



**Agenda Item 4: Regional air navigation planning and implementation performance framework: Review of programmes and projects**

**4.4 Projects of the ground-ground and ground-air communication infrastructure programme**

**Follow-up to the Implementation of REDDIG II**

(Presented by the Secretariat)

SUMMARY	
This working paper presents information on the status of implementation of the new IP-based digital network, REDDIG II.	
<b>References:</b> <ul style="list-style-type: none"><li>• Technical-Operational Meeting for the Implementation of the new REDDIG II Digital Network (Lima, Peru, 9-13 September 2013); and</li><li>• Second Technical-Operational Meeting for the Implementation of the new South American Digital Network (Lima, Peru, 26-28 March 2014).</li></ul>	
<i>ICAO strategic objectives:</i>	<i>A – Safety; and B – Air navigation capacity and efficiency</i>

**1. Introduction**

1.1 With the commissioning of the new South American communication network, the Region will have a modern IP-based digital network. The new digital network (REDDIG II) will consist of two networks: a main network based on VSAT stations, which uses the same bandwidth as the REDDIG but whose equipment makes more efficient use thereof; and a ground network based on MPLS (multiprotocol label switching) technology, running on fiber optics, which will initially serve as backup to the satellite network, thus increasing network availability.

1.2 The REDDIG II will be able to support the existing services as well as the new ones contemplated in the *SAM Performance-Based Air Navigation Implementation Plan* (PBIP). The new services will be part of the requirements foreseen for the modules of ASBU (Aviation System Block Upgrades) Blocks 0 and 1, mainly related to the global interoperability of systems and data through globally interoperable system-wide information management (Performance Improvement Area 2 - PIA 2).

1.3 Likewise, REDDIG II will be able to support the initial and future regional ATFM requirements, initially through an IP communication sub-network enabling teleconferencing between the various ATFM units of the Region.

## 2. Discussion

2.1 The implementation of the new REDDIG II started on 21 December 2012 under the terms established in Contract No. 22501200 signed between the INEO & Level 3 Consortium and ICAO, on behalf of all REDDIG member States, for the implementation of the new South American digital network, the REDDIG II. The installation and commissioning of the REDDIG is foreseen for the beginning of the last quarter of 2014.

### Activities completed

2.2 The INEO & Level 3 Consortium has already purchased the equipment for REDDIG II; an in-factory course has been conducted (Vélizy, France, 21 April to 9 May 2014) for the personnel of the Manaus and Ezeiza nodes, the REDDIG II main and alternate management centres that will be responsible for REDDIG II management; in-factory acceptance tests have been conducted (Vélizy, France, 12 to 16 May 2014) with the participation of four representatives of REDDIG member States and two representatives of the REDDIG administration; and initial coordination has been completed to expedite customs clearance of the equipment in each of the REDDIG member States.

### Activities underway

2.3 The delivery of REDDIG II equipment to each node is foreseen for mid-July 2014. Four sessions of the theoretical-practical course on the REDDIG II will be held in Rio de Janeiro, Brazil, from 11 August to 5 September, to train forty participants who will be responsible for the operation and maintenance of REDDIG II. The installation of all VSAT nodes of the satellite network and of the MPLS ground network that will make up the new REDDIG II will begin in mid-September 2014. The commissioning of REDDIG II is foreseen for early November 2014.

2.4 The study and implementation of the REDDIG II has been possible thanks to an ICAO regional technical cooperation project, whereby all member States have contributed to the development of the concept and to the implementation of all stages so far. It is also important to highlight that the same regional cooperation project has allowed member States to operate the existing REDDIG I since 2003 with a high level of availability.

2.5 The REDDIG is a globally unique experience in terms of the operation, maintenance, and installation of a regional network providing voice and data services as specified in the regional air navigation plans.

2.6 The REDDIG experience was presented at the Twelfth Air Navigation Conference, which recognised that ICAO technical cooperation projects were conducive to the implementation of regional projects. In this regard, it formulated Recommendation 1.6, which, in part b), stated that ICAO *examine the operation, management, and streamlining of the technical cooperation project and other similar regional experiences for the implementation of the regional digital network with a view to adapting this effective practice for use in other ICAO Regions.*

3. **Suggested action**

3.1 The Meeting is invited to:

- a) take note of the information contained in this working paper;
- b) review the activities listed in section 2 and in the Appendix to this working paper, and consider the successful experience related to the operation and maintenance of the current REDDIG I and the implementation of the REDDIG through a regional technical cooperation project; and
- c) discuss any other matters it may deem appropriate.

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