEA-SE
INSTITUTO DE CARTOGRAFIA AERONÁUTICA
AIP, NOTAM, Suplemento AIP, AIC, Cartas, AIXM, Pacotes de Dados

ANÁLISIS Y ACCIONES

La dinámica del Grupo de Trabajo (GT) comienza cuando el coordinador activa la reunión del Grupo de Trabajo (GT) con las fechas, los lugares de reunión y la agenda de actividades propuesta. El coordinador del GT, en la semana previa a la reunión, prepara y envía los temas de debate y la documentación para que cada miembro de la reunión pueda preparar y mantener los debates con información y aportaciones coherentes.

- La primera reunión tuvo lugar en **septiembre de 2022**, donde se definieron los trabajos iniciales y las prioridades necesarias.
- La segunda tuvo lugar dos meses después, en **noviembre de 2022**, donde se definió que la reestructuración de la serie NOTAM tenía prioridad de aplicación a las adaptaciones del Doc 8126.

ANÁLISIS Y ACCIONES

Al término de las dos reuniones de 2022, los miembros del GT definieron los siguientes trabajos y etapas:

a) Con el fin de mejorar la distribución selectiva de los NOTAM y en consonancia con las recomendaciones del Doc 8126, Brasil reestructuró la serie nacional de NOTAM para hacerla coincidir con el espacio cubierto por una Región de Información de Vuelo (FIR). Este trabajo involucró a varias divisiones del Instituto de Cartografía Aeronáutica (ICA), como la División de Proyectos y Subdivisión de Gestión de Información Aeronáutica y NOF Brasil;

b) La herramienta CRONOS, de IDS-Airnav, utilizada para la preparación, difusión y distribución de NOTAM, fue adaptada a la nueva serie en un esfuerzo conjunto entre la NOF brasileño y el apoyo contratado de IDS-Airnav, desarrollador de la herramienta, con la coordinación de la División de Proyectos del ICA;

NOTAM Serie Nacional Antigas

As séries nacionais são em número de seis. Cinco delas correspondem à área de jurisdição das Organizações Regionais, conforme abaixo:

a) B - CINDACTA III (SBRF);

b) D - CRCEA-SE (SBSP);

c) E - CINDACTA II (SBCT);

d) F - CINDACTA I (SBBR); e

e) G - CINDACTA IV (SBEG).

f) Z - SBRJ que corresponde a todo o território nacional e é utilizada nas seguintes circunstâncias:

