

A woman with curly hair, wearing an orange turtleneck, is shown in profile, looking towards the right. In the background, there is a blurred airport departure board with orange lights. The image is overlaid with a dark blue geometric pattern on the left side.

ENGINEERING

Avionics status and perspectives on IRIS

Module 2 - IRIS Satcom

Thierry Harquin - ATM Program | Feb 2022

Copyrights © Airbus SAS. 2022 All rights reserved.

AIRBUS

What is Needed to Deploy and Use Iris?

On the aircraft

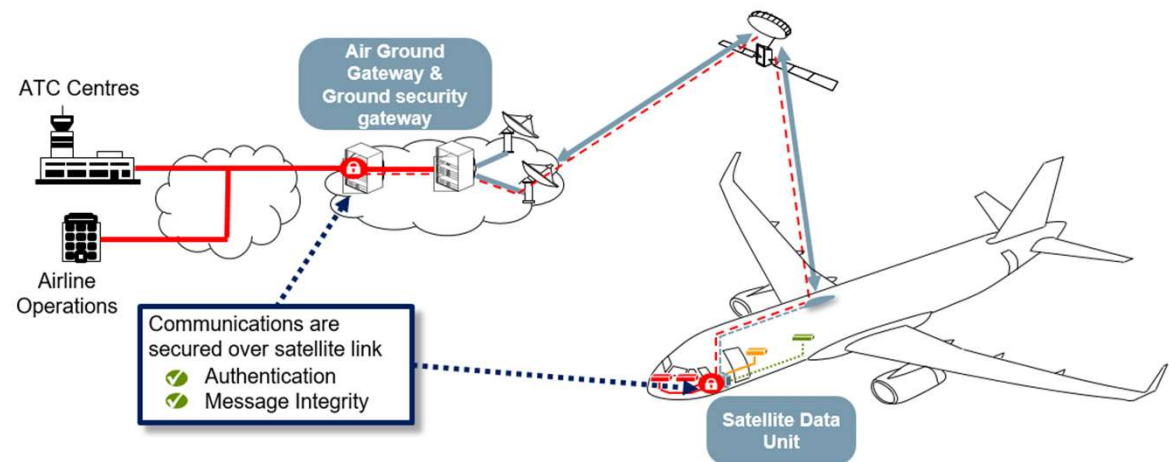
- A Satcom terminal and a router compatible with IRIS

On the ground

- Using the existing network to connect the Inmarsat Gateway to ANSPs

Distribution agreement and certification

- A certified Iris Service Provider as per European regulation (EASA)



IRIS - Avionics installation

Light Cockpit Satcom



First standard already available:

