

EN ROUTE SYSTEMS

MAINTAINING AND ENHANCING AIR NAVIGATION SAFETY AND EFFICIENCY

The use of datalink contributes towards maintaining and enhancing air navigation services safety and efficiency during all flight phases. The SITA ATS AIRCOM En Route System solutions provide turnkey systems that enable ANSPs to provide one or more of the following en route services to gain these benefits: Future Air Navigation System (FANS) Automatic Dependent Surveillance (ADS)-Contract and/or Controller-Pilot Datalink Communications (CPDLC) and/or Aeronautical Telecommunication Network (ATN) CPDLC.

ISSUES

European Commission Mandate

ATN CPDLC is currently being implemented in Europe under Regulation (EC) No. 29/2009 – the Data Link Services Implementing Rule (DLS IR). The EU regulation applies from 7 February 2013 – the deadline by which CPDLC must have been implemented by all ANSPs in Western Europe. The same requirement will apply to all ANSPs in the rest of Europe from 5 February 2015.

North Atlantic Mandate

For the North Atlantic (NAT) Region, there is a datalink mandate requiring FANS-1/A ADS-C and CPDLC whose first phase will come into effect on February 7, 2013 and second phase come into effect on February 5, 2015.

Voice Operations and Procedures Shortcomings

SOLUTION

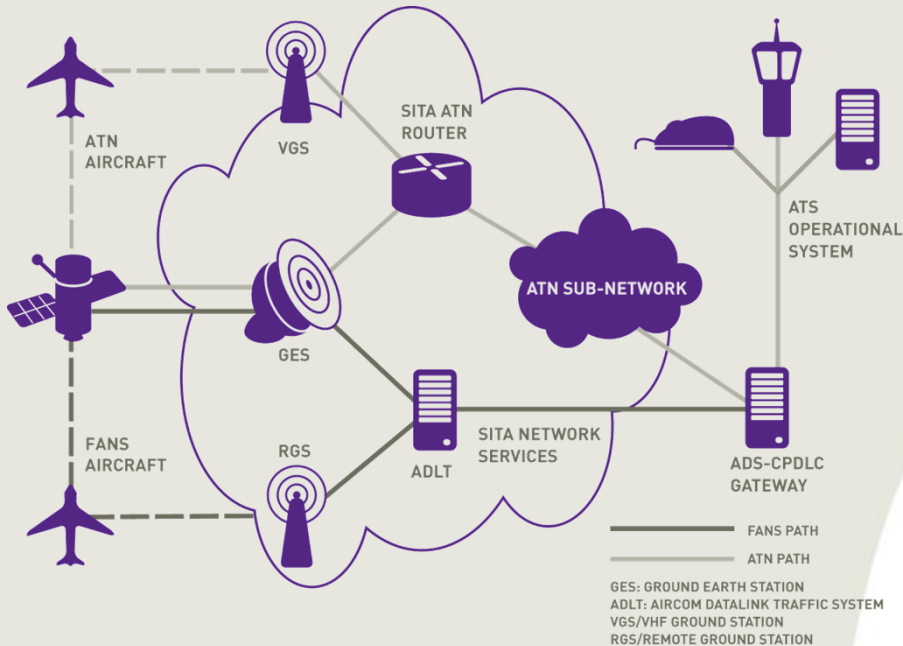
The ATS AIRCOM Systems below provide turnkey En Route Systems that enable ANSPs to provide FANS ADS-Contract and/or CPDLC and/or ATN CPDLC:

- AIRCOM ADS-CPDLC Gateway
- AIRCOM ADS-CPDLC Workstation supporting:
 - FANS-1/A only environment
 - ATN only environment
 - Mixed FANS-1/A and ATN environments
- Datalink Front-End Processor (DL-FEP) based on the SITA ADS-CPDLC Gateway and allows FANS-1/A aircraft accommodation in the ANSP's ATN-based airspace.

BENEFITS

- Use of CPDLC and ADS-C can lead to reduced flight times and delays, resulting in reduced costs to the aircraft operator.
- Use of CPDLC enables standard phraseology through use of preformatted messages and reduces risk of misunderstanding thus enhancing safety.
- Use of ADS-C enables position information to be automatically downlinked.
- Use of CPDLC and ADS-C enables more flexibility in routing and can enable dynamic routing and therefore get more favorable track to fly.
- Use of CPDLC and ADS-C enables potential reduction in separation minima.
- Overcomes issues with VHF and HF voice operations.

HOW DOES IT WORK?



SOLUTION COMPONENTS

- System Elements
 - ATS End System Hardware and software
 - Software license
 - Hardware and software warranty
 - External system standard interface(s)
- System Implementation Support Elements
 - Project Management
 - Factory Acceptance Test
 - Shipment
 - Installation-ATS End System and any Required Local Area Network at destination
 - Integration and any required customization
 - Site Acceptance Test
 - Spares
 - Documentation
 - Training

CASE STUDY

The DL-FEP has been developed in partnership with Egis Avia, according to stringent qualification standards.

The DL-FEP has been put into operation at the following ANSPs: Eurocontrol's MUAC, Germany's DFS, Switzerland's Skyguide, and United Kingdom's NATS.

The DL-FEP has also been provided to the Spanish ANSP, AENA, as part of their Data Link Test Bed facility.

For more information please contact us at info@sita.aero