



Preparing for data link implementation

A European Perspective...

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A European perspective (History 1990 - 2011)



Former LINK 2000+ Implementation

Programme Objectives

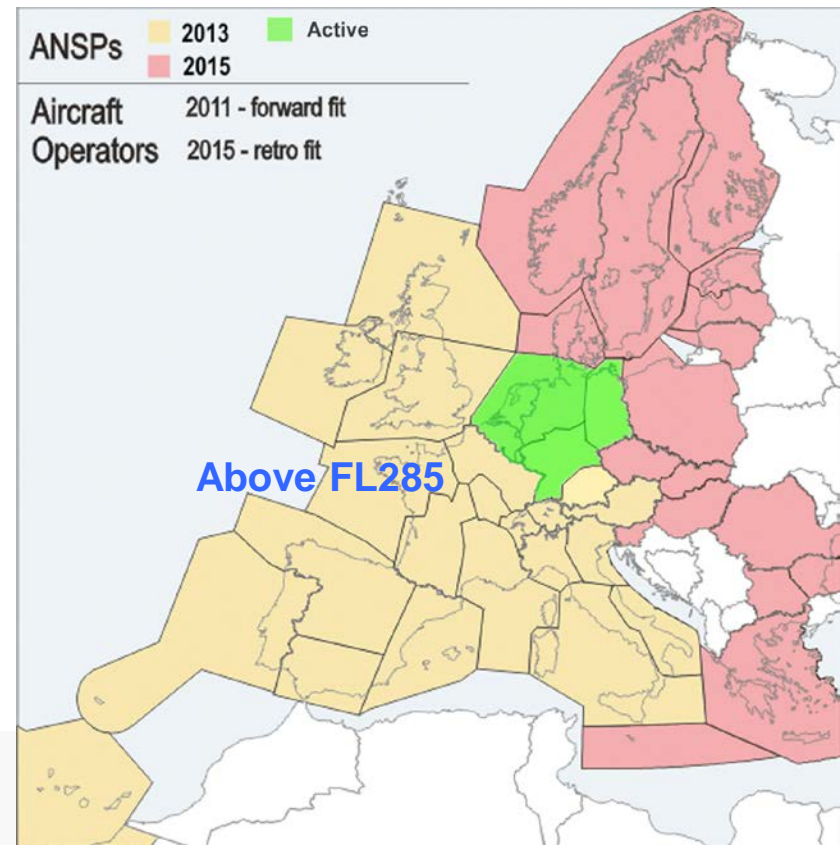
- Implementing En-route CPDLC over ATN/VDL2
- Forward compatible with new services/technology
- Baseline 1 CPDLC Services:
 - ACM - ATC Communications Management
 - ACL – ATC Clearances
 - AMC – ATC Microphone Check

