International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

PPRC/5 — WP/06
05/07/19

Fifth Meeting of the Programmes and Projects Review Committee (PPRC/5)
Mexico City, Mexico, 16 to 18 July 2019

Agenda Item 5: **Review of GREPECAS Programmes and Projects and Subsidiary Groups**

5.5 Projects under the Aerodromes Programme (B0-SURF and B0-ACDM)

NEW PROJECTS UNDER THE AERODROME PROGRAMME FOR THE SAM REGION

(Presented by the Secretariat)

EXECUTIVE SUMMARY

Following the transition of GREPECAS to a more project based approach PIRG, this working paper presents to the Meeting two new project proposal developed using PRINCE2 Project Management methodology, under the AGA Programme for the SAM Region.

One Project is to support the harmonized and scalable implementation of Airport Collaborative Decision Making (in support of the ATM Operational Concept) and the other Project on Aerodrome Planning as an enabler to future capacity on aerodromes to support increasing demand.

Action:	The Meeting is invited to approve the proposed projects for implementation in the SAM Region.
Strategic Objectives:	• Doc 9750 - Global Air Navigation Plan (GANP), 6th Ed. • ICAO GANP Portal (https://www4.icao.int/ganpportal/) • Report of the GREPECAS18 Meeting, April 2018
References:	• Doc 9750 - Global Air Navigation Plan (GANP), 6th Ed. • ICAO GANP Portal (https://www4.icao.int/ganpportal/) • Report of the GREPECAS18 Meeting, April 2018

1. Introduction

1.1 On the past GREPECAS/18 meeting, the Meeting decide that, in order to gain efficiencies, Projects F1 and F2 of the Aerodromes and Ground Aids (AGA) Programme of GREPECAS will merge into one single project F named “Aerodrome Safety and Certification Implementation Project”. After this decision, each Region only have one Project under the F Programme (Project F1).

1.2 Under the 2019 version of the GANP, ICAO addresses the need for States to ensure the foundations for a robust air navigation system thru the implementation of the Basic Building Blocks (BBB). To ensure the provision of seamless air navigation services based on the deployment of interoperable systems and harmonized procedures, States need to leverage the implementation of the BBBs through their national air navigation plans as a strategic part of their national aviation planning framework.

1.3 Aerodrome certification is defined by the 2019 GANP as part of the Basic Building Block (BBB) under the Aerodromes operations area. This BBB is covered by the implementation of Project F1.

1.4 However, Aerodrome Certification, as being a more safety related process, lacks the detail to cover capacity and efficiency provisions related to Aerodrome Design (and planning) and Aerodrome Operations (especially on congested aerodromes).

1.5 Although these issues is considered in the Regional Air Navigation Plan under Volume II, Part II "General regional requirements", their implementation is not related to any project under the aerodrome program.

1.6 To tackle these two areas, Secretariat proposes the introduction of two new projects for the SAM Region: one on **Aerodrome Planning** and one on the Implementation of **Airport Collaborative Decision Making (A-CDM**).

2. Project on Airport Planning

2.1 On September 2018, a Seminar & Workshop on Airport Planning for the SAM Region (code 18ADPLAN) was held at the ICAO SAM Regional Office premises. The event was attended by 67 participants from 12 States, 10 Aerodrome operators, and with the participation of expert speakers from different international organizations related to airport planning.

2.2 As a result of the event, the group agreed that the SAM Region should adopt a vision in order to tackle the airport infrastructure problems that were clearly identified at the event. This agreed vision was:

“To be a Region recognized worldwide for the collaborative planning of its airports, which ensures the timely and balanced capacity to bring the benefits of air transport to all the people of South America”

2.3 In order to accomplish this vision, a series of activities, including the analysis and identification of the probable root-cause(s) for aerodrome capacity constraints in the SAM Region, and corresponding action plans for States to address it, were indicated as necessary.

2.4 Based on the conclusions, analysis and action plans proposed by the experts at the Seminar-Workshop, the Project aims to deliver guidance for a consultative and collaborative approach with users in the master plan development in order to ensure its optimal functionality, and also air navigation capacity and safety. In addition, the Project will support States to include conditions so that the plans contain a schedule of priorities including a phased implementation plan, which will be reviewed periodically to consider current, and future aerodrome traffic based on data. All this along with associate capacity building for State specialists.

