



ATNP/WG2&3__

IP/15-xx

7 January 1999

AERONAUTICAL TELECOMMUNICATION NETWORK PANEL

WORKING GROUP 2&3

Hawaii, January 1999

The European Link 2000+ Programme

(Information Paper)

Prepared by Eike Meyenberg

Presented by: Danny Van Roosbroek, Martin Adnams

SUMMARY

This information paper provides a high level overview of the emerging Link2000+ Programme for the implementation of ATN based Data Link Services in Europe.

INTRODUCTION

The ATM2000+ Strategy has identified the introduction of Datalink Services and the supporting communication infrastructure as a key enabler for the necessary evolution of ATM in Europe to increase capacity and improve safety levels.

Based on this the EATCHIP Communication Strategy has defined three main actions in this area which relate to the specification and implementation of new data communication services (e.g. CPDLC) based on new operational concepts, the implementation of a VDL-Mode 2 air-ground subnetwork as the first ATN subnetwork and the implementation of the ATN to support air-ground communications with appropriate ground network support.

All elements of this datalink system have been standardised and operational systems (avionics and ground systems) are currently being developed by industry and validated in extensive European Programmes. Aeronautical communication service providers are in the process of implementing ATN compliant VDL subnetworks in Europe and in the US.

IMPLEMENTATION OF MOBILE DATALINK SERVICES IN EUROPE

There is now a clear opportunity to implement seamless and consistent mobile Datalink Services supported by a consistent mobile communication infrastructure in the European Region in close co-ordination with the US which has decided to deploy ATN based datalink services for their en-route centres from 2002 on.

The implementation of the operational services and the supporting data communication infrastructure is operationally and technically complex. It must be an international, multi-disciplinary co-ordinated process that can best be embraced in a programme structure with defined deliverables, dependencies, milestones, funding etc..

It must be affordable, user driven and define a clear migration path from the present system to the new system.

In order to be able to start implementation of services in the time frame 2004-2007 and to allow early implementation opportunities from 2002 on, it is necessary start the programme at least beginning of 2000.

PROGRAMME DEFINITION

Based on the above the EUROCONTROL Agency will establish a drafting group to define the Link2000+ programme which will contain the necessary elements for the stakeholders concerned to commit to the programme in well defined and affordable steps. The programme definition is anticipated to start early 1999.

RECOMMENDATIONS

The Working Group is invited to note the information in this paper.



The Link2000+ Programme

EUROCONTROL

Martin Adnams

(martin.adnams@eurocontrol.be)

Danny Van Roosbroek

(danny.van-roosbroek@eurocontrol.be)



LINK2000+ Implementation Program

Operational

Datalink

The
Program
for

Service

Implementation



Background (1)

- Operational Requirements for Data Link are stabilising (ADSP, ODT/ODIAC)
- Use of Data Link for AOC is increasing
- ATM 2000+: most important enabler is data-link
- Eurocontrol Communication strategy: Mobile data link from 2003 onwards
- Airline investment in data link technology
- Opportunities for implementation, AOC developments

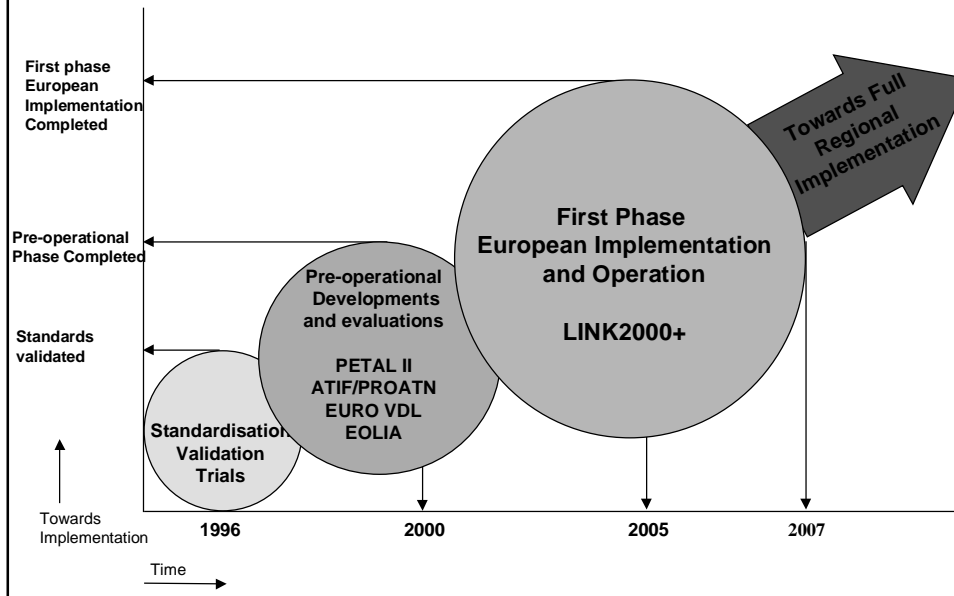


Background (2)

- Validated ATN Standards have been published
- PETAL IIe as Bootstrap for early implementation (En-route CPDLC with commercial aircraft)
- ATN Infrastructure is real and works, pre-operational systems from EOLIA/ProATN
- Operational ATN Systems from ATNSI/ACI
- FAA has decided to implement datalink services based on ATN (JRC 30/10)



LINK2000+ Context



LINK2000+ Planning

- Define and justify programme
 - completed mid 1999
- Involve interested stakeholders in definition and justification process
 - from end 1998
- Get formal approval and programme commitment from all parties involved
 - end 1999
- Proposal for Air Navigation Plan Amendments to EANPG
 - end 1999



LINK2000+ Headlines

- Implementation to 2007
 - Services ATM and AOC
- Geographical Area
 - European Core to Start
 - Strong link to US Region
- Involvement
 - all stakeholders (Airlines, ATSOs, Service providers etc.)