- voice
- datalink over **ACARS**
- IP communication

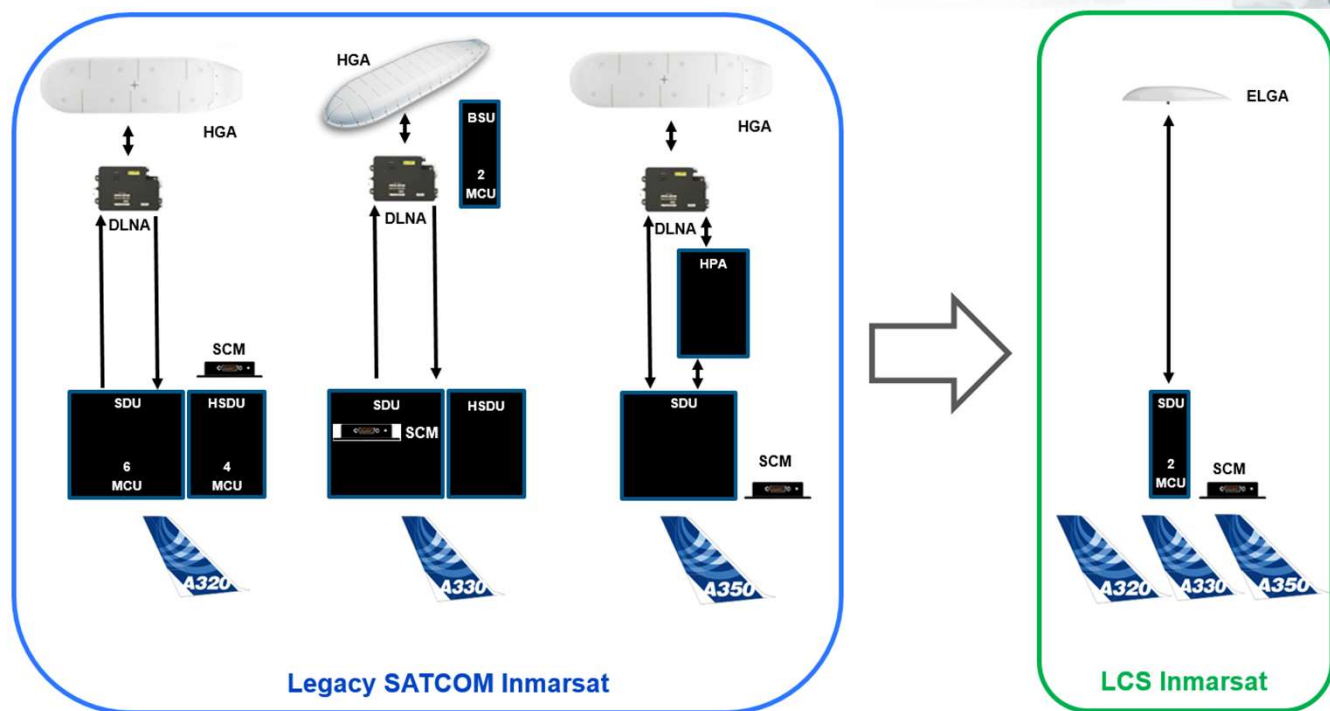
Enabler for services

- ☐ “ACARS over IP”
- ☐ EFB in flight connectivity (live weather or flight plan updates)