2.5 A copy of the initial Business Case is included in Appendix A of this WP.

3. Project on Airport Collaborative Decision Making (A-CDM)

3.1 In the SAM Region, it has been identified that there is a lack of airport infrastructure capacity at some important hubs that had led to increased costs, saturation, delays, inefficiencies, and loss of opportunity due to the lack of space to operate, thus acting against the common long-term national and regional interest of realizing the benefits of growing air connectivity

3.2 To cope with this situation, many States and Airports operators had engage in Airport development projects, however, most of them are very large in scope and have a long time horizon from planning to completion (along with high costs and space requirements). In the meantime, States and Airport Operators need to find ways to increase the efficient use of installed infrastructure in order to generate more capacity to accommodate demand.

3.3 A-CDM has globally being identified as a way to increase capacity in the airport by means of increasing situational awareness to all the involved stakeholders thru sharing of information that lead to better collaborative decision making process, especially during the turnaround process in the airport.

3.4 Following the 2019 version of ICAO’s Global Air Navigation Plan’s Aviation (GANP) System Block Upgrades (ASBU) methodology, the Project proposes to increase airport capacity in congested aerodromes by establishing a regional guidelines and a plan to implement B0-ACDM and subsequently selected elements of B1, B2 & B3 (as needed) on the SAM Region.

3.5 A copy of the initial Business Case is included in Appendix B of this WP.

4. Suggested Action

4.1 The Meeting is invited to:

a) take note of the information provided in this working paper;

b) analyse the documents on Appendices A and B; and

c) adopt the following Decision:

DECISION PPRC 05/XX

NEW PROJECTS ON THE AERODROME PROGRAMME F FOR THE SAM REGION

What:	**Expected impact:**
In order to ensure the provision essential services in order to obtain a seamless air navigation services in the area of aerodromes, approve two new projects under the aerodrome programme: Project F2: Aerodrome Planning Project F3: Airport CDM	☐ Political / Global ☒ Inter-regional ☒ Economic ☒ Environmental ☒ Operational/Technical

Why:

According to Doc 9854, the principal challenge to aerodrome operators will be to provide sufficient aerodrome capacity, while the challenge to the ATM system will be to ensure that all available capacity is fully and efficiently utilized. In order to provide aerodrome capacity, the Project will support States to ensure future capacity (planning) and fully and efficient use of current capacity (A-CDM).

When: PPRC/05	**Status:**

Who: ☒ Coordinators ☒ States ☒ ICAO Secretariat ☐ ICAO HQ ☐ Others: Aerodrome Operators and ANSPs.

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APPENDIX A

INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE

PROJECT DOCUMENTATION

BUSINESS CASE

Project: Aerodrome Planning in the SAM Region

Release: 1

Date: 04 june 2019

PRINCE2

Author: SAM AGA Regional Officer

Owner: GREPECAS

Client: SAM States

Document Ref: CAP-AGA-17-001

Version No: 1.13

1 Business Case History

1.1 Document Location

This document is only valid on the day it was printed.
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1.2 Revision History

Date of this revision:
Date of next revision:

Revision date	Previous revision date	Summary of Changes	Changes marked
04/06/19		First issue	

1.3 Approvals

This document requires the following approvals.
Signed approval forms should be filed appropriately in the project filing system.

Name	Signature	Title	Date of Issue	Version
PPRC				

1.4 Distribution

This document has been distributed to:

Name	Title	Date of Issue	Version
RCC			
Project Board			
Project Team			

2 Table of Contents

3 Executive Summary

Based on the ***Declaration to promote Connectivity through the Development and Sustainability of Air Transport in the Pan-American Region - Vision 2020-2035 (IWAF/4)***, endorsed by Pan-American States in Fortaleza, Brazil in September 2018, the sustainable development of aviation in the Region depends on the availability of capacity and efficiency of its operations, through coordinated actions, in alignment with the GANP. Airports are an important link in the process to ensure the needed capacity and efficiency for aircraft operations to occur.

On September 2018, a Seminar & Workshop on Airport Planning for the SAM Region (code 18ADPLAN) was held at the ICAO SAM Regional Office premises. The event was attended by 67 participants from 12 States, 10 Aerodrome operators, and with the participation of expert speakers from different international organizations related to airport planning.