Targeting 75% of flights

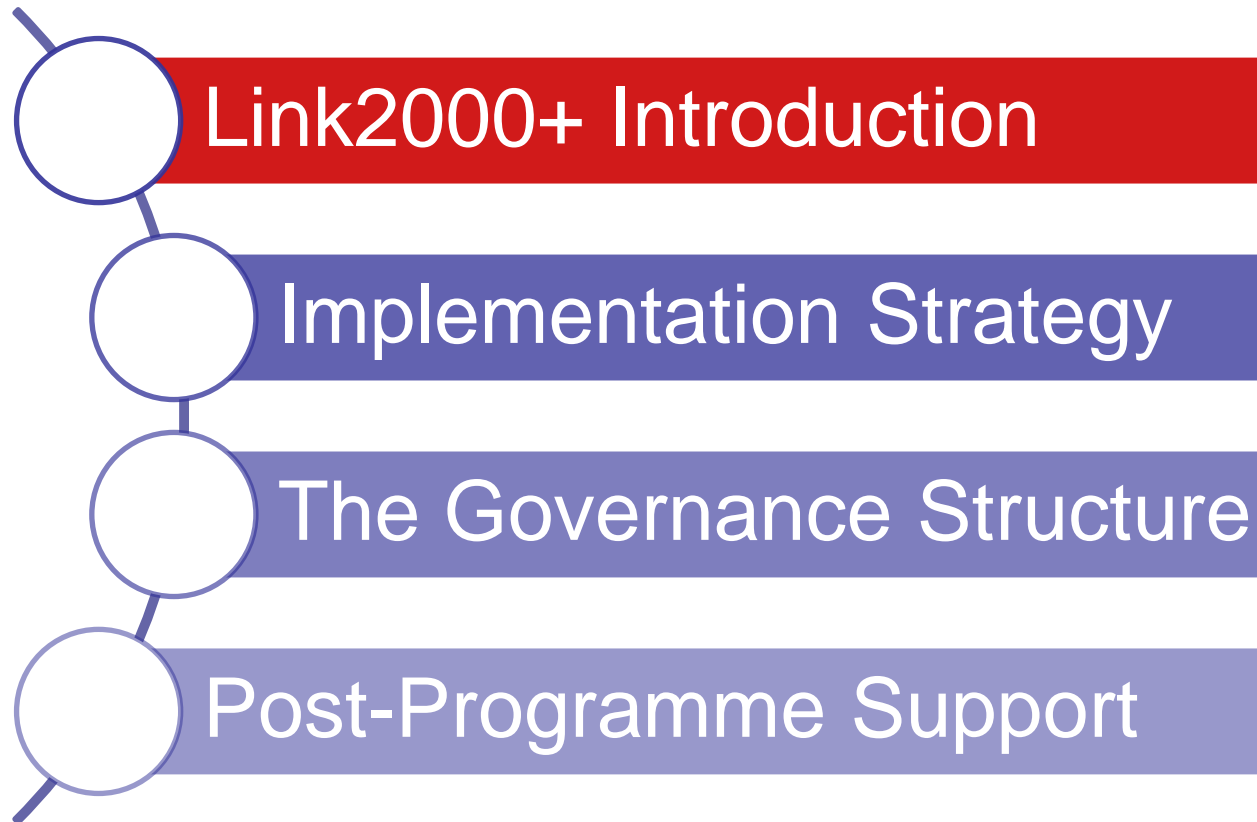
Overall 11% Capacity Gain
Reduced Controller Workload

Increased Safety
Fewer Misunderstandings

N.B Programme ended in 2011



A European perspective (History 1990 - 2011)



Link 2000+ support to implementation: 3 Threads (Link 2000+: Pioneers + Incentives)

Pioneers

- Prove concept and identify issues
- Large scale validation
- Targeted 100 A/C, achieved 350+

Mandate

- ANSPs and Aircraft operators
- Ensure synchronised Air and ground implementation

