



International Civil Aviation Organization
South American Regional Office - Regional Project RLA/06/901
Second Meeting on AIDC implementation (ATS data communications between facilities) in the SAM Region
(Lima, Peru, 21 to 23 September 2016)

Agenda Item 2: Follow-up to the performance of AIDC operation and results of the AIDC interconnection trials in the SAM Region

FOLLOW-UP TO THE IMPLEMENTATION AND PERFORMANCE OF THE AIDC INTERCONNECTION BETWEEN ADJACENT ACCs

(Working Paper presented by the Secretariat)

SUMMARY	
This working paper presents the activities carried out, the current status and what is foreseen for the implementation of the integration of automated systems, basically the AIDC interconnection.	
REFERENCES:	
<ul style="list-style-type: none"> • Report of the First Meeting on AIDC implementation in the SAM Region (Lima, Peru, 28 to 30 March 2016) • Seventeenth workshop/meeting of the SAM Implementation Group (SAM/IG/17) - Lima, Peru, 9-13 May 2016 • Fourth meeting of the GREPECAS Programmes and Projects Review Committee (PPRC/4) - Lima, Peru, 12-14 July 2016 • Third Meeting of Air Navigation and Safety Directors (AN&FS/3) – Lima, Peru, 22 to 24 August 2016 • Summary of AIDC teleconferences (January to July 2016) 	
<i>ICAO strategic objectives:</i>	<i>A – Safety</i> <i>B – Air navigation capacity and efficiency</i>

1. Introduction

1.1 AIDC implementation and operation between adjacent ACCs has shown the following advantages and benefits from the point of view of safety and efficiency of air navigation:

- it significantly reduces the need for verbal coordination between ATS units;
- it reduces controller workload;
- it reduces read-back/hear-back errors during coordination;
- it reduces “controller-to-controller” coordination loop errors and language barrier issues;
- it mitigates LHDs, preventing mid-air collisions; and

- it supports performance-based air navigation initiatives and emerging automation technologies.

1.2 The interconnection of automated systems (ATS interfacility data communication - AIDC) is one of the air navigation priorities contemplated in the Declaration of Bogota. The goal in terms of the interconnection of automated systems is to have 15 interconnections implemented by the end of 2016.

2 Discussion

2.1 The following activities have been carried out since the AIDC/1 meeting four teleconferences via web were conducted on 23 May, 3 June, 6 and 8 September 2016. Likewise the progress on the AIDC implementation were informed in the following meetings: Seventeenth workshop/meeting of the SAM Implementation Group (SAM/IG/17), Fourth meeting of the GREPECAS Programmes and Projects Review Committee (PPRC/4) and Third Meeting of Air Navigation and Safety Directors (AN&FS/3).

2.2 A significant progress in the operation phase of AIDC has been achieved in Brazil between the following ACC during May and July 2016:

Curitiba – Recife	July 2016
Recife – Brasilia	June 2016
Curitiba – Brasilia	July 2016
Curitiba – Amazonica	July 2016
Amazonica – Brasilia	June 2016
Amazonica – Recife	2 May 2016 (implemented)

2.3 The following AIDC interconnections reported in pre-operational phase, continue in the same stage: Lima ACC and Bogota ACC, Guayaquil ACC and Bogota ACC, Bogota ACC and Panama ACC, Ezeiza ACC and Cordoba ACC. Regarding AIDC interconnection between Bogota and Guayaquil, during the teleconference held on 6 September was reported that by the end of May 2016 it was deactivated due to the AMHS test being made between Colombia and Ecuador. The AIDC focal points of Colombia and Ecuador informed that would be reactivating the operation.

2.4 At the same time, during the teleconferences positive AIDC test were informed between Iquique ACC and Cordoba ACC, and Bogota ACC and Barranquilla ACC and Brazil (ATECH test position) AND Lima ACC.

2.5 On 8 September 2016, a teleconference was carried out between SAM and AFI Region States to follow-up the AIDC implementation requirements between both regions (Conclusion SAT/21/17). On this respect it was considered to carry out technical test between Argentina and South Africa by mid October 2016 through AFTN connection in the CAFSAT satellite network.

2.6 Regarding the implementation of other interregional interconnections, Panama reported during the teleconference of 5 September, that the AIDC between Panama ACC and CENAMER are operative (pre-operational phase).