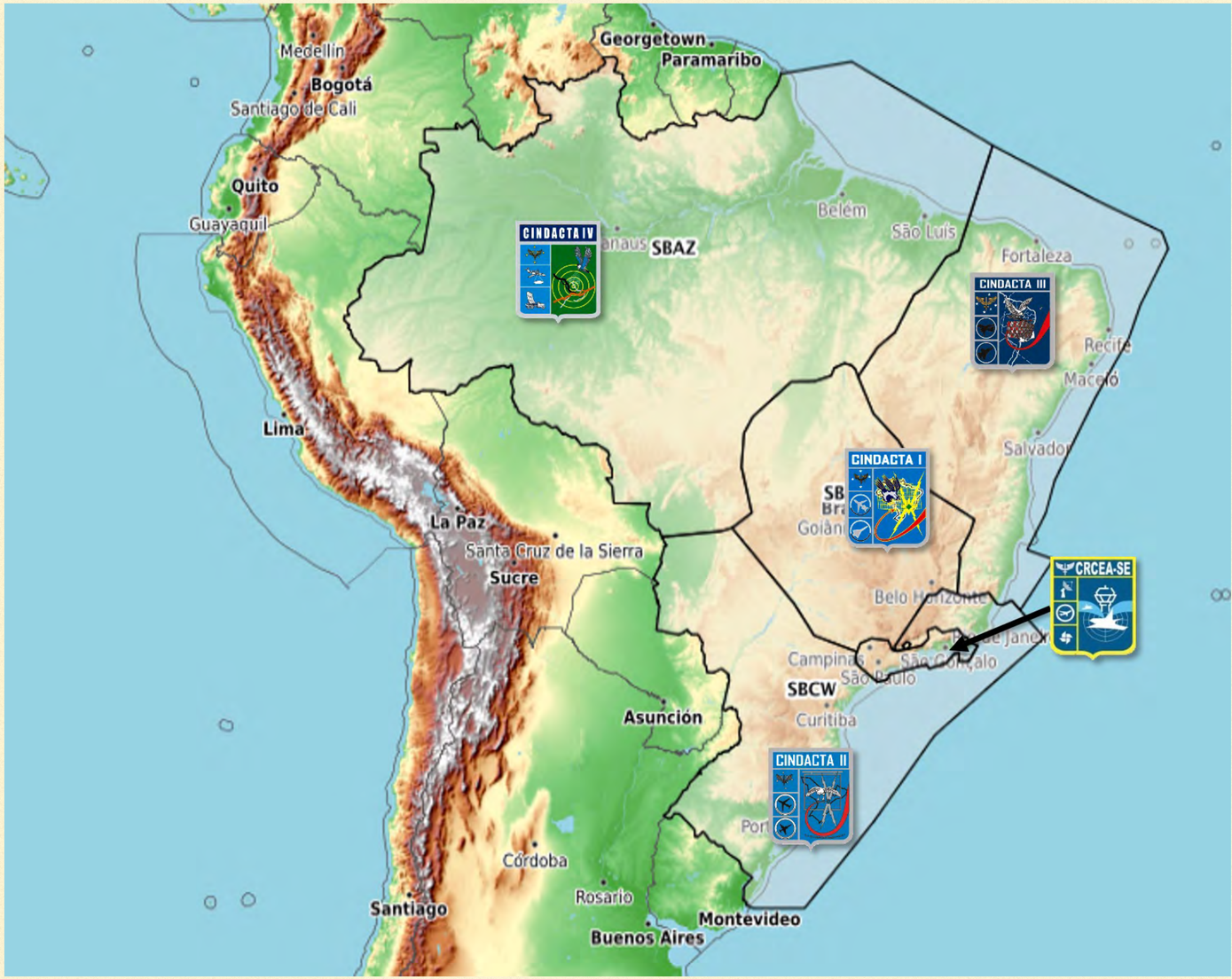
NOTAM iniciadores;

informações localizadas em mais de uma FIR;

NOTAM que cancelem ou substituam Suplemento AIP;

informações que possuam como indicador de localidade SBXX; e

NOTAM PERM.

