

APPENDIX A

PROJECT AUTOMATION

SAM Region	PROJECT DESCRIPTION (DP)	PD N° C1	
Programme	Project Title	Starting Date	Ending Date
Automation and ATM Situational Awareness <i>(Programme Coordinator: Onofrio Smarrelli)</i>	Automation <i>Project Coordinator: Alessander Santoro (Brazil)</i> <i>Contributing experts: SAM/IG ATM Automation Group</i>	May 2008	June 2016
Objective	Support States of the SAM Region in the implementation of automated systems, and in their regional interconnection		
Scope	The scope of the project includes the initial drafting of guidelines, trials for the identification of the automation level required at the Region's ATS units in the short and medium term, and the implementation of automation systems and their interconnection through the VSAT based South American digital network (REDDIG)		
Metrics	<ul style="list-style-type: none"> • Drafting of the following documents: <ul style="list-style-type: none"> ✓ Guidance document on automated systems requirements at ATS units (SSS) ✓ Guideline for the implementation of integrated automated systems ✓ Action plan for the interconnection of automated systems ✓ Preliminary interface control document (ICD) between systems for the interconnection of ACCs in the SAM Region ✓ Memorandum of Understanding (MoU) model for the interconnection of automated systems • Interconnection of automated systems between adjacent ACCs in the SAM Region: • Reduction in number of operational errors, including LHD in the SAM Region 		
Strategy	<ul style="list-style-type: none"> • All tasks will be conducted by experts nominated by States and organizations of the SAM Region members of the Project <i>Automation</i>, under management of the project coordinator, in coordination with the programme coordinator. Communications among project members, as well as between the project coordinator and programme coordinator, shall be carried out through teleconferences and the Internet. In addition, the programme coordinator, together with the project coordinator and the contributing experts, can convene at SAM/IG implementation meetings • Once studies are completed, the results will be submitted to the ICAO programme coordinator as a final consolidated document for its analysis, review, approval and presentation at the GREPECAS PPRC 		

Justification	<ul style="list-style-type: none"> • The CAR/SAM air traffic control centres have had difficulties in duly coordinating air traffic, an important factor contributing in air traffic incidents. The air traffic control automated centres' interconnection will permit a coordinated automated air traffic for the transfer of responsibilities between CAR/SAM adjacent area control centres, thus reducing the risk in aeronautical incidents generated by undue coordination activities and improving, at the same time, the planning phases for an efficient control of flights from/to corresponding Flight Information Regions (FIR). • The interconnection of automated systems would be facilitated, in view of REDDIG (SAM VSAT regional network), which has the necessary capability to transport automated systems applications • This project contributes towards the implementation of SAM PFF CNS 04, ATM 05 and ATM 06 of the <i>Air Navigation System Performance-Based Implementation Plan for the SAM Region (SAM PBIP)</i>
goals	<ul style="list-style-type: none"> • Initial drafting of five guideline documents in support of the implementation of automated systems interconnection for completion in the period (May 2008 – October 2012) • Initial drafting of 18 MoU for the interconnection of automated systems <ul style="list-style-type: none"> 5 MoU period 2009-2011 4 MoU for the end of 2012 9 MoU for the end of 2013 • Implementation of the interconnection of automated systems <ul style="list-style-type: none"> <i>Flight plan</i> 9 OLDI interconnections 2012-2014 1 interconnection considering Doc 44 for 2012 7 AIDC interconnections for period 2012-2013 <i>Asterix protocol radar data</i> 20 radar data exchanges using Asterix protocol period 2011-2014 1 owner exchange for 2012
Related Projects	<ul style="list-style-type: none"> • ATFM • Implementation of the New ICAO Flight Plan Model • Improve ATM Situational Awareness

Project Deliverables	Relationship with Performance Based Regional Plan (PFF)	Responsible	Status of Implementation ¹	Delivery Date	Remarks
Regional guideline document for the automation level required according to the ATM service provided in airspace and international aerodromes, assessing <ul style="list-style-type: none"> • operational architecture design, • characteristics and attributes for interoperability, • data bases and software FPL, CPL, CNL, RLA, etc, and • technical requirements. 	PFF SAM CNS 04 PFF SAM ATM 05 PFF SAM ATM 06	Project Coordinator and ATM Automation Group		Completed June 2011	The System and Subsystem Specifications (SSS) document has been drafted for the identification of automated requirements necessary at ATS units (ACC), and a revision process has been conducted with the support of RLA/06/901 project and SAM/IG ATM Automation Group. Document published in site www.lima.icao.int .
Guideline for the integration of automated systems and corresponding action plan	PFF SAM CNS 04 PFF SAM ATM 05 PFF SAM ATM 06	Project Coordinator and ATM Automation Group		Completed October 2010 Completed May 2012	The following has been drafted: Guideline for the integration of automated systems and revision process. Action plan revision for the integration of automated systems and continuous revision. Both documents drafts with the support of RLA/06/901 project and the SAM/IG ATM Automation Group. Document published in site www.lima.icao.int .

¹ **Gray:** Activity has not started

Green: Activity has or will deliver planned milestone as scheduled

Yellow: Activity is behind schedule on milestone, but still within acceptable parameters to deliver milestone on time

Red: Activity has failed to deliver milestone on time, mitigation measures need to be identified and implemented

Project Deliverables	Relationship with Performance Based Regional Plan (PFF)	Responsible	Status of Implementation ¹	Delivery Date	Remarks
Preliminary interface control document (ICD) between systems for the interconnection of ACCs in the SAM Region	PFF SAM CNS 04 PFF SAM ATM 05 PFF SAM ATM 06	Programme Coordinator, Project Coordinator and ATM Automation Group		Completed October 2008 October 2012	Document ICD drafted. Document elaborated with the support of RLA/98/003 and later, RLA/06/901. Document published in site www.lima.icao.int . The document requires updating in view of installation of new automated and surveillance systems in the Region
Guidelines for elaboration of Memorandum of Understanding (MoU) for the implementation of the automation system interconnection	PFF SAM CNS 04	Project Coordinator and ATM Automation Group		Completed October 2009	A model MoU for the interconnection of automated systems has been developed, with the support of RLA/06/901 project and SAM/IG ATM Automation Group. The MoU model is published in site www.lima.icao.int .
Drafting of Memorandum of Understanding (MoU) for the interconnection of automated systems between adjacent ACCs	PFF SAM CNS 04 PFF SAM ATM 05 PFF SAM ATM 06	SAM States, Project Coordinator and ATM Automation Group		October 2013	To date, six MoU have been drafted and signed between the following SAM States: Argentina-Brazil; Argentina-Chile; Argentina-Uruguay, Brazil-Uruguay; Brazil-Peru; and Brazil-Venezuela. 12 additional MoUs are planned to be drafted.

Project Deliverables	Relationship with Performance Based Regional Plan (PFF)	Responsible	Status of Implementation ¹	Delivery Date	Remarks
Interconnection of automated systems between adjacent ACCs	PFF SAM CNS 04 PFF SAM ATM 05 PFF SAM ATM 06	SAM States		June 2016	Radar data using IP protocol has been interconnected between Argentina-Uruguay, through REDDIG. Flight plan and radar data exchange tests have been conducted between Brazil-Venezuela, through REDDIG.
Monitor implementation progress of automation activities in the SAM Region		Programme Coordinator and Project Coordinator		September 2009-December 2014	
Resources necessary	Implement facilities required by SAM States permitting the interconnection of automated systems in accordance with the dates established in the MoUs drafted and signed to this end				