2.7 **Appendix A** to this working paper presents a detailed table of the implementation status of the AIDC interconnection in the SAM Region. The table also presents the AIDC implementations foreseen for period 2017-2019. Likewise as **Appendix B** a list of AIDC focal points nominated for SAM States is presented.

2.8 Region States are expected during the meeting, to present up-dated information regarding the AIDC activities carried out so far, as well as short and mid-term plans to complete the AIDC interconnections included in Appendix A.

3 Suggested action

3.1 The Meeting is invited to:

- a) take note of the information presented in this paper; and
- b) analyse and comment on the activities for the implementation of AIDC interconnections mentioned in section 2 of this working paper and its appendices, and also report the status and their short and mid-term plans to fulfill the operational implementation of those interconnections; and
- c) other consideration that the meeting deem appropriate.

- END -

APPENDIX A

(AIDC) GROUND-GROUND DATA INTERCONNECTION LEVEL REQUIREMENTS IN THE SAM REGION

ARGENTINA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels *				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
CORDOBA (AUT. INDRA AIRCON2100) (2007)	IQUIQUE	XI			X	Positive AIDC trials - March 2016 As a result of the trials, the transmission speed has to be incremented from 2400 to 9600 bit/seg AIDC foreseen to be operational on second half of 2016
	LA PAZ	XI			X	AIDC foreseen for period 2017-2019
	EZEIZA	XI			XI	AIDC in pre-operational phase since December 2015. Operational phase foreseen by second half of 2016
	MENDOZA	XI			X	AIDC pre-operational by the end of 2016
	RESISTENCIA	XI			X	AIDC pre-operational by the end of 2016
RESISTENCIA (AUT. INDRA AIRCON2100) (June 2016)	ASUNCION	XI			X	Positive AIDC trials were conducted in 2015 between Ezeiza and Asunción. Trials between Resistencia and Asunción will be conducted on mid-2016 AIDC foreseen to be operational on second half of 2016
	CORDOBA	XI			X	AIDC pre-operational by the end of 2016
	CURITIBA	XI			X	AIDC foreseen for second half of 2016
	EZEIZA	XI			X	AIDC pre-operational by the end of 2016
	MONTEVIDEO	XI			X	AIDC foreseen for second half of 2016
EZEIZA (AUT. INDRA AIRCON2100) (2007)	COMODORO RIVADAVIA	XI			X	AIDC pre-operational by the end of 2016
	MENDOZA	XI			X	AIDC pre-operational by the end of 2016
	PUERTO MONTT	XI			X	AIDC by end 2016

	CORDOBA	XI			XI	AIDC in pre-operational phase since December 2015. Operational phase foreseen by second half of 2016
	RESISTENCIA	XI			X	AIDC pre-operational by the end of 2016
	JOHANNESBURG	XI			X	AIDC TBD
	MONTEVIDEO	XI			X	AIDC foreseen for second half of 2016
MENDOZA (AUT INDRA AIRCON2100) (June 2016)	EZEIZA	XI			X	AIDC pre-operational by the end of 2016
	SANTIAGO	XI			X	AIDC foreseen for period 2017-2019
	CORDOBA	XI			X	AIDC pre-operational by the end of 2016
COMODORO RIVADAVIA (AUT INDRA AIRCON2100) (June 2016)	EZEIZA	XI			X	AIDC pre-operational by the end of 2016
	PUNTA ARENAS	XI			X	AIDC by the end of 2016
	PUERTO MONTT	XI			X	AIDC by the end of 2016

BRAZIL						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
AMAZÓNICO (MANAUS) AUTO. SAGITARIO ATECH	BRASILIA	XI			XI	AIDC implemented June 2016
	BOGOTÁ	XI			X	AIDC foreseen for first semester 2019
	CAYENNE	XI			X	AIDC foreseen for period 2017-2019
	CURITIBA	XI			XI	AIDC implemented July 2016
	GEORGETOWN	XI			X	AIDC foreseen for period 2017-2019
	LA PAZ	XI			X	AIDC foreseen for period 2017-2019
	LIMA	XI			X	Positive trials have been conducted in March 2016 AIDC foreseen for second half of 2016
	MAIQUETIA	XI	X		X	AIDC foreseen for period 2017-2019
	PARAMARIBO	XI			X	AIDC foreseen for period 2017-2019
	RECIFE	XI			X	AIDC implemented since 2 May 2016
CAYENNE	XI			X	AIDC foreseen for period 2017-2019	