As a result of the event, the group agreed that the SAM Region should adopt a vision in order to tackle the airport infrastructure problems that were clearly identified at the event. This agreed vision was:

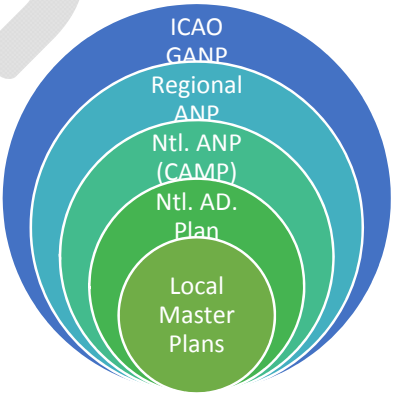
"To be a Region recognized worldwide for the collaborative planning of its airports, which ensures the timely and balanced capacity to bring the benefits of air transport to all the people of South America"

In order to accomplish this vision, a series of activities, including the analysis and identification of the probable root-cause(s) for aerodrome capacity constraints in the SAM Region, and corresponding action plans for States to address it, were indicated as necessary.

Based on the conclusions, analysis and action plans proposed by the experts at the Seminar-Workshop, this Project aims to produce a regional plan with recommendations to States on how to establish mechanisms to evaluate and monitor capacity/demand based on data, in order to implement provisions to ensure that selected international aerodromes prepare plans that contain a schedule of priorities including a phased implementation plan and that is reviewed periodically to consider current and future aerodrome traffic based on data.

This plans will be aligning to a National Airport Plan, which is on its own part of the National Air Navigation Plan (ANP) and State's Civil Aviation Master Plan (CAMP).

As National Airport Plans usually follow State priorities, the Project also aims to produce Regional Guidance, following the Regional Air Navigation Plan, in order for States to include regional provisions on their national plans.



Finally, the Project also proposes to build capacity and competences in State CAA's regarding airport planning by having at least one (1) trained staff in each CAA on airport planning by 2023. This Staff, assigned by the Member State, will serve, as a focal point for the project with ICAO RO, will be responsible to follow up Project's activities related to the State in conjunction with ICAO's SAM Regional Office.

4 Reasons

According to ICAO Doc 9854[1], the principal challenge to aerodrome operators will be to provide sufficient aerodrome capacity, while the challenge to the ATM system will be to ensure that all available capacity is fully and efficiently utilized.

In the SAM Region there is a lack of airport infrastructure capacity in many important hubs that had led to increased costs, saturation, delays, inefficiencies, and loss of opportunity due to the lack of space to operate, thus acting against the common long-term national and regional interest of realizing the benefits of growing air connectivity.

In addition, State Letter AN 4/1.1.59-18/103 includes an amendment proposal for Annex 14, Vol. I in order to include specific provisions for Aerodrome Master Planning. This proposal, included initially as a Recommendation, will be reviewed at a later time to be upgraded to a mandatory Standard. Along with these provisions, ICAO is updating its guidance material related to aerodrome master planning, that will support project's objectives.

The State letter also addresses that since decisions made by the airports regarding their master planning will undoubtedly have an impact on airlines and passengers, there is a real danger that ineffective and inadequate collaborative consultation will result in sub-optimal functionality and possible capacity and/or safety issues. It is important that collaboration is mutual and that stakeholders actively participate and share as much information as possible. The same was agreed by the group participating on the ICAO 18ADPLAN event.

With a clear roadmap, better regional guidance material in addition to new ICAO guidance, increased knowledge and competencies on airport planning, States will be on a better position to plan ahead and analyse data in order to execute the needed airport infrastructure projects on time.

This will enable the needed capacity to cope with the demand, thus increasing connectivity to the State and to the network in a safe and efficient matter. This increased connectivity will give more access to air travel to the general public and foster the Region´s development.

5 Business Options

1. Do nothing

This option leaves the Region at the status quo: if no further actions taken, infrastructure deficiencies will continue to be the major capacity issue in the Region, and although some projects will be put in place to cope with air traffic demand, usually airport development projects are very large in scope and have a long time horizon from planning to completion, thus not delivering the needed capacity on-time. Also, the airport development projects may not respond

[1] "*Global Air Traffic Management Operational Concept*" (Montreal: ICAO, 2005).

to the State's or other stakeholders needs if an inadequate collaborative consultation is not addressed.