IRIS software upgrade only

IRIS - Avionics installation

A cross program solution

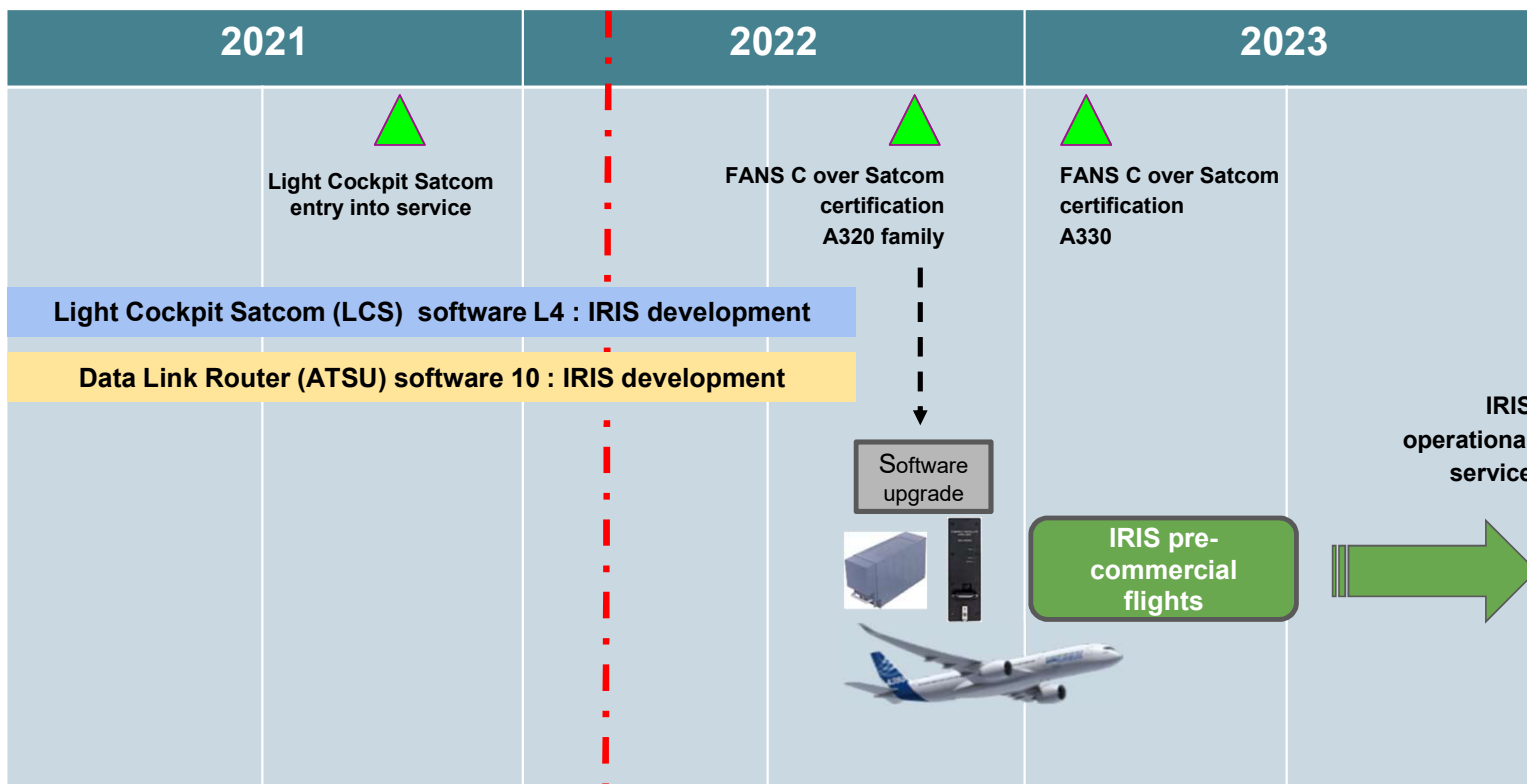


- Lighter installation
- Secured communications
- IP capability to EFB apps

Compared with previous gen:

- 5 times less Power
- Weight reduction 25 Kg

Avionics development roadmap



FANS C over Satcom
(incl. ATN over satcom
capability)

Maturity standards of
previous ATSU/LCS

LCS; Light Cockpit Satcom
ATSU: Air Traffic Services Unit
ATN: Aeronautical Telecommunications Network

inmarsat

AIRBUS

FANS context - a bit of history



ATC data link
in oceanic and remote areas

Communication network:
ACARS

AIRBUS solution:
FANS A or A+
(CPDLC & ADS-C)

FANS 1/A+

From the 90's



ATC data link
in European **continental** area
(Link2000+ - EC Reg. 29/2009)

Communication network:
ATN

AIRBUS solution:
FANS B+
(CPDLC)

FANS B+

From 2008

ATC Data Link - FANS

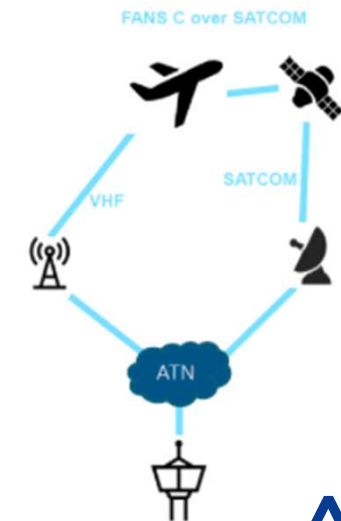
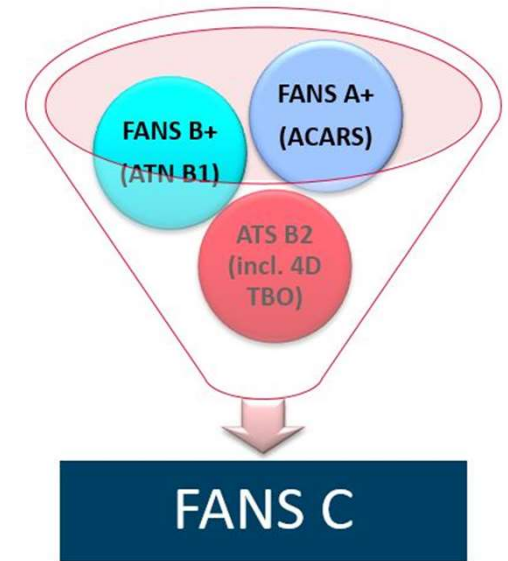
Airbus FANS options (A320 family example)

- **FANS A+** (over ACARS) is selected by most operators outside Europe
- **FANS B+** (ATN B1) is selected by most European customers (mandate DLS IR)
- **New FANS C** covers all airlines needs:
 - FANS A+ capability (**North Atlantic mandate** and FANS routes)
 - FANS B+ capability (**EU mandate DLS IR**)
 - ATS B2 services: **EU mandate** for ATS B2 ADS-C/EPP from **31/12/2027** - New deliveries