	ATLÂNTICO	XI			X	AIDC TBD
BRASILIA AUTO. SAGITARIO ATECH	AMAZÔNICO	XI			XI	AIDC implemented June 2016
	CURITIBA	XI			XI	AIDC implemented July 2016
	RECIFE	XI			XI	AIDC implemented June 2016
CURITIBA AUTO. SAGITARIO ATECH	AMAZONICO	XI			XI	AIDC implemented July 2016
	ASUNCION	XI			X	AIDC foreseen for second half of 2016
	BRASÍLIA	XI			Xi	AIDC implemented July 2016
	LA PAZ	XI			X	AIDC foreseen for period 2017-2019
	MONTEVIDEO	XI			X	AIDC foreseen for second half of 2016
	RECIFE	XI			XI	AIDC implemented July 2016
	RESISTÊNCIA	XI			X	AIDC foreseen for second half of 2016
	ATLÂNTICO	XI			X	AIDC TBD
RECIFE AUTO. SAGITARIO ATECH	AMAZÔNICO	XI			X	AIDC Implemented on 2 May 2016
	BRASÍLIA	XI			XI	AIDC implemented June 2016
	CURITIBA	XI			XI	AIDC implemented July 2016
	ATLÂNTICO	XI			X	AIDC TBD
ATLÂNTICO AUTO. SAGITARIO ATECH	AMAZÔNICO	XI			X	AIDC TBD
	CURITIBA	XI			X	AIDC TBD
	DAKAR	XI			X	AIDC TBD
	JOHANNESBURG	XI			X	AIDC TBD
	LUANDA	XI			X	AIDC TBD
	MONTEVIDEO	XI			X	AIDC foreseen for period 2017-2019
	RECIFE	XI			X	AIDC TBD
	CAYENNE	XI			X	AIDC foreseen for period 2017-2019

BOLIVIA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
LA PAZ (MANUAL)	AMAZÔNICO	XI			X	AIDC foreseen for period 2017-2019
	ASUNCION	XI			X	AIDC foreseen for period 2017-2019
	CURITIBA	XI			X	AIDC foreseen for period 2017-2019

	CORDOBA	XI			X	AIDC foreseen for period 2017-2019
	LIMA	XI			X	AIDC foreseen for period 2017-2019
	IQUIQUE	XI			X	AIDC foreseen for period 2017-2019

CHILE						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
SANTIAGO (AUTO THALES TOPSKY)	IQUIQUE	XI			X	AIDC foreseen for period 2017-2019
	LIMA	XI			X	AIDC foreseen for period 2017-2019
	MENDOZA	XI			X	AIDC foreseen for period 2017-2019
	PUERTO MONTT	XI			X	AIDC foreseen for period 2017-2019
IQUIQUE (AUTO INDRA AIRCON 2100)	CORDOBA	XI			X	Positive AIDC trials - March 2016 AIDC foreseen to be operational on second half of 2016
	LA PAZ	XI			X	AIDC foreseen for period 2017-2019
	LIMA	XI			X	Positive AIDC trials conducted in February 2016 AIDC foreseen to be operational on second half of 2016
PUERTO MONTT (INDRA AUTOMATED)	SANTIAGO	XI			X	AIDC foreseen for period 2017-2019
	PUNTA ARENAS	XI			X	AIDC by the end of 2016
	EZEIZA	XI			X	AIDC by the end of 2016
	COMODORO RIVADAVIA	XI			X	AIDC by the end of 2016
PUNTA ARENAS (MANUAL)	PUERTO MONTT	XI			X	AIDC by the end of 2016
	COMODORO RIVADAVIA	XI			X	AIDC by the end of 2016

COLOMBIA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
BOGOTÁ (AUTO INDRA AIRCON 2100)	AMAZÔNICO	XI			X	AIDC foreseen to be operational on second half of 2016
	CENAMER	XI			X	AIDC foreseen for period 2017-2019
	GUAYAQUIL	XI			XI	Positive AIDC trials conducted AIDC in pre-operational phase (August 2015)
	LIMA	XI			XI	Positive AIDC trials conducted AIDC operational since 30 May 2016 according to letter of operational agreement (August 2015)
	MAIQUETIA	XI			X	AIDC foreseen for period 2017-2019
	PANAMA	XI			X	Positive AIDC trials conducted AIDC foreseen to be operational by second half of 2016
	BARRANQUILLA	XI			XI	AIDC pre-operational (March 2016)
BARRANQUILLA (AUTO INDRA AIRCON 2100)	MAIQUETIA	XI			X	AIDC foreseen for period 2017-2019
	PANAMA	XI			X	Positive AIDC trials conducted AIDC foreseen to be operational by mid 2016
	BOGOTA	XI			XI	AIDC pre-operational (March 2016)
	KINGSTON	XI			X	AIDC TBD
	CURAÇAO	XI			X	AIDC TBD