2. Do the minimum: Deliver seminars on airport planning

In this scenario, the Regional Office may deliver seminars and other type of training on airport planning to increase competences in States; however, as the gap analysis is not made and no framework or mechanism is established within the State and aligned with Regional realities, the results of the training may not be seen, as the staff participating in this type of activities are not usually full time working on airport planning matters.

3. Do something: Project on airport planning (Analysis-plan-training)

This is the recommended option. By having Regional guidelines in coordination with international organizations and/or consultants on how to develop national and local airport master plans and at the same time capacity building in States thru well prepared and trained staff, States will be on a better position to establish mechanisms and frameworks to develop quality aviation infrastructure commensurate with the level of predicted traffic growth and based on Regional and Global Plans.

These frameworks will be aligned with the Regional Airport Planning initiatives and will facilitate the ICAO SAM Regional Office to follow up with States in order to predict and avoid capacity constraints in the system.

6 Expected Benefits

- **Main Outputs:**
  - Guidance for States to align their National Aerodrome Plans (as part of National Air Navigation Plans) to the Regional scenario (regional ANP).
  - Guidance material for States to endorse a collaborative consultation approach on airport planning.
  - Draft regulations regarding Annex 14 Vol. I new requirements for airport master planning so that States may harmonize with their local regulations.
  - Capacity building and knowledge transfer to State and Airport experts on the airport planning area.

- **Main Outcomes:**
  - Airport planning as part of CAMP (Civil Aviation Master Plan)
  - Implementation of a mechanism to evaluate capacity/demand based on available data in order to make better decisions to trigger airport infrastructure needs.
  - States to prepare by themselves or thru third parties (using guidance material as baseline for the study terms of reference) National Airport Plans that establishes a high level approach
  - States to implement provisions to ensure selected Airports with up-to-date master plans in consultation with affected stakeholders.

- **Main Benefits:**
  - State ensures today the space and provisions for future airport capacity.
  - Aviation industry to review and potentially revise project priorities within the overall strategic development/master plan of an airport to balance capacity enhancements and ensure that the right facilities are provided at the right time within the context of overall affordability, operational efficiency and safety.

- Lower costs for airlines to operate
- Lower airfares for the passenger public
- Regional network of airport planners

7 Expected Dis-benefits

- The time for staff to be trained may avoid this staff to be doing their regular activities within the CAA.
- Costs to the program on missions, training, etc .
- More workload to States and RO.
- Aerodrome operators may need to engage on costs to update their master plans on a pre-defined period.

8 Timescale

The implementation of the Project will be defined by phases and work packages, that will be determined by the project. Nevertheless, the following work packages has been identified as tentative for the project:

- Working package #1: Guidance for States to align their National Aerodrome Plans (as part of National Air Navigation Plans) to the Regional scenario (regional ANP).
- Working package #2: Guidance material for collaborative aerodrome planning
- Working package #3: draft regulations on airport planning
- Working package #4: Implementation Plan (including training)

Draft timescale:

Stage	Activity	Proposed dates
Stage 1	Present Project on Aerodrome Planning. States to endorse Project Select Project Team and Team Managers (per State). Prepared detailed project initiation documentation Select funding.	2019-20
Stage 2	Gap Analysis and high level recommendations (draft framework document) for implementation mechanisms Work with experts/States.	2021
Stage 3	Endorse a common regulatory approach on States based on ICAO SARPs (model regulation and/or guidance material)	2022
Stage 4	Regional Policy (regional ANP)	2023
Stage 5	Training and Implementation	2024-onwards

9 Costs

To be detailed on Project Plan. Costs will include activities such as missions, document preparation, workshop preparation and delivery (including simultaneous interpretation, missions, coffee breaks, etc.), meeting preparation, marketing (communications), etc.

10 Investment Appraisal

The project is proposed to be funded by resources from Project RLA06/901 and contributions from States or International Organizations.

Like most projects managed by the Regional Office, experts from Member States and Industry support a pro-bono scheme that reduces the costs associated with missions and the preparation of documents. Project management and administrative costs must be covered by the current mechanisms known for GREPECAS projects. When working on regional guides and projects, the cost-benefit analysis is expected to yield positive results compared to the individual efforts of States accompanied by private consultants. The products will serve to help States to be more prepared to request services from third parties.