Link 2000 + Program Contents

- Business Case
- Operational scenario including as main elements the operational concept
- Datalink service definition and timeframe
- Communications infrastructure and systems (Airline, ATSO, ISP)
- Administrative structures and procedures
- Program Management Plan
- Validation and Certification Planning

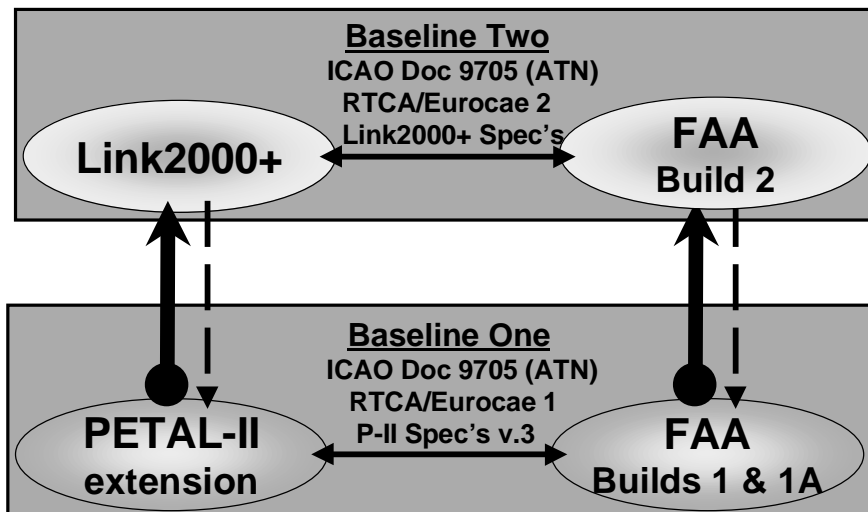


Baselines for Implementation

- Procedures / Operational Requirements
- End - to -End Specs for ATS Services
- ATC Comms Infrastructure : ATN SARPS 9705
- AOC Comms Infrastructure : AEEC ATN-1
- Co-ordination between baselines + freezing point

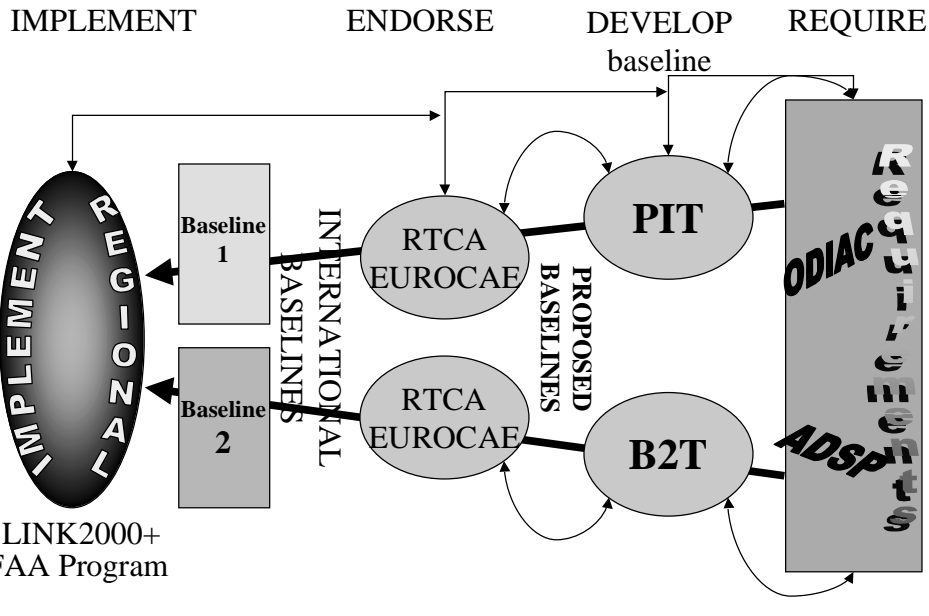


Programs and Baselines





Baseline Development (1)



Baseline Development (2)

- Baseline 2 Development Team (B2T) start 1Q 99 “on the back” of the PII Team
- European LINK2000+ programme developed in parallel with Airline Chair, Eurocontrol and Member States
- LINK2000+ approved 4Q 99 and takes Baseline 1 and Baseline 2 as input for European Implementation



Baseline Development (3)

- B2T follows same philosophy as PIIe i.e. Develop the End to End Specs (Baseline 2) and inject into International Group recognised by CERT authorities
- Nominated International group is RTCA/EUROCAE
- Group exists and is recognised by CERT authority
- Is already doing such work for FANS and PIIe is planned