ECUADOR						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
GUAYAQUIL AUTO INDRA AIRCON 2100	BOGOTA	XI			XI	Positive AIDC trials conducted AIDC pre-operational (August 2015)
	LIMA				XI	AIDC operational implementation (31 March 2016)
	CENAMER	XI			X	Positive AIDC trials conducted AIDC foreseen for period 2017-2019

FRENCH GUIANA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
CAYENNE AUTO ADACEL AIDC not installed	AMAZÓNICO	XI			X	AIDC foreseen by first semester 2017
	PARAMARIBO	XI			X	AIDC foreseen for period 2017-2019
	PIARCO	XI			X	AIDC foreseen for period 2017-2019
	DAKAR	XI			X	AIDC foreseen by end 2016
	ATLANTICO	XI			X	AIDC foreseen by first semester 2017

GUYANA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
GEORGETOWN AUTO INTELCAN AIDC not installed	AMAZONICO	XI			X	AIDC foreseen for period 2017-2019
	PIARCO	XI			X	AIDC foreseen for period 2017-2019
	MAIQUETIA	XI			X	AIDC foreseen for period 2017-2019
	PARAMARIBO	XI			X	AIDC foreseen for period 2017-2019

PANAMA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
PANAMA (AUTO THALES)	BOGOTA	XI			X	Positive AIDC trials conducted AIDC foreseen to be operational by mid 2016
	BARRANQUILLA	XI			X	Positive AIDC trials conducted AIDC foreseen to be operational by mid 2016
	CENAMER	XI			X	Positive AIDC trials conducted AIDC foreseen to be operational by the end of second half of 2016

PARAGUAY						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
ASUNCION AUTO AIRCON 2100 INDRA	CURITIBA	XI			X	AIDC foreseen by second half of 2016
	LA PAZ	XI			X	AIDC foreseen for period 2017-2019
	RESISTÊNCIA	XI			X	Positive AIDC trials conducted in 2015 between Ezeiza and Asunción. Trials between Resistencia and Asunción will be conducted on mid 2016 AIDC foreseen to be operational on second half of 2016

PERU						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
LIMA AUTO AIRCON 2100 INDRA	AMAZONICO	XI			X	Positive trials conducted in March 2016 AIDC foreseen to be operational on second half of 2016
	BOGOTA	XI			XI	Positive AIDC trials conducted AIDC pre-operational phase (August 2015) 30 May
	SANTIAGO	XI			X	AIDC foreseen for period 2017-2019
	IQUIQUE	XI			X	Positive AIDC trials conducted in February 2016 AIDC foreseen to be operational on second half of 2016
	GUAYAQUIL	XI			XI	AIDC operational (31 March 2016)
	LA PAZ	XI			X	AIDC foreseen for period 2017-2019

SURINAME						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
PARAMARIBO (AUTO INTELCAN) AIDC installed not	AMAZÓNICO	XI			X	AIDC foreseen for period 2017-2019
	GEORGETOWN	XI			X	AIDC foreseen for period 2017-2019
	PIARCO	XI			X	AIDC foreseen for period 2017-2019
	CAYENNE	XI			X	AIDC foreseen for period 2017-2019

URUGUAY						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
MONTEVIDEO (AUTO INDRA AIRCON2100)	CURITIBA	XI			X	AIDC foreseen by second half of 2016
	EZEIZA	XI			X	AIDC foreseen by second half of 2016
	RESISTENCIA	XI			X	AIDC foreseen by second half of 2016
	ATLANTICO	XI			X	AIDC foreseen for period 2017-2019
	JOHANNESBURG	X			X	AIDC TBD

VENEZUELA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
MAIQUETIA (AUTO ATECH X4000) AIDC not installed	AMAZONICO	XI	XI		X	AIDC foreseen for period 2017-2019
	BOGOTA	XI			X	AIDC foreseen for period 2017-2019
	BARRANQUILLA	XI			X	AIDC foreseen for period 2017-2019
	PIARCO	XI			X	AIDC TBD
	CAYENNE	XI			X	AIDC foreseen for period 2017-2019
	CURAZAO	XI			X	AIDC TBD
	SAN JUAN	XI			X	AIDC TBD