11 Major Risks

ID	Description	Probability	Impact	Pxl*	Mitigation	Status
1	Staff assigned by State may not be with the required initial competencies	1	3	3	*Survey States and put initial requirements for the focal point*	Identified
2	Lack of interest from States	1	3	3	*Due diligence and explain properly the project's benefits. Relate to SAM PLAN pillars/objectives*	Identified
3	The implementation of final solutions may be seen as a threat for current concession agreements and/or may not be possible to implement because of contractual matters	2	3	6	*Actively involve organizations such as ACI to gather the stakeholder concerns and include them on the plan. Also, get advice from a legal perspective on how to deal with these scenarios*	Identified
4	Not getting the support (funding) for the project	2	3	6	*Involve international organizations that may be interest in the development of the region´s aviation in order to explain the benefits of better planning of airport infrastructure*	Identified
5	Staff assigned by State will abandon the CAA after training	2	2	4	*Align with SAM PLAN Institutional Strengthening*	Identified
6	Operators (Airlines/Airports) not willing to share sensitive planning data	3	3	9	*Propose non-disclosure agreements to mitigate this effect*	Identified

Risk log notes:
Probability/severity scored: 1 (low) 2 (medium) 3 (high)
Specific actions must be identified where PxI (=Probability x Impact) > 3
Status: Identified / Accepted / Transferred / Avoided or Exploited / Reduced or Enhanced / Shared / Contingency Plan invoked

APPENDIX B

INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE

PROJECT DOCUMENTATION

BUSINESS CASE

Project: A-CDM in the SAM Region – B0/1 ACIS implementation

Release: ****DRAFT VERSION****

Date: 30 May 2019

PRINCE2

Author: ICAO SAM AGA RO

Owner: GREPECAS

Client: SAM States

Document Ref: CAP-AGA-17-002

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1 Business Case History

1.1 Document Location

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30/05/19		First issue	

1.3 Approvals

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Signed approval forms should be filed appropriately in the project filing system.

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1.4 Distribution

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RCC meeting			
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Due to the fact that infrastructure bottlenecks at airports will not be solved on the short term, it's important to operate as efficient as possible with the current facilities. The efficiency of the Air Transport System in the SAM Region depends highly on traffic predictability.

Following the 2019 version of ICAO's Global Air Navigation Plan's Aviation (GANP) System Block Upgrades (ASBU) methodology, the Project proposes to increase airport capacity in congested aerodromes by establishing a plan to implement B0-ACDM and subsequently selected elements of B1, B2 & B3 (as needed) on the SAM Region.

According to 2019 GANP, ACDM-B0 consists of only one element, ACDM-B0/1 Airport CDM Information Sharing or ACIS. The main purpose of this element is to generate common situational awareness, which will foster improved decision making within aerodromes, by sharing relevant surface operations data among the local stakeholders involved in aerodrome operations.

It consists in the definition of common specific milestones for several flight events taking place during surface operations. The stakeholders involved have to make decisions based on accurate operational data, achieve the agreed milestones.

The Project proposes to support States on the implementation of ACIS on selected aerodromes by enabling tailored operational procedures, share experiences, best practices and lessons learned on the implementation of ACIS procedures/tools, training and the definition of phraseology for the implementation of ACIS according to ICAO Doc 4444 and Doc 9971.

The selected aerodromes will be based on complexity (hub or O/D, environmental conditions, limitations, etc.) and traffic. According to ICAO iStars, the top 5 airports by departures in the SAM Region are:

Rank	State	City	Airport Name	Airport code	2018 Departures	2018 Pax Traffic
1	Brazil	Sao Paulo	Guarulhos Intl.	SBGR	135307	38M
2	Colombia	Bogota	El Dorado Intl	SKBO	135018	30.9M
3	Peru	Lima-Callao	Jorge Chavez Intl	SPIM	91697	20.6M
4	Chile	Santiago	Arturo Merino Benitez Intl	SCEL	76773	21.4M
5	Panama	Panama City	Tocumen Intl	MPTO	69600	15.6M

The implementation of ACIS will serve as an enabler to future implementation of subsequent B1, B2 & B3 A-CDM elements.