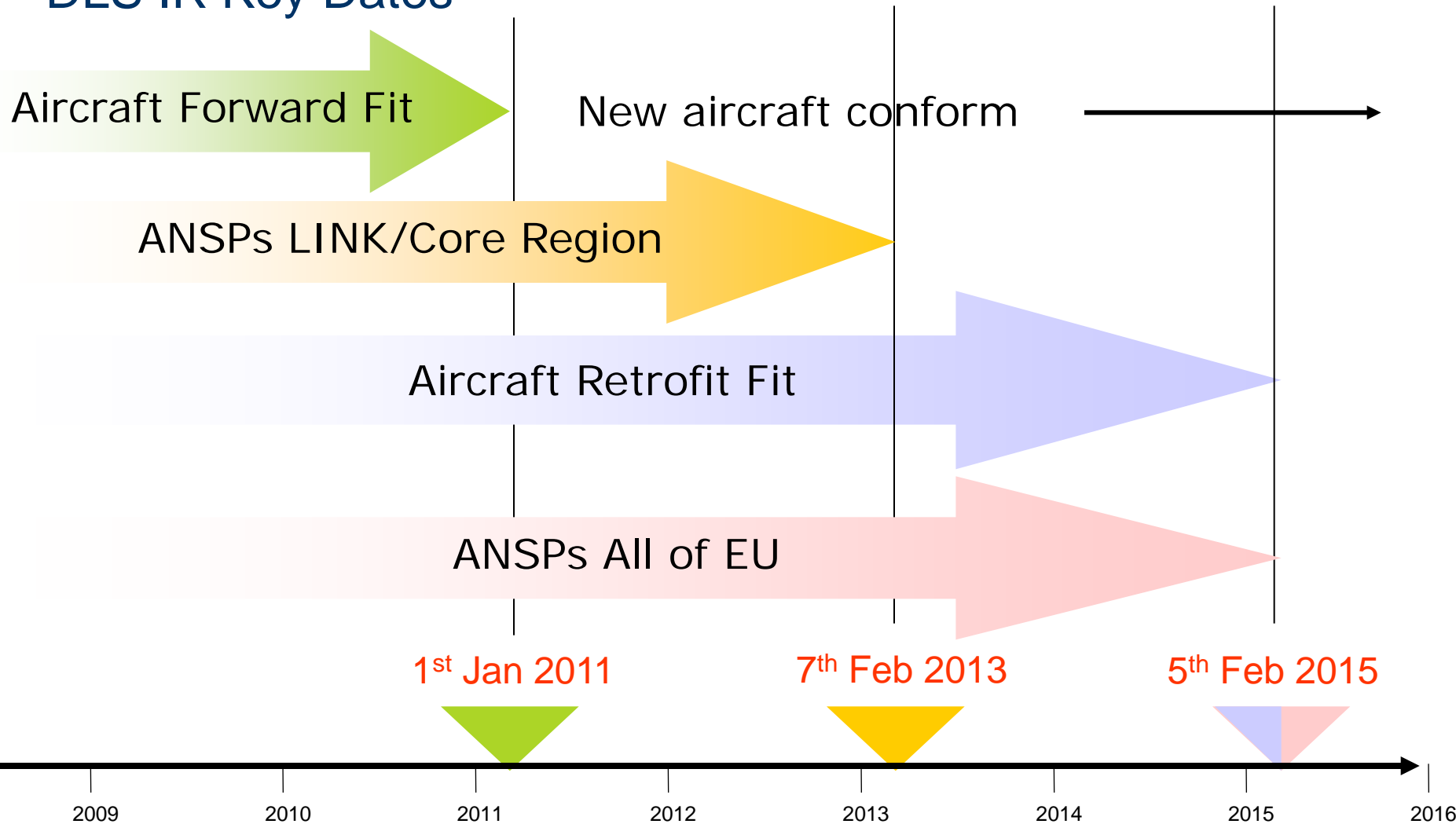
Incentives

- Early benefits
- Reduce risk of avionics supply problems
- Around 500 aircraft equipped

