



2 nd USA/EUROPE ATM R&D Seminar

DAY 4 - Opening Remarks

Herman Rediess - Jean-Marc Garot



Genesis

First idea	Dec 95	Jack Fearnside and Jean-Marc Garot		
1st seminar	June 97	Paris	60 participants*	40 papers by invitation
2nd seminar	Dec 98	Orlando	110 participants *	108 papers submitted
				50 papers selected

*(plus people coming for the last day)



Participants

USA 68

FAA: 12, NASA: 10, MITRE: 15, LINCOLN LAB: 7, MIT: 6,
AIRLINE: 1 (AMERICAN AIRLINES), AIRCRAFT INDUSTRY: 1
(BOEING)

OTHERS 16

EUROPE 41

EUROCONTROL: 9, CENA / FR: 14, NLR / NL: 6, DERA + NATS/UK:
5, DLR + DFS / G: 3

AIRLINES: 2 (LUFTHANSA + IATA)

OTHERS 2

CANADA 1



Participants

	SPEAKERS	PARTICIPANTS
USA		
Male	33	19
Female	16	4
EUROPE		
Male	32	20
Female	1	3
CANADA		
Male	0	1



Number of papers

	Europe	USA	Joint Europe/USA
Track 1	7	10	0
Track 2	5	6	2
Track 3	5	14	1
	19	30	3



First seminar sessions

Conflict Detection and Resolution

J. Dieudonne, D. Delahaye

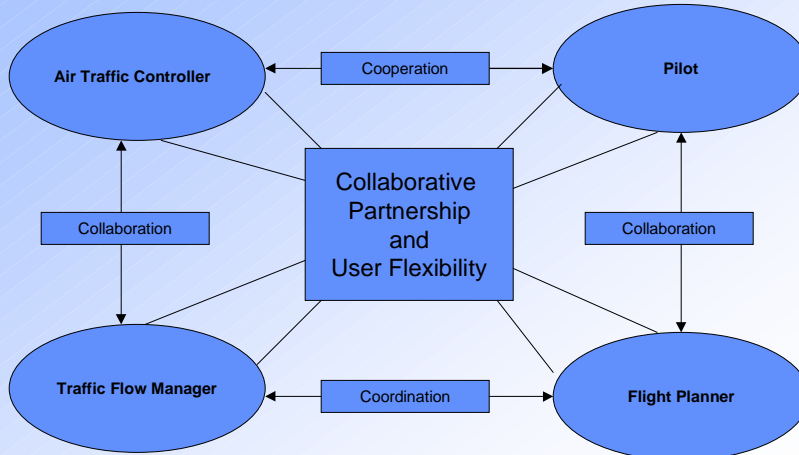
Airborne Separation Systems and Procedures

P. Drouilhet, J. Brüggén

ATM Performance Indicators

A. Odoni, D. Colin de Verdière

Perspectives on Principles



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Session One Conflict Detection & Resolution Decision Support Tools

Rapporteurs

Daniel Delahaye
Jim Dieudonné

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Session One Recommendations

- Research Priorities (Near Term)
 - Move Conflict Probe into Implementation
 - Increase use of “Field Testing” for Validation & Verification of R&D Efforts
 - Has worked very well in USA
 - Use EATCHIP “Human Machine Interface” Design as Standard for Future Efforts
 - Trajectory Prediction
 - HIPS as possible capacity enhancer!



Session 2 Airborne Separation Systems and Procedures

Rapporteurs
Job Brügger, Paul Drouilhet



Major Issues still to be addressed

- Responsibilities and legislation.
- Workload implications in the cockpit and on the ground.
- Over-reliance on automation.
- Safety implications.
- Demonstrating the capacity gain.



Recommendations

- Continue FAA/Eurocontrol collaboration.
- Try to arrive at common standards.
- Form specific Joint Project Teams:
 - In Trail Climb
 - Visual Approaches
 - Rules of Flight on Self Separation.
- Start fundamental safety research
 - Measuring safety and setting a target level.
 - Proving the integrity of ASAS and GNSS.



Session 3 ATM Performance Indicators

Metrics

Measurement

Modeling

Rapporteurs :

Dominique Colin de Verdière (CENA)

Amadeo Odoni (MIT)



Subjects areas for R&D

	Metrics and Measurements	Models
Capacity/throughput and delays	Metrics ✓ Measurements ↗	Advanced
Efficiency	Emerging Objective Fns ?	Emerging CBA, economic
Safety	Metrics ↗ Measurements ↗	?



Is it worthwhile having this kind of seminar ?

- If yes
 - anything to change in the process, in the format
 - when ?