* X PLANNED

*XI IMPLEMENTED AND IN PRE-OPERATIONAL OR OPERATIONAL PHASE

APPENDIX B

**NATIONAL FOCAL POINTS/PUNTOS FOCALES NACIONALES
IMPLEMENTATION OF INTERCONNECTION OF AUTOMATED SYSTEMS/IMPLANTACIÓN INTERCONEXIÓN SISTEMAS
AUTOMATIZADOS**

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
ARGENTINA	DGCTA	Rubén Silva	Especialista ATM sistemas automatizados		rubensilva@hotmail.com
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		Javier Vittor	Especialista CNS	(54 11) 4480-2362 (54 911) 6894-0692	javiervittor@gmail.com
	ANAC	Diego Agüero	Técnico automatización	(54911) 2258-7836 (5411) 5941-3000 Ext.69-128	daguero@anac.gob.ar
BOLIVIA					
BRAZIL/ BRASIL	DECEA	Alexander Santoro	Especialista CNS	(55 21) -2101-6620	santoroas@decea.gov.br
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COLOMBIA	UAEAC	Harlen Mejía	Jefe de Aeronavegación		harlen.mejia@aerocivil.gov.co
		Mauricio Ferrer	Especialista ATM sistemas automatizados		mauricio.ferrer@aerocivil.gov.co
		Pedro Alejandro Velasco	Jefe Grupo de Vigilancia Aeronáutica	(57) 317656-7203	pedro.velasco@aerocivil.gov.co
CHILE	DGAC	Pedro Pastroian	Especialista radar y sistemas automatizados	(56 2) 836-4005 (56 2) 644-8345	ppastroian@dgac.gob.cl
		Christian Vergara	Especialista comunicaciones	(56 2) 836-4005 (56 2) 644-8345	cvergara@dgac.gob.cl
		Gustavo Cáceres Moraga	Controlador Tránsito Aéreo Ofc. Operaciones ACCS	(56 2) 91581853 (56 2) 28364018	gcaceres@dgac.gob.cl

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
ECUADOR	DAC	Raul Avellan	Especialista CNS coordinador sistema AMHS	(593 4) 269-2829 (593 9) 9530-2735	raul.avellan@aviacioncivil.gob.ec
		Jorge Zúñiga	Programación FDP y coordinaciones		jorzu40@hotmail.com
GUYANA					
GUYANA FR./ FRENCH GUIANA	Service de la Navigation Aérienne aux Antilles-Guyane (SNA-AG)	Michel Areno	Head French Guiana ACC	(594) 694455617	michel.aren@aviation-civile.gouv.fr
PANAMA	Autoridad Aeronáutica Civil (AAC)	Mario Antonio Facey Howard	Especialista radar y sistemas automatizados	(507) 315-9852/65	mfacey@aeronautica.gob.pa
PARAGUAY	DINAC	David Torres	Jefe de Sección, Encargado del Sistema ATM ARCON210	(595) 9812-31575	dr.torres33@gmail.com
		Diego Ramón Aldana Fernández	Supervisor ACC/APP	(595) 21 645-707	diegoaldana@gmail.com
PERÚ	CORPAC	Johnny Ávila	Jefe equipos centro de control	(511) 230-1000 Anexo:1267	javila@corpac.gob.pe
		Jorge Eduardo Merino Rodríguez	Especialista ATM Controlador de Tránsito Aéreo	(51 1) 230-1000 Ext 1158 (511) 5750886 (Centro de Control Lima) (511) 5750995 Mobile: 51 99737407	jmerino@corpac.gob.pe jemr69@yahoo.com
		Gino Lago	Especialista ATM Controlador de Tránsito Aéreo	(51 1) 414-1000	glago@corpac.gob.pe
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SURINAM/ SURINAME					

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
URUGUAY	DINACIA	Antonio Lupacchino	Especialista CNS sistemas automatizados	(598) 2604-0408 Ext.4520	alupacch@yahoo.com.ar
		Gustavo Turcatti	Jefe Departamento Operativo de Tránsito Aéreo	(598) 2604-0408 Ext.5111	blantur@gmail.com
VENEZUELA	INAC	Alfredo A. Dávila Alfonzo	Coordinador Área de Trabajo ATS	(58 212) 2774-439	a.davila@inac.gob.ve
		Francisco Antonio Ortiz	Gestión Operacional ATM		f.ortiz@inac.gob.ve