

LINK 2000+



ATN 2005
20th September 2005

Contents

- Why Datalink? A reminder
- Implementation Strategy and Progress
 - Pioneer scheme
 - Incentives
 - Mandatory Carriage
- After LINK 2000+
- Conclusion

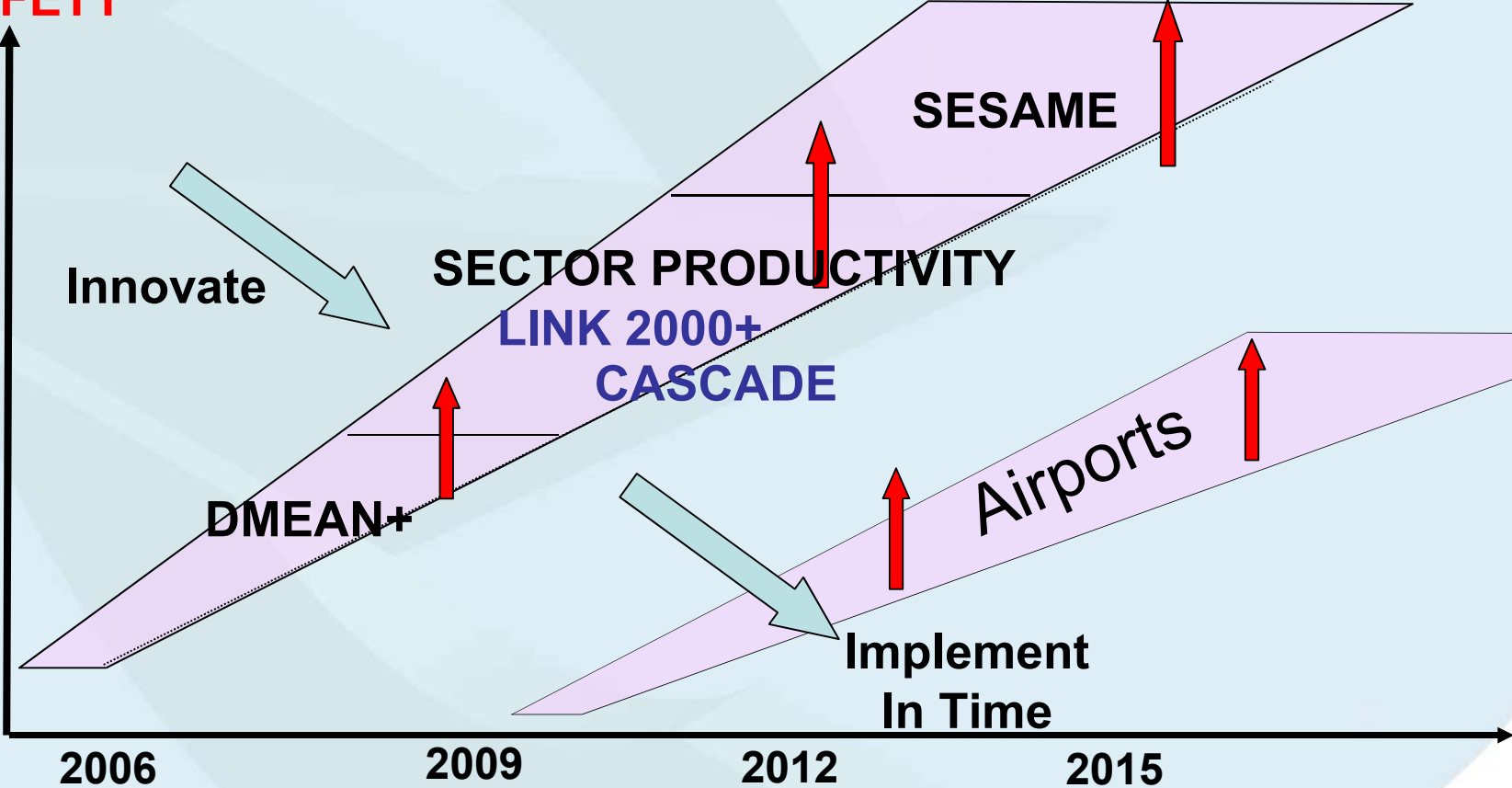
Why Data Link?