Our Airbus strategy

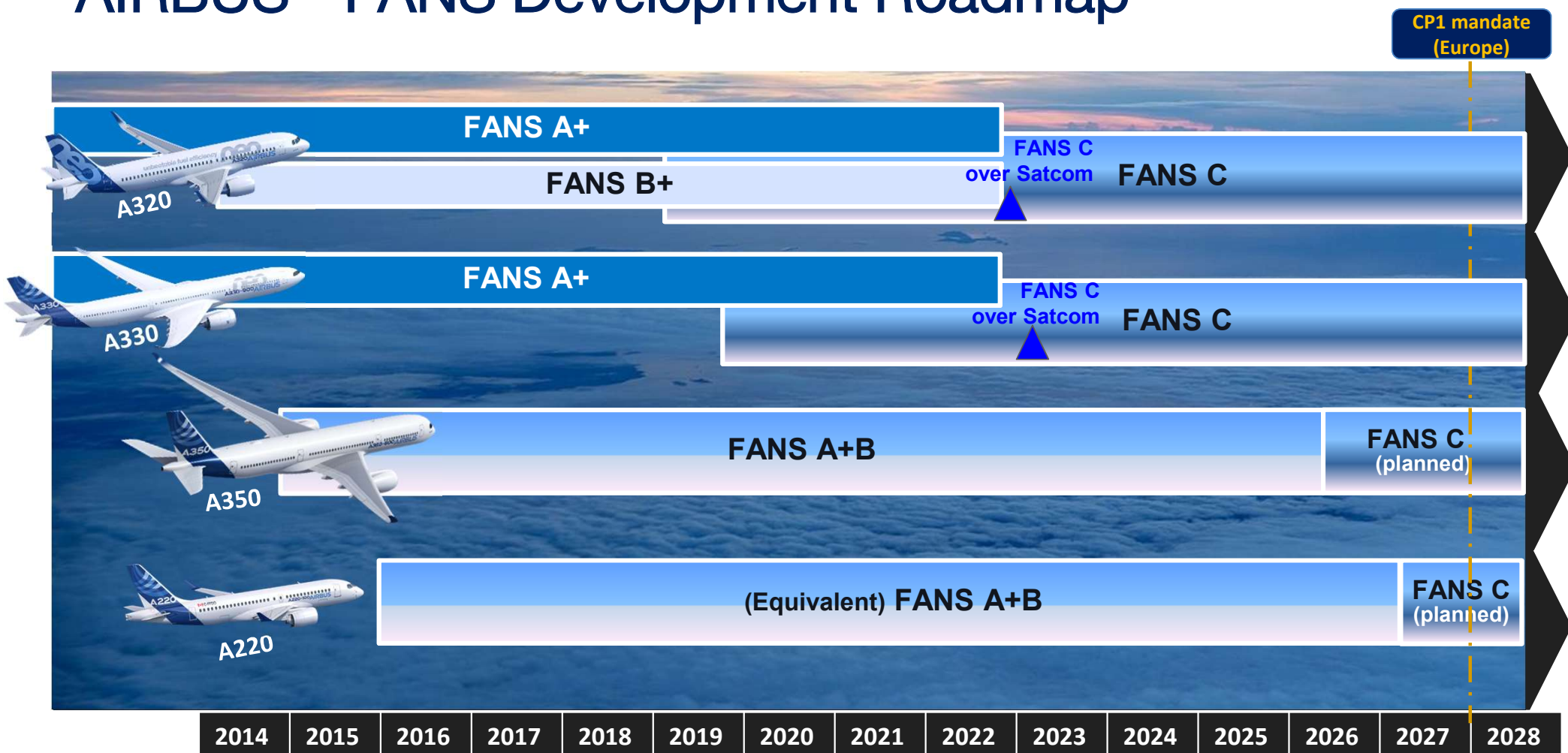
- Propose a **unique FANS product** (FANS C) that covers all airlines operational needs and mandates worldwide
- Promote deployment of ATS B2 with FANS C to support ATM enhancements and automation using aircraft trajectory data
- Extend FANS C communication capability over **Satcom**, as a **complementary means to VDL Mode 2** (to address VHF congestion)

IRIS capability will be automatically embedded free of charge for aircraft equipped with FANS C + Light Cockpit Satcom



AIRBUS

AIRBUS - FANS Development Roadmap



Iris Value Proposition

- Enabling secured exchanges between ground systems and the aircraft
- Increased predictability / adaptability to the real time situation
- Mature and pan-European reach



ATM improvement 5 to 10%
of CO₂ emissions savings
(source Eurocontrol)



FUEL EFFICIENCY



CO₂ EMISSIONS



DELAYS



AIRSPACE MANAGEMENT

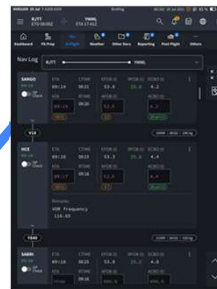
Air

Ground

Crew apps



EFB in-flight
connectivity



Weather



An enabler to aviation's twin challenges: digitalisation and decarbonisation

Ready for operations

- The technology is mature, no ground infrastructure
- Light installation for aircraft, cross fleet solution, easily upgradable (availability target 2023)

