

**International Civil Aviation Organization  
PNUD/ICAO RLA/98/003 Regional Project  
Transition to the CNS/ATM Systems in the CAR and SAM Region**

**Second Meeting/Workshop Of Air Traffic Management (ATM) Authorities And Planners.  
(Lima, Perú, 14 to 18 May 2001)**

**Agenda Item 2: Definitive Implementation of the RNAV routes UT780, UT795 and UT799  
and analysis of new pre-operational trials and demonstrations in such routes.**

(Presented by IATA)

**Summary**

This working paper presents to the Group the feasibility of using the Aircraft Communication Addressing and Reporting System (ACARS) as a possible tool for communication between pilots and controllers for non-critical communication.

**1. Introduction**

The RLA 98/003 project is dedicated to the transition to the CNS/ATM Systems in the CAR and SAM Regions. Since this Group is under the umbrella of the RLA 98/003 project, and as it is well known, communication is one element of CNS/ATM, the Group should study of the possibility of the usage of CPDLC. On the other hand, the CNS/ATM/IC/6 Subgroup at its last meeting held in Santa Cruz de la Sierra, studied under Item number 5 the possibility to develop a test program on CPDLC/ADS in the CAR/SAM Region.

At the present moment there is not a large aircraft population equipped with CPDLC/ADS operating in the CAR/SAM region. This fact does not allow establishing a regional test program on the use of CPDLC/ADS. However, the closest technology in order to develop a data-link test and a posterior application would be the usage of ACARS.

**2. ACARS; brief information.**

The Aircraft Communication Addressing and Reporting System (ACARS) was developed in 1977 and implemented in full operation in 1978. We can estimate that 6,000 or more aircraft world-wide are equipped with ACARS. These aircraft handle up to 16 million messages per month, but merely a million messages are dedicated to communicate controller to the pilot or v.v. ACARS has been used mainly on

the airline/aircraft communication. Nevertheless, there are at least 400 ground stations located in airports and ATC centers in the world using ACARS for ATC purposes.

### **3. Analysis**

The actual use of ACARS for ATC, is targeted forwards non-critical Controller/Pilot communication, such as ATIS, clearance, etc.... In this manner the performance of the Air Traffic Control would never be jeopardized in reference to separations or giving critical instructions to the pilots.

Some of the possible usage of the ACARS in the CAR/SAM Region could be listed as follows:

- For ATIS transmission
- For clearance delivery
- To transmit to the aircraft NOTAM information
- To transmit to the aircraft weather information
- To be used in such cases where VHF or HF communication could not be established.
- To follow the progress of the flight when the aircraft is outside of the ATC hegemony
- To transmit from the aircraft in advance any specific requirement to the next ATC to be over-flown
- Using plain language, any interchange of information that controller and pilot could come across.

Benefits for controllers and pilots of the usage of ACARS in the CAR/SAM Region

- Expedite instructions
- Decongestion of the VHF frequencies
- Report and obtain position whenever communications in VHF or HF are not feasible.
- Reduction on Language Barriers – Therefore enhancing Safety
- Reduction on work load, at the ATC and the Cockpit
- Introduction to the controllers of data-link communication
- Preparation of the controllers on future communication elements
- Reducing frequency chattering

### **4. Action Suggested**

The Group is invited to analyze the presentation given by ARINC and SITA. The Group should evaluate the operational benefits and the economical efficiency of the ACARS system and consider its application in the CAR/SAM Region.