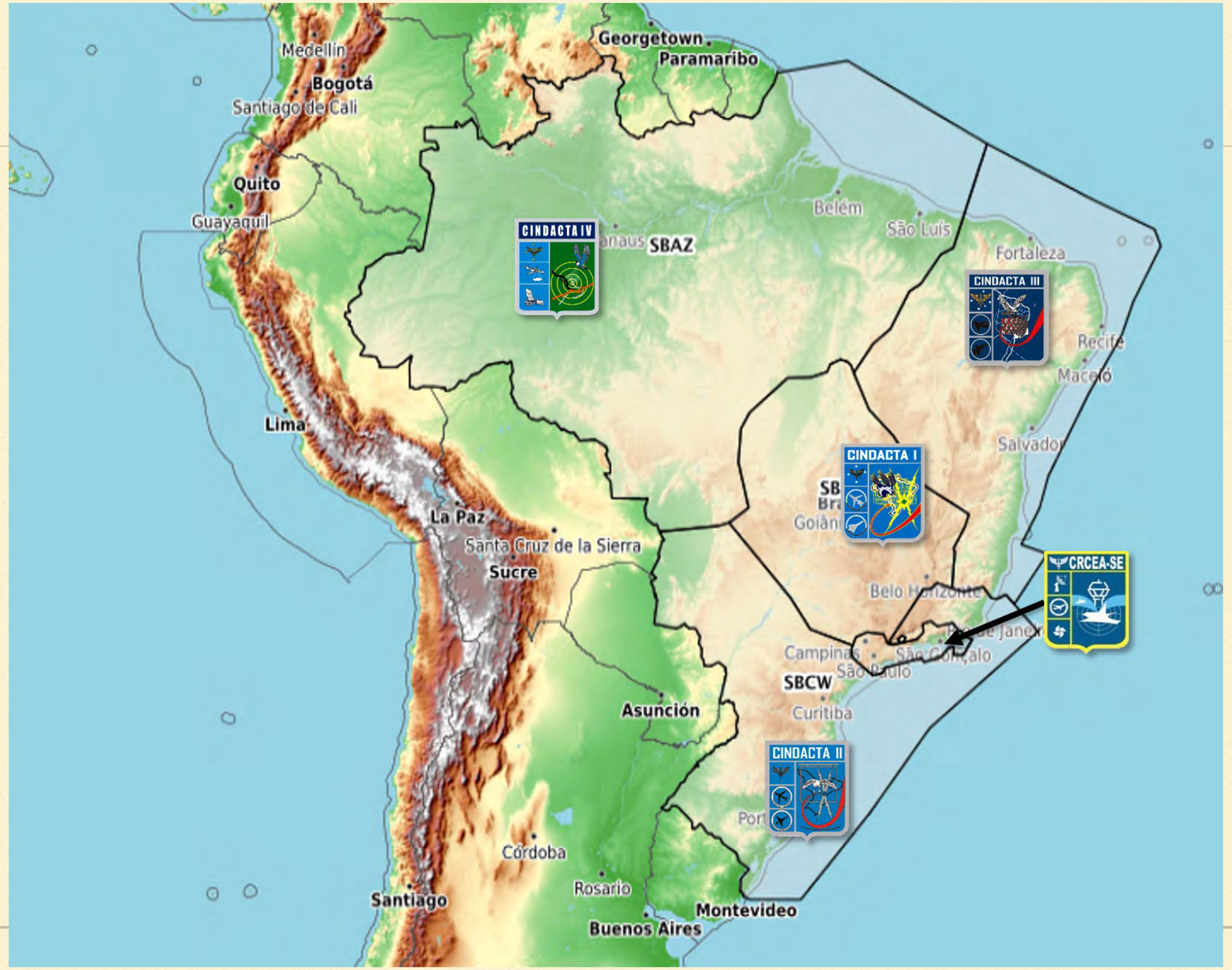


ANÁLISIS Y ACCIONES

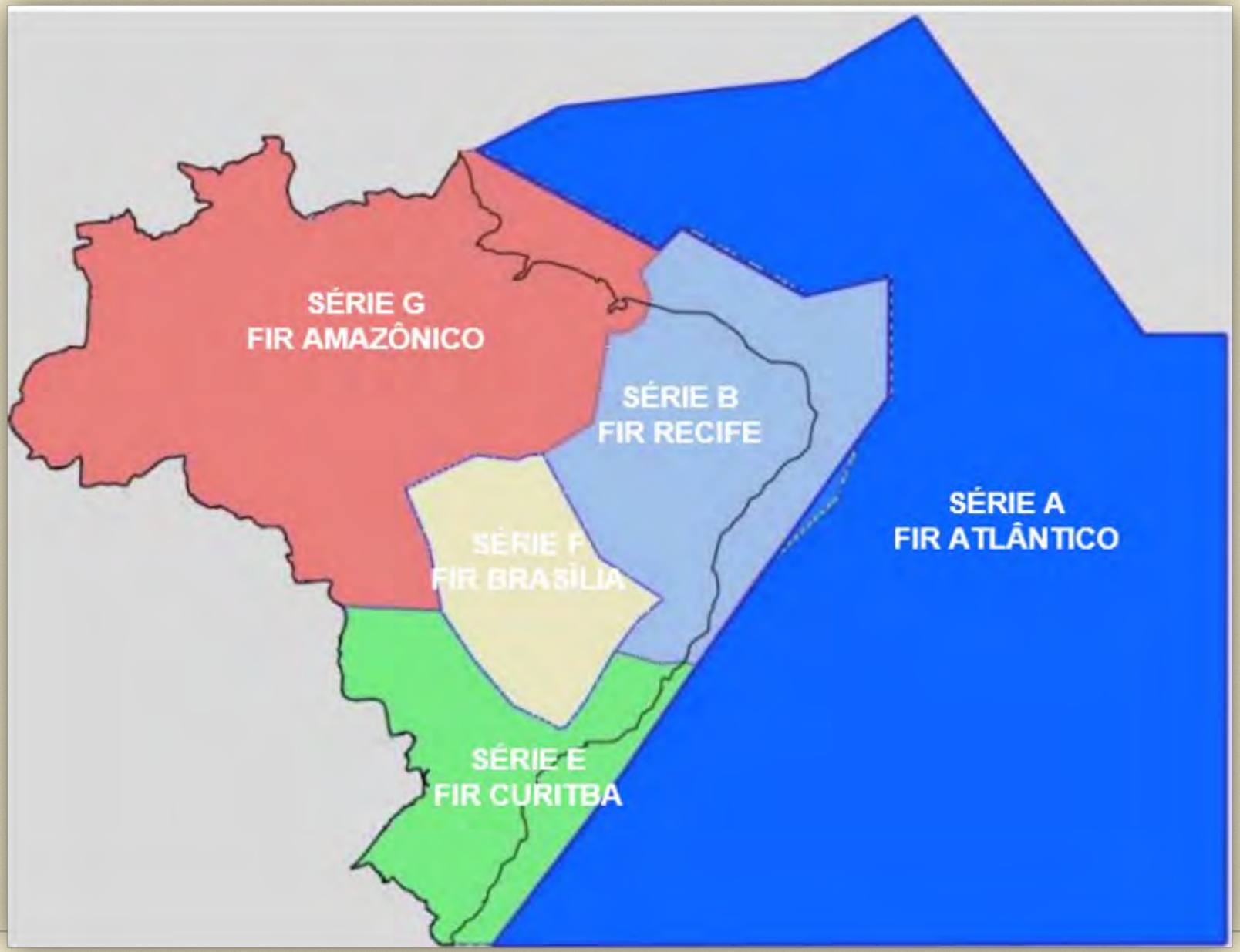
Al término de las dos reuniones de 2022, los miembros del GT definieron los siguientes trabajos y etapas:

c) Este trabajo supuso un análisis de aproximadamente **2.000** de NOTAM entre temporales y permanentes que estaban en vigor, de las series D, Z, y cualquier otra serie que podría verse afectada por este cambio. La mayor discusión fue sobre qué hacer con estos NOTAM, a partir de febrero de 2023, en cuanto a sustituirlos por la nueva serie o dejar que la propia vigencia del NOTAM los extinga, en el caso de los NOTAM temporales, o que se incorporen al AMDT, en el caso de los NOTAM permanentes. La decisión adoptada fue mantener los NOTAM en vigor hasta que la validez los extinguiera automáticamente y se incorporaran al AIP y al ROTAER. Así, a finales de mayo de 2023, ya no había NOTAMs de las series extinguidas en vigor;