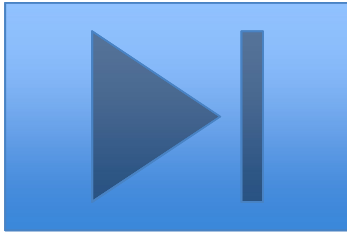
Unlocking opportunities for improved operations

- Air Traffic Management evolution
- Money and fuel savings connected applications

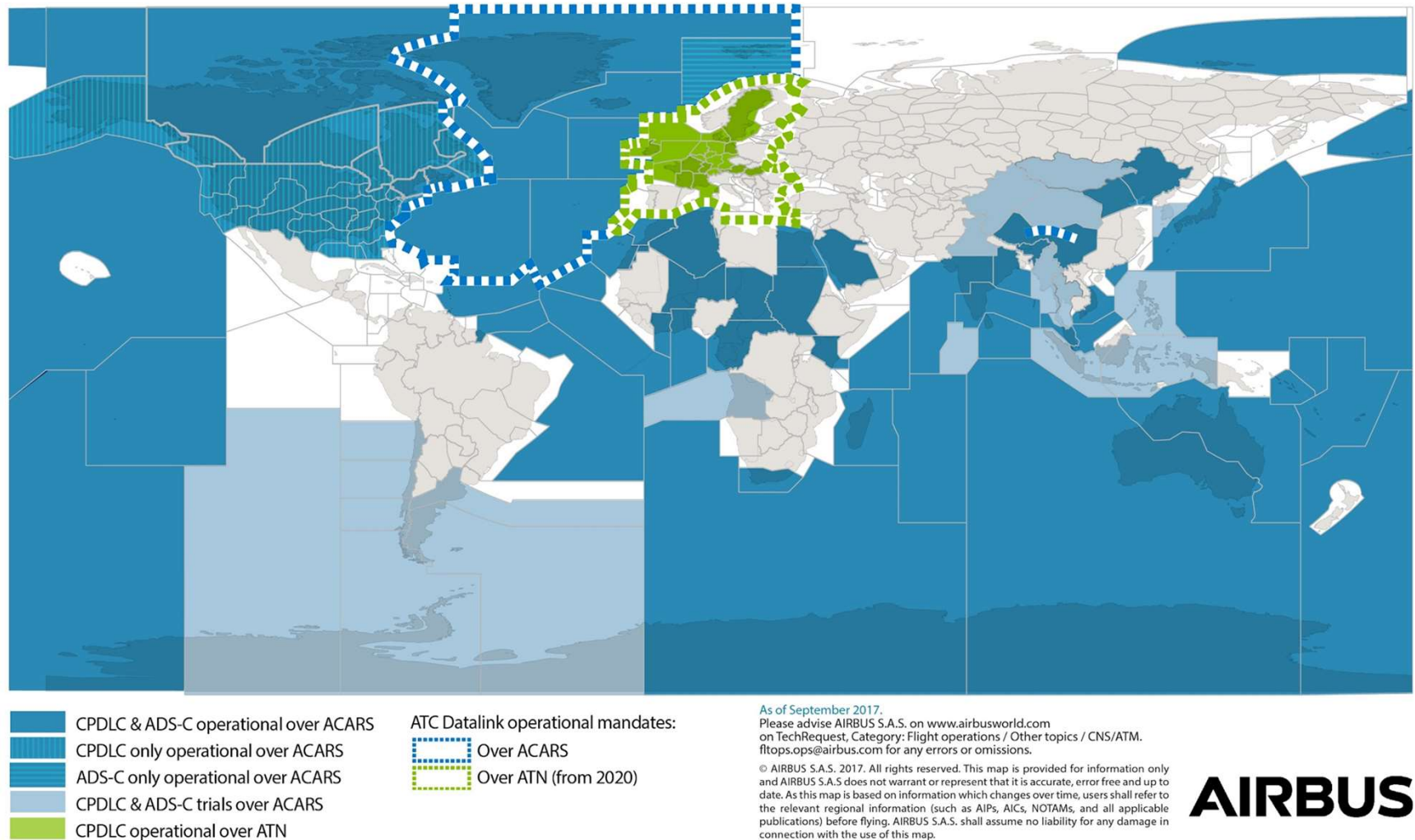
Global perspective

- Europe is the first implementation step, extension to other areas envisaged

4D Trajectory Based Operations



Data Link - Operations and mandates



AIRBUS