4 Reasons

In the SAM Region there is a lack of airport infrastructure capacity that had led to increased costs, saturation, delays, inefficiencies, and loss of opportunity due to the lack of space to operate, thus acting against the common long-term national and regional interest of realizing the benefits of growing air connectivity.

As airport development projects are very large in scope and have a long time horizon from planning to completion (along with high costs and space requirements), in the meantime States and Airport Operators may need to find ways to increase the efficient use of installed infrastructure in order to generate more capacity to accommodate demand.

A-CDM has globally being identified as a way to increase capacity in the airport by means of increasing situation awareness to all the involved stakeholders thru sharing of information that lead to better collaborative decision making process, especially during the turnaround process in the airport.

Experience has shown that to get the full benefit from the integration of A-CDM efforts to the network, there is a need to implement the concept in a consistent but scalable way, with consultation with stakeholders including airlines.

In the region, due to lack of expertise in the matter, many States and Airports are looking after consultancy services to implement A-CDM, however, those efforts are not following any agreed regional harmonised guidelines, increasing the risk for inconsistencies between States on the implementation of the solution, affecting users negatively.

Also, the Project plans to deliver a framework in order to sort some of the common barriers of implementation, such as the sharing of what is considered “sensitive” data by some stakeholders.

This solution is aligned with SAM Plan’s Connectivity axis, and with ICAO’s Capacity and Efficiency Strategic Objective.

5 Business Options

1. Do nothing

States will still implement air navigation related solutions (such as ATFM) that will put more pressure to the network nodes (aerodromes). Surface operations, especially the turnaround process in the airport, will continue to be handled by operational stakeholders that rely on separate systems not sharing all relevant information, so not performing as efficient as they could. There will be no effective linkage between airborne and ground status segments, deviations from the planned traffic situation will not be transmitted to interested parties.

2. Do the minimum: Continue delivering seminars on A-CDM

Currently, the RO has been delivering workshops and increasing awareness on the ACDM matter, having great assistance and results in the workshop; however, in order to support States on a harmonized implementation, there is a need to follow up on the measures taken by airports and States to begin collaboration mechanisms. Currently, as no Regional guideline or roadmap hasn't been define, there is a high risk of independent implementation efforts at States that may affect the region's integration and connectivity.

3. Do something: A-CDM implementation project

This is the recommended option. By carrying out an A-CDM B0/1 implementation project, the Region has the opportunity to identify the need and implement A-CDM B0/1 on a scalable, consistent and harmonized way, so that main hubs ensure to have an ACIS that serve as building block for A-CDM total implementation.

Experience from other Regions has determined the lack of harmonization and lack of consultation as one of the main challenges in A-CDM implementation.

6 Expected Benefits

- **Main Outputs:**
  - States to endorse the need to implement element B0/1 of A-CDM on selected aerodromes.
  - Guidance material to establish the common rules and criteria for information exchange and implementation of selected elements.
  - Direct assistance to initiate pilot projects in selected aerodromes, with the support of States, international organizations and experts on the matter.

- **Main Outcomes:**
  - Improved communications due to harmonized application of ACIS (airport collaborative information sharing) platform
  - Increased predictability
  - Improve On time performance
  - ASBU implementation (as per ICAO GANP)
  - Harmonized and interoperable exchange of information between ATFM and A-CDM
  - Better IRROPS (irregular operations) recovery capacity

- **Main Benefits:**
  - Optimise the use of airport infrastructure (unlock latent capacity).
  - Reduce congestion (on apron & taxiways)
  - Better integration of airports to the ATM network planning
  - A-CDM as an enabler of ATFM
  - Reduced workload due to better processes
  - Reduced delays
  - Fuel and CO2 savings due to lower taxi times
  - Better passenger level of service
  - Increased punctuality
  - Reduce ground movement costs

7 Expected Dis-benefits

- Changes by aerodrome operators and/or ANSPs in order to align with regional agreed vocabulary to ensure interoperability
- Costs on interfaces between systems
- Costs or investment on software or software modifications by Aerodrome operators
- Changes in current processes
- Increased workload to implement process

8 Timescale

The implementation of the Project will be defined by stages and work packages.