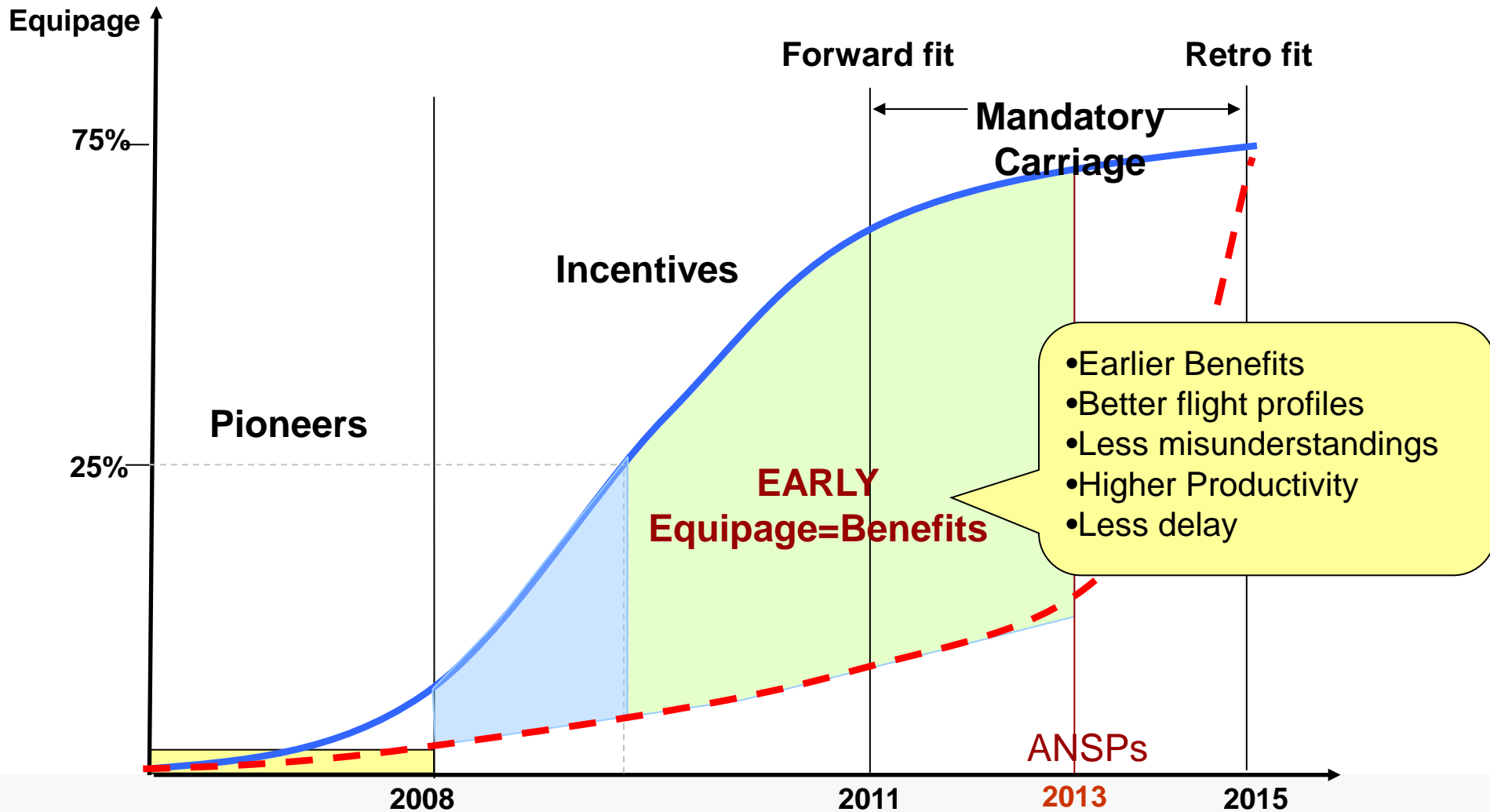
The Mandate

- EUROCONTROL tasked by European Commission with drafting the implementing rule.
- Started work in early 2006
- Widespread consultation to agree scope and dates
- Officially adopted by European Commission in Jan 2009
- Published as EC regulation 29/2009, which defines:
 - Scope of services
 - Geographic scope
 - Air and ground implementation dates
 - Baseline technology (VDL Mode 2 / ATN)
 - Exemptions