NOTAM Serie Nacional Antigas



- NOTAM Serie Nacional Nuova



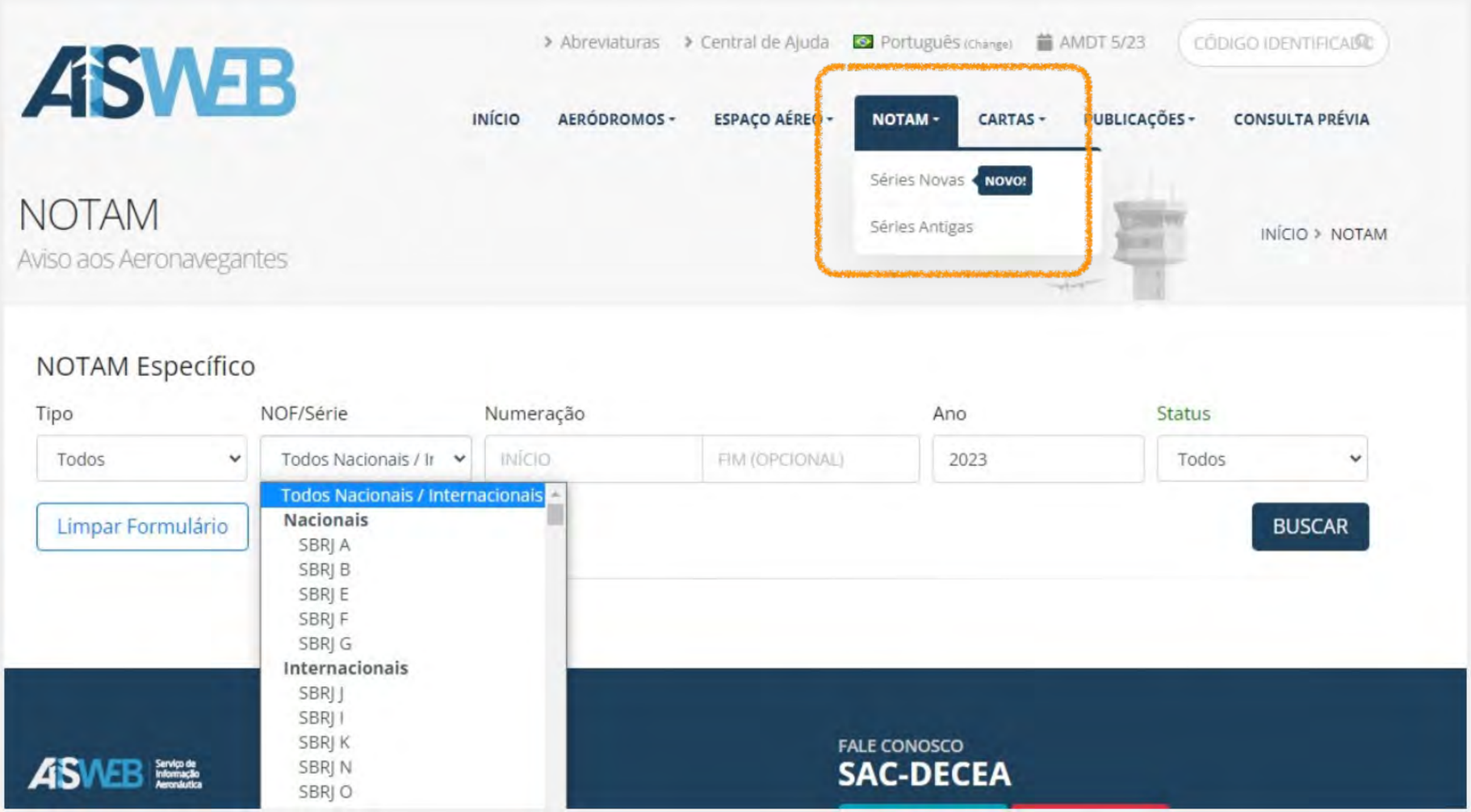
ANÁLISIS Y ACCIONES

d) Como medio de divulgación de las nuevas series NOTAM, se emitió una circular de información aeronáutica (AIC) con veintiocho días de antelación, con el objetivo de dar a conocer los cambios que entrarían en vigor en febrero de 2023. Durante el primer semestre de 2023, el sitio web de Productos AIS de Brasil ***(https://aisweb.decea.mil.br/)*** mantuvo disponibles para consulta todos los NOTAM elaborados, incluidos los de series extinguidas. Finalizando así la primera etapa de la adaptación de los Productos AIS de Brasil en relación al 7o AMDT del Doc 8126;