- In 2004, the gap between traffic and effective capacity was nearly closed
 - Sectors already close to the smallest efficient size
- For the first half of 2005, traffic grew by 4.8%.
 - On Friday 18 June 2004 the 29,000 flights a day mark was passed for the first time.
 - On 17 June 2005, there were 30,663 flights: this is an all time record - Europe has never seen so much traffic in one day.
- But the capacity of the ATM system increased by only 3.8%
- Total ATFM delay increased by 21.5%
 - with the Average Delay per Movement rising by 15.9%.
- Capacity is not being delivered in time to meet traffic growth

**Traditional means of providing capacity are almost exhausted
New initiatives such as Datalink are required**

Breaking the Capacity Wall

**CAPACITY
SAFETY**



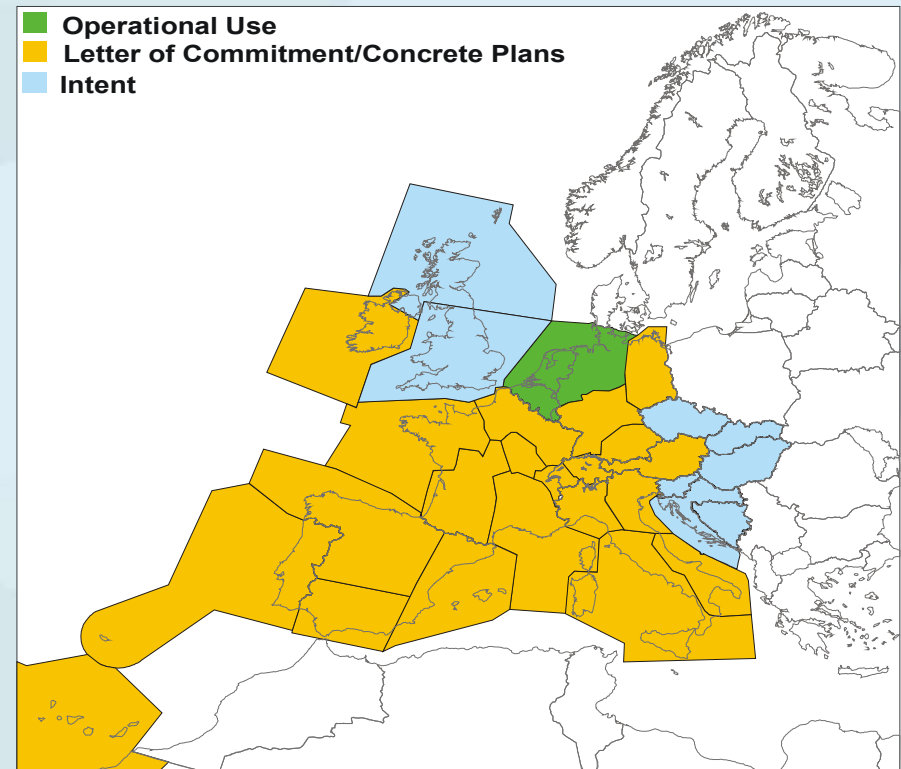
The LINK 2000+ Programme

Programme Objectives

- Co-ordinating the implementation of en-route CPDLC (ACM, ACL, AMC, DLIC) over ATN/VDL2
- Baseline ICAO standards
- Forwards compatible with new services/technology

11% Capacity Increase

Data link to supplement voice



Main Benefits

For ANSPs

- Increased capacity (decreased controller workload per aircraft)
- Cost avoidance compared to traditional means of increasing capacity
 - More efficient Controllers
 - Avoids the need for the introduction of new sectors
 - 11% increase by CPDLC is 10 times cheaper than traditional means

For Airlines

- Increased airspace capacity
- Efficiency gains translate into lower unit rates
- The CPDLC avionics package also brings
 - Support for AOC services via AOAVDLM2 and/or ACARS
 - Legacy Airport services via AOAVDLM2 and/or ACARS (DCL, D-ATIS, DSC)

3 Step Approach to Implementation

Pioneers
Incentives
Mandate

1 Pioneers

- Objective: 100+ aircraft equipped

2 Incentives

- Objective: accelerate Airborne equipage to gain early benefits, return on investment