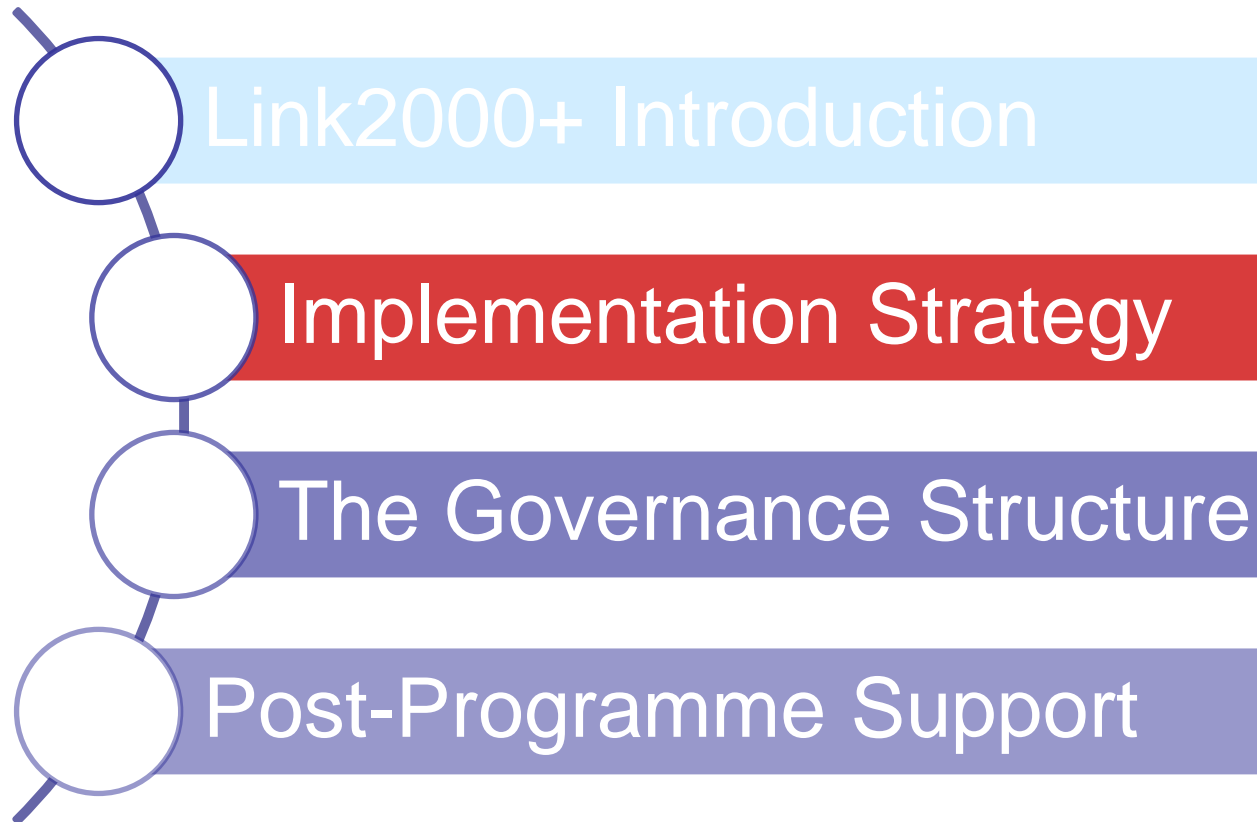
DLS IR Key Dates



INCENTIVES = EARLY EQUIPAGE

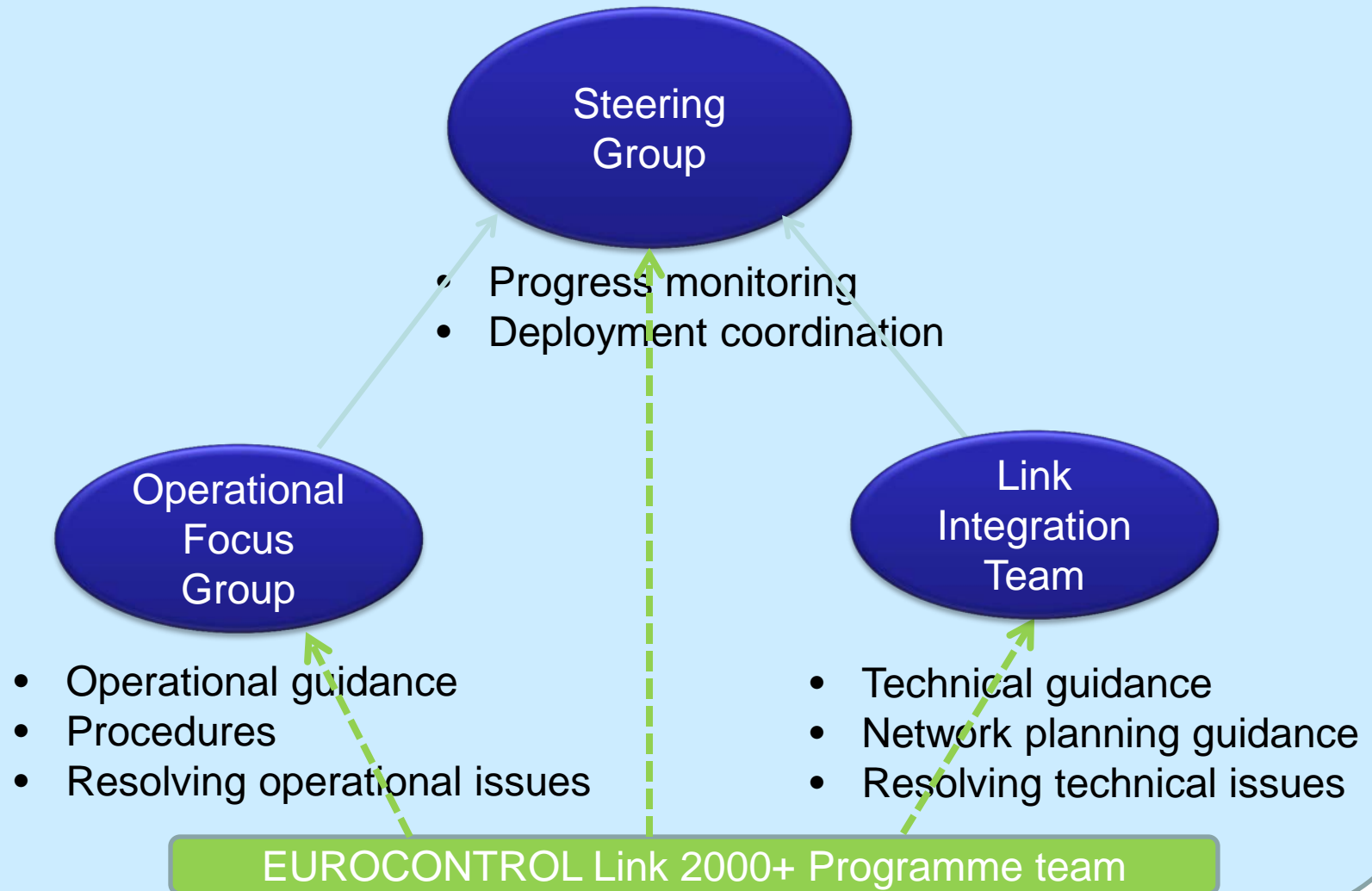


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Link 2000+ Governance

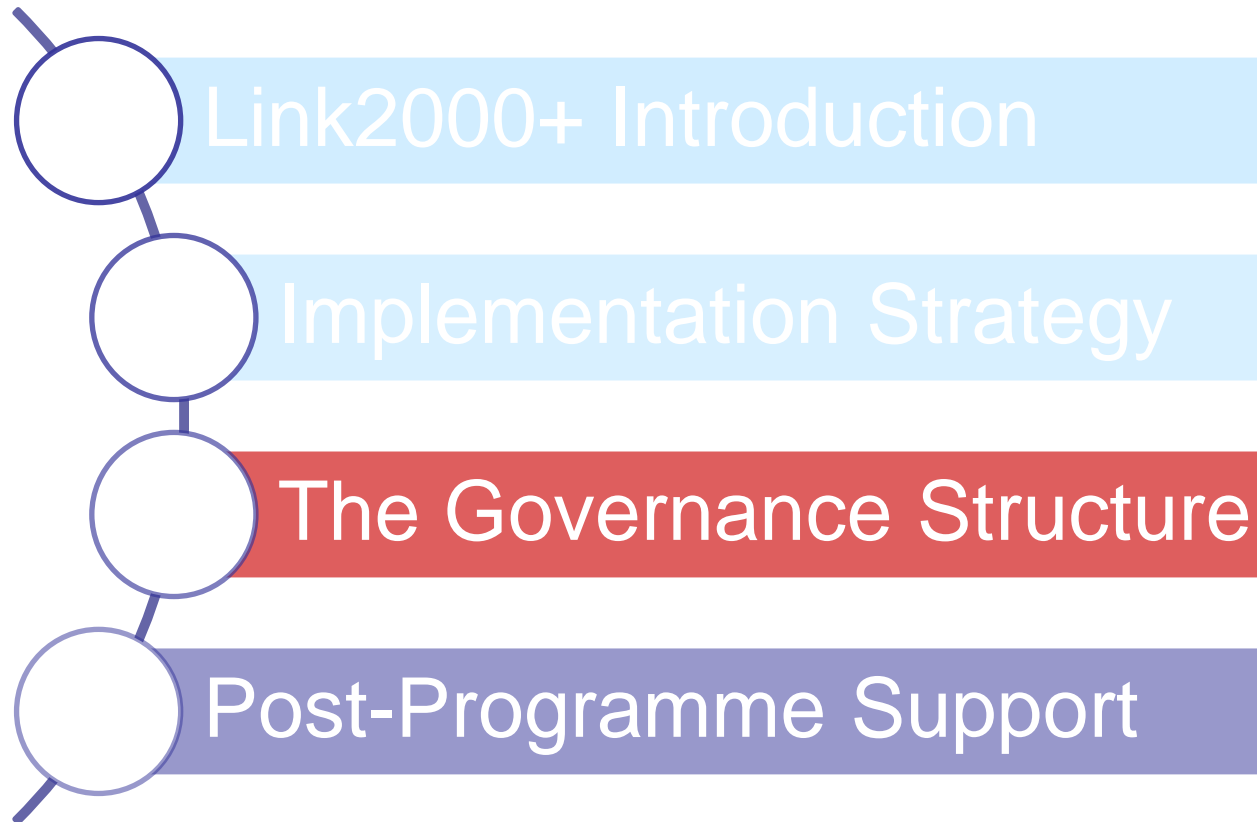
Link 2000+ Programme



Link 2000+ EUROCONTROL Team

- Coordinate and support the different program groups: PSG, OFG, LIT etc.
- Develop EUROCONTROL Specification to support implementation
- Produce generic safety case and supported ANSP refinement
- Managed incentive scheme
- Provided technical advice on exemptions
- Many road trips to ANSPs, Aircraft operators
 - Information and advice
 - Checklist of 'things to do' for implementation
- Interoperability testing from Experimental Centre
 - Testing avionics
 - Testing ANSP systems
- Training

A European perspective (History 1990 - 2011)



Post Programme (2012 – today)...

- European Commission Strategy
 - EASA review of technical issues
 - Revise dates of previous regulation to give legal clarity (Regulation 2015/310)
 - ELSA Study to address find solutions to current problems
 - Task EASA with developing new regulation

- The EUROCONTROL Central Reporting Office
 - Established at the end of the programme (End 2011)
 - Role of the Central Reporting Office
 - Performance Monitoring
 - Problem Investigation
 - Knowledge management: <http://www.eurocontrol.int/link2000/wiki>

Summary

- It's a long process...15 to 20 years
 - Incremental steps
 - Pioneers... to test the concept/technology
 - Incentives... to gain benefits earlier and smooth supplier demand
 - Mandate... to ensure coordinated air/ground implementation and 'full' deployment.
 - Lessons learnt later...
- } Link2000+

Questions?