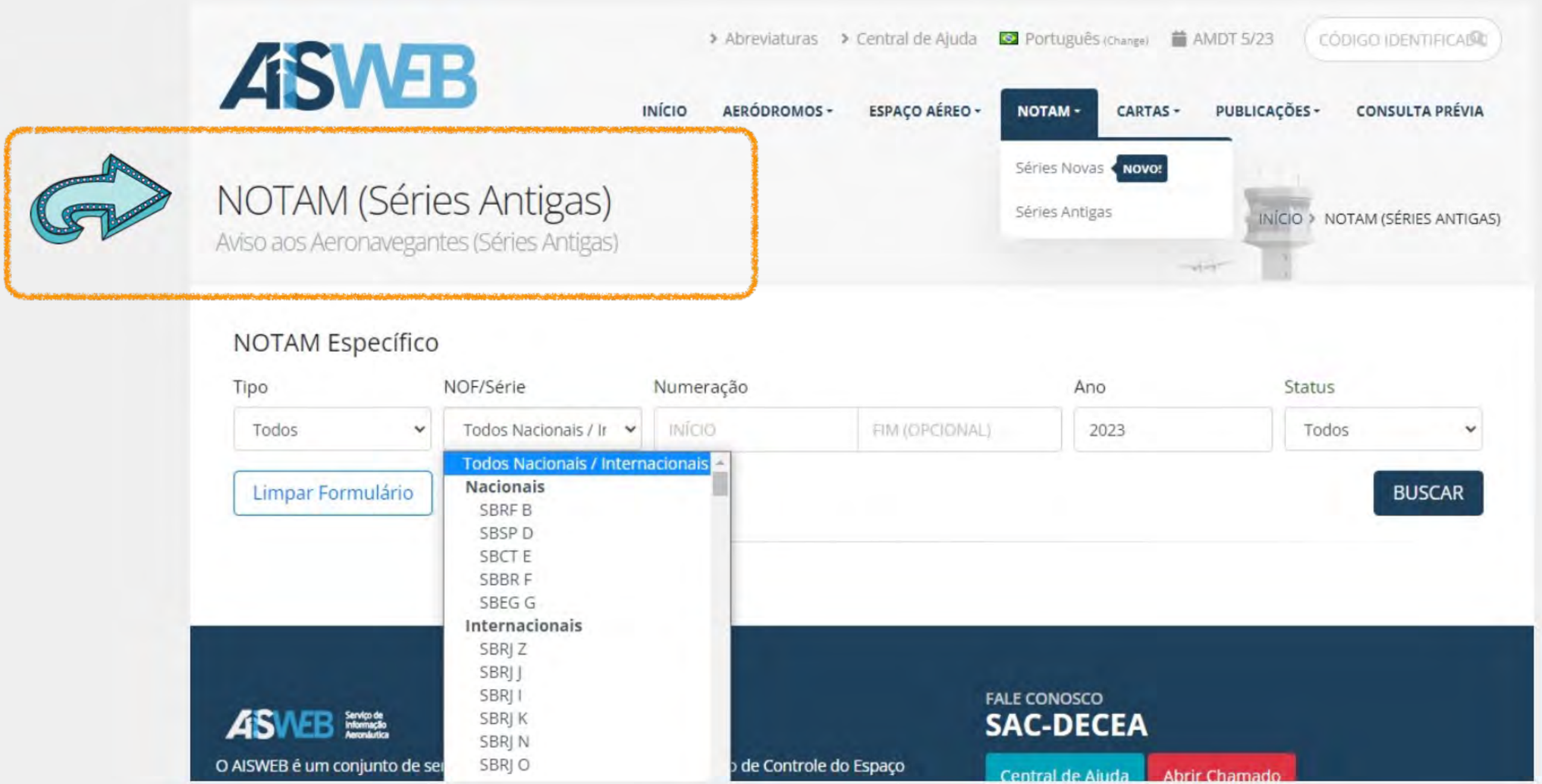
Consulta de NOTAM

Na página da AISWEB será possível realizar a busca por **NOTAM específico** e **avançada** dos NOTAM **antigos** e dos **novos.**



Consulta de NOTAM

Na página da AISWEB será possível realizar a busca por NOTAM específico e avançada dos NOTAM antigos e dos novos.