3 Mandatory Carriage (SES IR)

- Objective: more than 75% of flights in LINK airspace before 2014

Pioneers are Flying/Ready to Fly



American Airlines

AIRBUS TRANSPORT INTERNATIONAL | snc



Scandinavian Airlines



Honeywell and Airbus are Next

Airborne implementation has started

Generating more than 170,000 CPDLC flights/year



Scandinavian Airlines

– 20 B737 NG Now

American Airlines

– 13 B767 Now

AIRBUS TRANSPORT INTERNATIONAL | snc

– 5 A300-600ST Now



– 19 B737 NG Approved



– 2 B737 Approved



– 15+ A310 Approved



Lufthansa

– 20 A320 3rd Q 05



– 20 B737 4th Q 05



– 20 A320 end 06



– 18 A320 end 06

Discussions with others ongoing



New Pioneers



73 MD80
23 A321



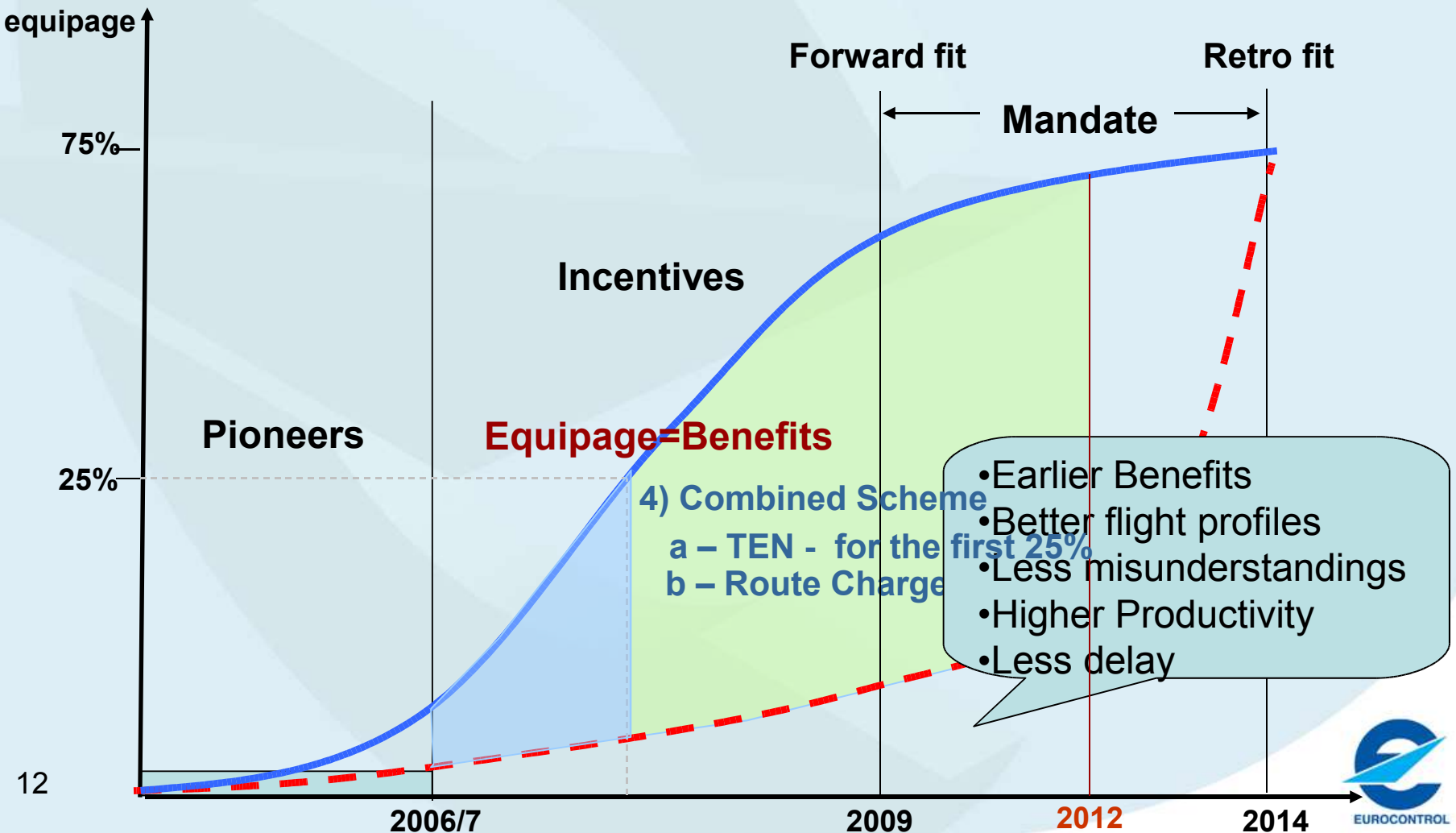
6 A320/321

Total Number Pioneer Airframes = 256

Incentives - The Issue

- Datalink will be a major factor in meeting future demand
- Service providers are already investing in the ground facilities
- Airborne equipage must proceed in parallel: Without this airborne equipage, service providers effectively buy capacity twice (datalink + more sectors)

