

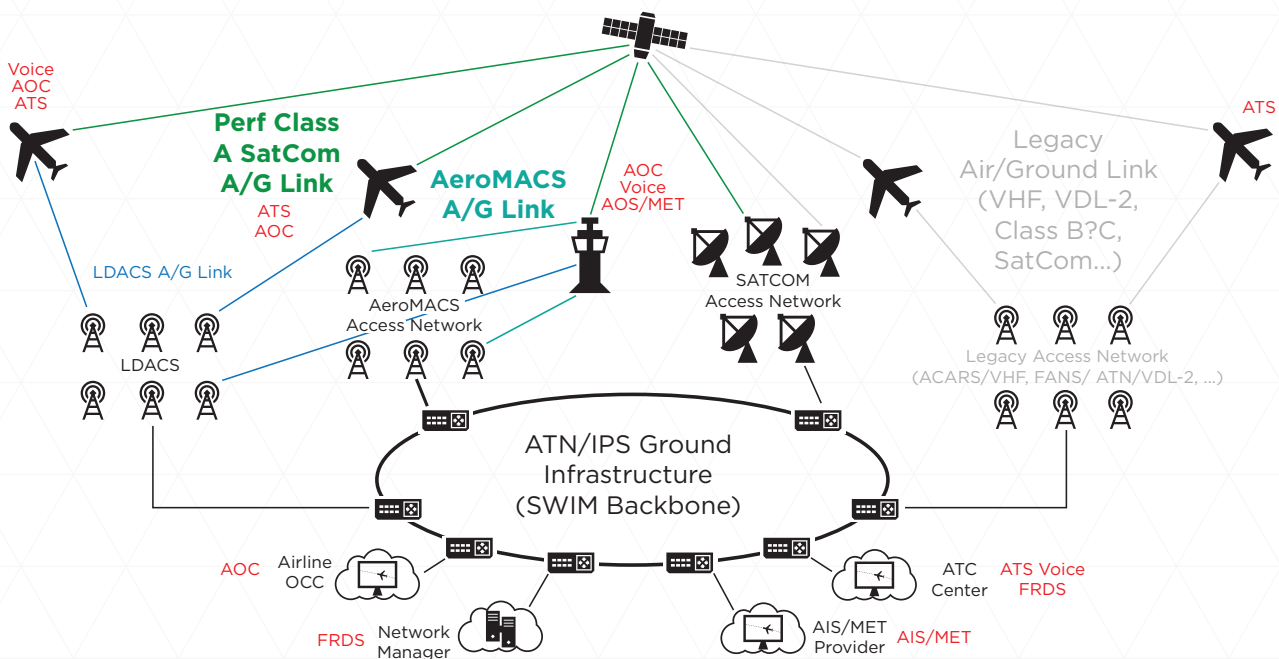
AIRTEL IN SESAR2020

EECNS - ESSENTIAL AND EFFICIENT COMMUNICATION NAVIGATION AND SURVEILLANCE INTEGRATED SYSTEM (PJ.14)

The future ATM Operational Concepts proposed by SESAR and enabled by the various ATM elements and SESAR2020 ATM solutions, will require an underlying supporting infrastructure including Communications, Navigation and Surveillance capabilities that are adapted to support the SESAR concept elements in an efficient way. Within SESAR2020, Project 14 (“**EECNS - Essential and Efficient Communication Navigation and Surveillance integrated system**”, led by Leonardo S.p.A.) is researching the next generation of CNS technologies in a manner focused on the needs of the Single European Sky, whilst taking account of the global nature of the aviation industry.

Airtel ATN Ltd., a member of the NATMIG consortium, is an active member of EECNS in the Communication domain, contributing to the definition, implementation and validation of new data link technologies.

Future concepts in Air Traffic Management, involving increased digitalization and automation, are leading to rapid increases in the volume of ATM data handled by aircraft, demanding enhanced air-ground data link capabilities. The aircraft equipment and the ground infrastructure required to implement these new data links are being investigated in the SESAR2020 project EECNS.



In accordance with ICAO concepts, EECNS defines for COM a new network environment based on IPv6, referred to as ATN IPS, as the future Data Link network to transition from the currently operational ATN OSI network, supplemented with efficient and performing terrestrial and satellite-based datalinks, complementing each other. The overall framework for air/ground data link

based on IP is referred to as the Future Communications Infrastructure (FCI). Within the FCI framework, EATMA (European ATM Architecture) identifies a set of three new air-ground data links foreseen for European and global airspace, AeroMACS, LDACS and Class A/B SATCOM to expand on the current VDL2 network.

AIRTEL'S CONTRIBUTION TO THE EECNS PROJECT INCLUDES:

ATN B2/4D Trajectory Demonstration

Airtel's CPDLC and ADS-C applications will be demonstrated over the new communications infrastructure. This will enable the new data link and network technologies to be validated in a realistic, representative communications environment. It will also demonstrate the compatibility of Airtel's existing products with future technologies.

OSI-IPS Gateway

Airtel is providing an OSI-IPS Gateway which facilitates interoperability between legacy equipment and new infrastructure. As an example, aircraft equipped with ATN-OSI avionics can interoperate, without modification, with new infrastructure based on ATN-IPS, thus protecting the investment in ATN-OSI.

Airborne IPS Router

Airtel is providing an ATN-IPS router for integration in the next generation of avionics, using IP routing instead of CLNP.

DL-FEP Ground Dual OSI IPS End System

Airtel is providing a dual DL-FEP system that will accommodate legacy aircraft and newly developed ATN IPS aircraft.

Airtel's experience in the development and operational deployment of data link software at network and application level means the company is very strongly placed to support its partners in the provision of the next generation of Communication infrastructure.

ABOUT AIRTEL

Airtel are a leading provider of Air/Ground Data Communication software, infrastructure and test equipment, delivering CPDLC compliance across Europe and in over 35 countries worldwide. Several European ANSPs and over 4,000 aircraft

ATN-OSI Over AeroMACS

With Leonardo, Airtel has implemented ATN-OSI over the AeroMACS mobile link. Visit the Leonardo stand 333 at the World ATM Congress.

GLOSSARY

Future Communications Infrastructure (FCI):

The FCI (Future Communication Infrastructure) includes all the components needed for the ANSP, AOC (Airline Operational Communications), and aircraft to communicate with each other.

AeroMACS

AeroMACS is a wireless broadband technology that supports the increasing need for data communications and information sharing on the airport surface for both fixed and mobile applications, ATS and AOC services.

LDACS

LDACS is a multi-application cellular broadband system operating in the L-Band and capable of simultaneously providing various kinds of Air Traffic Services (ATS) and Aeronautical Operational Control (AOC) communications services from deployed Ground Stations (GS).

Class A SATCOM

Class A SATCOM is an enhancement of existing geostationary AMSS satellite systems designed to meet the future stringent, high-integrity, requirements in the high density continental airspace and act as an enabler to support 4-D trajectory information exchange.

are data link enabled by Airtel ATN software and equipment.

Airtel test tools have validated data link communications for ANSPs across Europe as well as at Airports in the US.

www.airtel-atn.com

PJ14 Document SESAR 2020 Projects



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