ANÁLISIS Y ACCIONES

e) La tercera reunión del Grupo de Trabajo (GT) está prevista para **septiembre de 2023**, donde se preparará el plan de acción para la implementación de SNOWTAM y ASHTAM. Este plan contendrá los pasos a seguir para actualizar las normas relevantes para NOTAM, SNOWTAM y ASHTAM, los impactos operativos en los usuarios y un calendario de acciones; y

f) Elaboración de un plan de acción para las adecuaciones en relación con otros Productos AIS, como la Publicación de Información Aeronáutica (AIP), contra el 7o AMDT del Doc 8126.

HORARIO

<u>Con el fin de organizar las acciones del Grupo de Trabajo, se propuso el siguiente calendario:</u>

- a) Reestructuración de la serie NOTAM - febrero de 2023;
- b) Adaptación de la legislación brasileña, Instrucción del Comando de Aeronáutica (ICA 53-1) que regula NOTAM, SNOWTAM y ASHTAM - enero de 2024;
- c) Implantación del uso de SNOWTAM - febrero de 2024;
- d) Implantación del uso de AHSTAM - febrero de 2024; y
- e) Adaptaciones de los demás productos AIS: segundo semestre de 2024.

CONSIDERACIONES FINALES

Brasil está en proceso de modernización de toda su estructura de base de datos, con vistas a cumplir varias actividades previstas en la Hoja de Ruta para la transición de AIS a AIM establecida por la OACI, como la actividad P-06 "Base de Datos Integrada de Información Aeronáutica". De esta forma, la reestructuración de la serie NOTAM y las implementaciones previstas para los años 2023 y 2024 atienden a esta nueva estructura de base de datos que estará vinculada a toda la modernización de las herramientas utilizadas en la producción de todos los productos AIS brasileños.


Muchas
Gracias !!

Agenda Item 7: Review of proposed amendments to ICAO AIS documentation and proposal of new PANS-AIM and PANS-MET documents.

7.1 Under this agenda item, the Meeting reviewed the following papers:

- **WP/12** - Proposal of amendment to ICAO Annex 3, Creation of PANS-MET and impact on AIS/AIM (Presented by the Secretariat)
- **WP/13** - Proposal of amendment to several ICAO Annexes and documents, creation of the PANS-AIM and its impact on AIS/AIM documentation (Presented by the Secretariat)

7.2 The Meeting was informed of the Proposed Amendment 81 to ICAO Annex 3, and the creation of PANS-MET, communicated to the States through letter AN 10/1-23/1 dated 26 January 2023.

7.3 The Meeting noted that the impact of this proposed amendment to Annex 15 is minimal, and affects one of the grounds for issuing NOTAM messages.

7.4 With regard to the impact on Doc. 10066 PANS-AIM, the meeting noted the impact on the definitions, as well as the changes that should be made to the AIP in relation to the change of the concept of "Meteorological Authority" and the introduction of the concept of "Meteorological Service Provider for international air navigation".

7.5 The Meeting was also informed of the proposed first edition of the PANS-IM and proposed amendments to several annexes, as well as ICAO documents. The proposal was forwarded to States by letter AN 2/36-23/6 of February 13 of this year.

7.6 The Secretariat made a presentation on the impact of the proposed first edition of the PANS-IM on ICAO Annex 4 and 15, as well as ICAO Doc. 10066 PANS-AIM. The presentation is attached as **Appendix A** to this part of the report.

7.7 The Meeting noted the changes being introduced to the AIS/AIM documentation by the proposed first edition of the PANS-IM. The Secretariat urged States to implement changes to the Regulations and the AIP, to align national documentation with the proposed amendments and the first edition of the PANS-IM, by the effective date of the proposal (24 November 2024).