The work packages will be develop after initiation stage, but preliminary work packages include:

- Survey and gap analysis of current A-CDM efforts
- Proposal on a Regional airport capacity assessment methodology (based on EUR).
- SAM Regional guidance on A-CDM
- SAM Regional Implementation Plan
- Pilot-projects

The project is expected to last 36 months, considering activities to gather information, adjust to regional conditions, and validate with stakeholders the conditions/requirements for consistent implementation. Implementation at designated airports and pilot programs make take longer (based on other regions experience). Shortest A-CDM program in an airport may take about 12 months on its first phase, depending on the local situation.

Stage	Activity	Proposed dates
Stage 1	Start up and Initiation Stage States to endorse project Working group/Project Team appointed PID, Plan preparation	2019-20
Stage 2	Agreed TORs Regional Guidance material (GM) preparation & validation Proposal on a regional airport capacity assessment methodology GM approval by Project Team Draft regional policy for States endorsement	2020-21
Stage 3	States to endorse regional policy for implementation Regional ANP amendment and approved	2022
Stage 4	States/Airports to propose Pilot Projects for implementation Pilot Projects approved MoU for Pilot project deployment	2021-22
Stage 5	Pilot Project Deployments - Project preparation - Working group/Local ACDM Project Team appointed - Inventory & Gap analysis (by Project Team) - Creation of Airport CDM Platform - ACIS implementation	2022-onwards

Stage 6	Reporting & follow up	2022-onwards

9 Costs

For Stages 1 to 3:

- Travel costs to Lima for Project Team meeting (State specialists) – 3 to 5 day working meeting
- Consultancy services
- Document preparation (translation)

For Stages 4 & 5:

- Mission to State/Airport (as needed) to support project preparation
- Creation of Airport CDM Platform (depending on size/available resources at airport)

10 Investment Appraisal

The project is proposed to be funded by States resources from Project RLA06/901 and contributions from States or International Organizations (expertise).

As most of ICAO based projects, State and industry subject matter experts support on a pro-bono scheme reducing costs to the ones related to missions and document preparation. Project management and administrative costs are to be covered by current known mechanisms of GREPECAS projects. By working on regional guidance and projects, cost-benefit analysis are expected to deliver positive results compared with individual efforts by States and with consultants. Products will serve to support States to be more prepared to request for services from third parties.

11 Major Risks

ID	Description	Probability	Impact	PxI*	Mitigation	Status
1	Lack of interest	1	3	3	*Demonstrate business case to potential sponsor showing benefits that the project may deliver, along with detailed costs*	Identified
2	Lack of funding	2	3	6	*Due to the high benefits of this improvement and the interest of many airports in the region to implement, look to ensure funding from ICAO HQ, ICAO Regional Project or third party interested to support the project*	Identified

ID	Description	Probability	Impact	PxI*	Mitigation	Status
3	Lack of expertise to develop the project	2	2	4	*Ensure funding to get the right specialists to develop the material needed for the project. Engage with recognized organization or thru ICAO to get the right people for the task. Engagement with EUROCONTROL*	Identified
4	States may not participate on the project	1	3	3	*Include the project as part of already accepted mechanisms by States (such as GREPECAS Projects). Inclusion on e-ANP Vol. III as part of GANP implementation*	Identified
5	Lack of competent staff in airport operations (AOP) in the State to follow the project	3	2	6	*Generate competencies thru training/awareness on the implementation/operation phase*	Identified
6	Low involvement and consultation of other Stakeholders (airport operator, airlines, ATC).	1	3	3	*Foster collaboration with partners (ACI, IATA, CANSO) to ensure stakeholder point of view.*	Identified
7	Culture change	2	2	4	*Continuous collaboration and decision making based on data with new accuracy requirements, or on data that was just not available before, means working in a new environment that requires some adapting.*	identified
8	Sharing of sensitive data	3	3	9	*identifying the measures that will be taken to protect data from both commercial and security aspects, for example by ensuring that sensitive information is not accessible to competing aircraft operators, but only to other partners such as ATC or Airport.*	Identified

Risk log notes:
Probability/severity scored: 1 (low) 2 (medium) 3 (high)
Specific actions must be identified where PxI (=Probability x Impact) > 3
Status: Identified / Accepted / Transferred / Avoided or Exploited / Reduced or Enhanced / Shared / Contingency Plan invoked