2 Step Incentive Scheme



SES Implementing Rule

- The Commission, on the advice of the SESC, gave a Mandate to EUROCONTROL for the development of an **Implementing Rule (IR) for Datalink Services** on 30th May 2005
- IR will be developed by Eurocontrol Regulatory Unit using its consultation process
- The Implementing Rule will be directly legally binding on all parties (not just via the State)
- IR planned for submission to EC Q4 2006 after extensive consultation
- Consultation process in two parts
 - On Regulatory Approach
 - The Rule Text

Milestones of Data Link Services Mandate

Delivery of Initial Plan	15 July 2005
Consultation package on draft Regulatory Approach	25 November 2005
Delivery of Regulatory Approach	January 2006
Consultation package on proposed draft Implementing Rule	June 2006
Delivery of the final report including the draft Implementing Rule and the justification material	September 2006

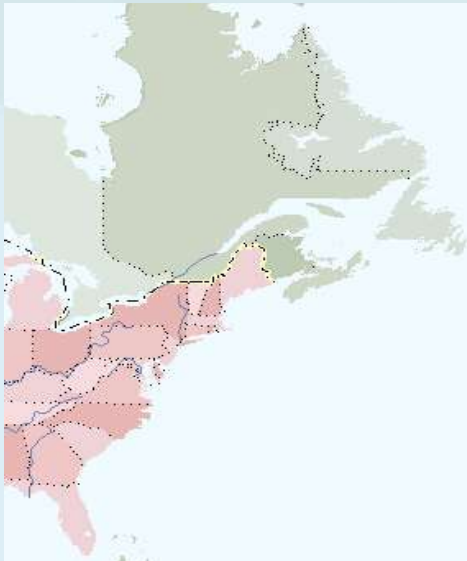
Conclusion on LINK

- LINK implementation is well underway
- The extra Capacity is required, essential to implement in time
- LINK provides the infrastructure for future datalink enhancements
 - E.g. CASCADE programme
- LINK is seen as a necessary step towards SESAME
- Continued co-ordination with FAA is essential
 - Was in place with FAA CPDLC Programme
 - Continues in PARC/ Datalink Roadmap initiative