7.8 The Meeting invited the Secretariat to organize a Workshop on the proposed amendments that would enter into force on 24 November 2024 as well as on Doc. 8126 - AIS Manual and the first edition of the PANS-IM.

OACI

ORGANIZACIÓN DE AVIACIÓN CIVIL INTERNACIONAL

ORGANISMO ESPECIALIZADO DE LA ONU



Propuesta de Enmienda de creación del PANS-IM

Jorge Armoa

Oficial Regional AIM/MET

OACI

Propuesta de Enmienda y Creación del PANS-IM

01 Carta

02 Documentos a ser enmendados

03 Impacto en el Anexo 15 de la OACI

04 Impacto en el Doc. 10066 PANS-AIM

05 Creación del PANS-IM

OACI

01

Carta de Propuesta de Enmienda

- Referencia: AN 2/36-23/6
- Fecha: 13 de febrero de 2023
- Fecha limite para comentarios: 14 de Agosto del 2023
- Fecha de aplicación prevista: 24 de Noviembre del 2024

OACI

02

Documentos a ser enmendados

- Anexo 4 – Cartas Aeronáuticas (referida a las aeronaves con extremos de ala plegables)
- Anexo 15 y los PANS-AIM (referida a la metodología de instrucción y evaluaciónbasadas en competencias (CBTA))
- Doc. 10066 PANS-AIM (referida a la coherencia de los datos que figuran en múltiples productos de información aeronáutica)
- Doc 10066 - PANS-AIM referida al procesamiento de NOTAM que contienen múltiples partes
- Doc 8400 PANS-ABC referida al código NOTAM para actividades de vuelo a vela y parapente
- Anexo 15 y los PANS-AIM referida a cambios editoriales
- Anexos 3 y 15, primera edición propuesta de los PANS-IM y enmiendas consiguientes del Anexo 10, Volúmenes II y III, y los PANS-AIM, referida a la gestión de la información de todo el sistema y la seguridad de la información

03

Impacto en el Anexo 15

- Adjunto C de la Propuesta de enmienda, la incluye:

a) Enmienda al 3.6: Modificación del 3.6.4 (Norma) e inclusión del 3.6.5 (Recomendación)

- Adjunto G de la Propuesta de enmienda, la cual incluye:

a) Enmienda a la Nota 1, supresión de la Nota 2 y enmienda al Nota 3 con su correspondiente re-enumeración a la Recomendación 1.2.1.1

b) Enmienda al título del 3.2 y enmienda a los literales b y c del 3.2.3.2 con la inclusión de una Nota

c) Enmienda al texto del 3.3.1 (Norma)

d) Supresión del literal m de la Norma 5.2.5.1

- Adjunto H a la propuesta de enmienda:

a) Inclusión de la recomendación 5.4.3.1, 5.43.1.1, 5.4.3.1.2

04

Impacto en el Doc. 10066 PANS-AIM

- Adjunto C de la Propuesta de enmienda, la incluye:

a) Enmienda al Capítulo 3: Inclusión del 3.2 – Gestión de la Instrucción

- Adjunto D de la Propuesta de enmienda, la cual incluye:

a) Enmienda al 2.1.3.2

b) Supresión al 5.2.1.2.4

- Adjunto E a la propuesta de enmienda:

a) Inclusión del 5.2.5.3 relacionada a NOTAM de múltiples partes

- Adjunto G a la propuesta de enmienda:

a) Enmiendas literales a 7.7, 2.1.1.6, 2.2.2, 5.2.1.2.7, 5.2.1.3.4, Tabla A1.1 del Catálogo de Datos, Apéndice 4, literal e y Apéndice 6, Tabla A6-2

- Apéndice H a la propuesta de enmienda:

a) Enmienda al GEN 3.7

05

Creación del PANS-IM

- Adjunto H a la propuesta de enmienda

a) Propuesta inicial 26

b) Contiene 6 capítulos



Gracias!

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Agenda Item 8: Other business

8.1 Under this item, no items have been presented for consideration and discussion at the meeting.