<http://www.eurocontrol.int/link2000>

Beyond LINK 2000+

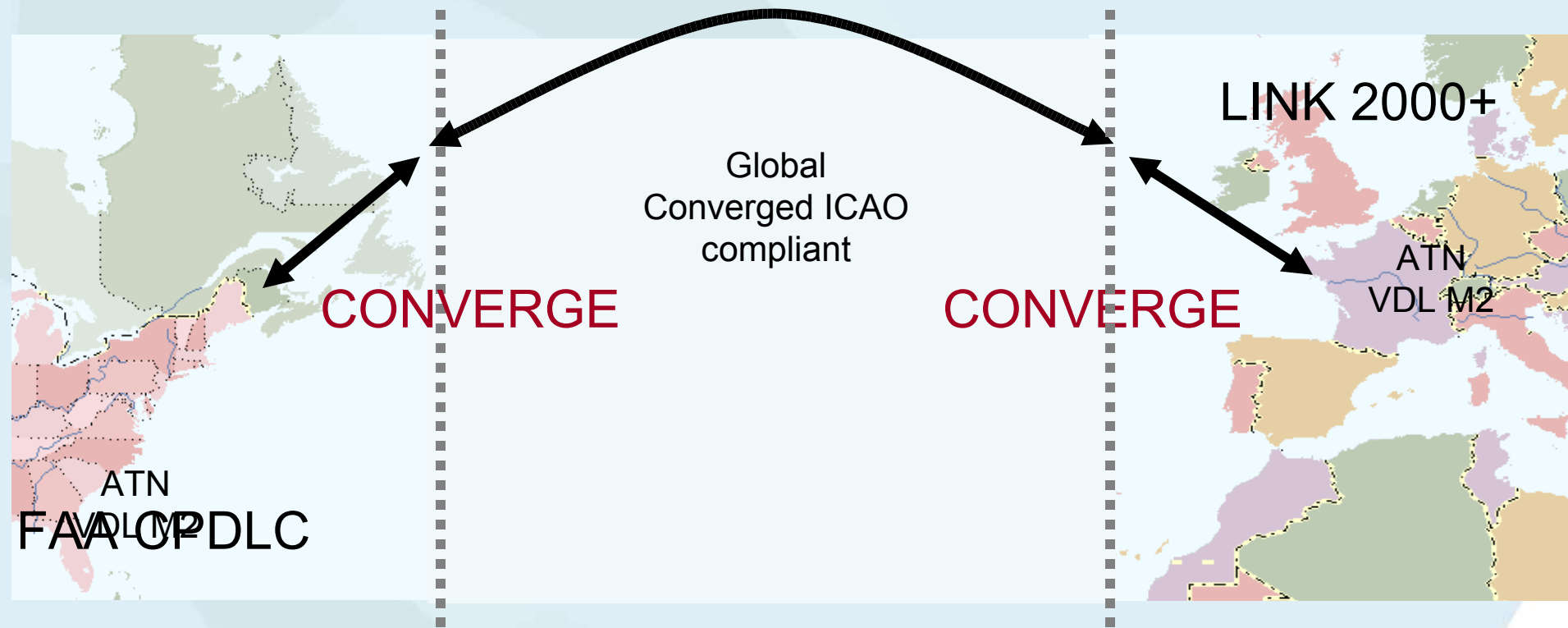
Oceanic
Convergence



Principles

- Recognise Domestic CPDLC and FANS as reality and evolve to a single system through a series of practical steps
- Maximise existing investments
- *Flight crew* need consistency in data link operations - access to the full spectrum of services throughout a flight, which are consistent and employ the same operating methods
- *Controllers* need to communicate with aircraft-
in order to apply their appropriate procedures, using services and messages that fit to their specific ATC environment with optimum performance

Single Global Data Link Service



ICAO compliant SINGLE SYSTEM for Continental/Oceanic
3 Step Approach

Path to Convergence – Step 1

Continental ACC's with
ATN Baseline ground systems
can accommodate
FANS aircraft
(dual stack ground system)

Status: In operation at MAAS UAC
Eurocae/RTCA standards in progress
Individual ANSP decision for implementation

Path to Convergence – Step 2

Oceanic ACC's with
FANS ground systems
accommodate
ATN aircraft
(dual stack ground system)

Status:

Draft requirements spec. available

More detailed specification followed by trials needed

ICAO SARPS for CPDLC/ADS sufficient

Eurocae/RTCA standards needed (Interop/SPR)

Path to Convergence – Step 3

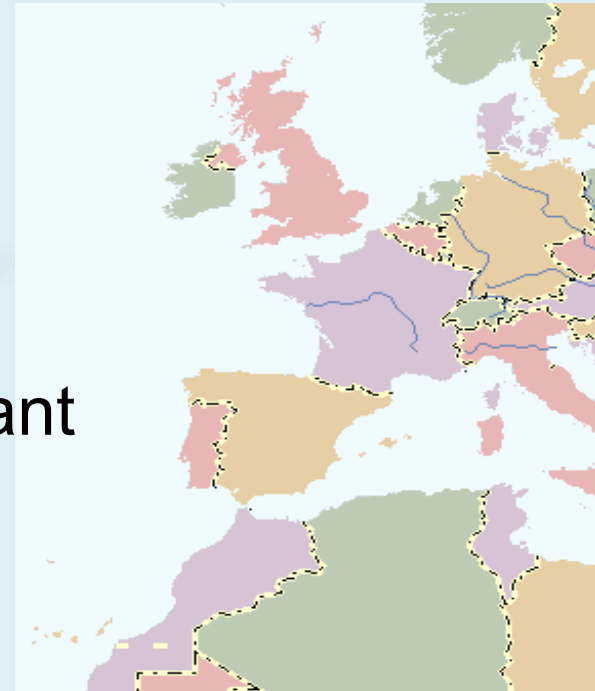
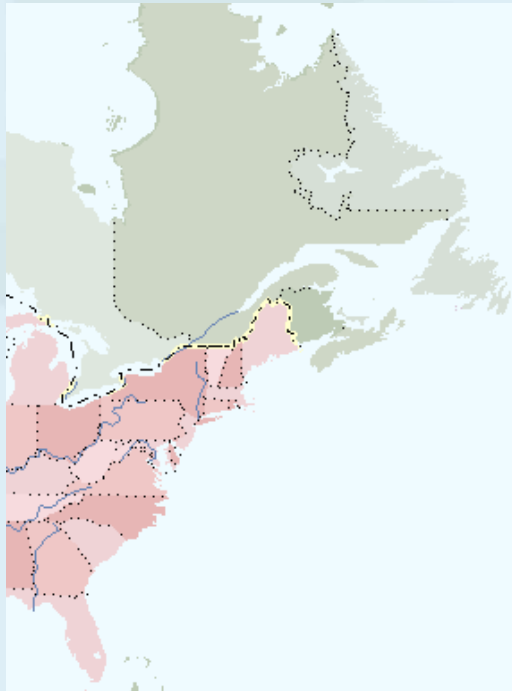
To reach final goal

Oceanic

+ Continental ACC's

converge to ICAO compliant

single system



Status: Specific Requirements and Technology under assessment by FAA/Eurocontrol

Its all quite simple really