

**2nd USA / EUROPE
Air Traffic Management R&D Seminar**

**December 1-4, 1998
Renaissance Orlando Hotel-Airport, Orlando, Florida, USA
Jointly Sponsored by The Federal Aviation Administration and
EUROCONTROL**

November 30, 1998 - Welcome Reception		
6:30 - 7:00 PM	Registration	
7:00 - 8:30 PM	<i>Welcome Reception</i>	
OVERALL SCHEDULE - DAY 1		
MORNING		
9:00 - 9:30	Welcome/Opening Remarks	Herman Rediess , Director Aviation Research, FAA Xavier Fron , Head of Performance Review Unit, EUROCONTROL HQ (for Jean-Marc Garot , Director, EUROCONTROL Experimental Centre) Andres Zellweger , Dean Graduate Programs & Research, Embry-Riddle Aeronautical University
9:30 - 10:00	FAA/EUROCONTROL Cooperative Efforts on R&D Programs	John Scardina , Acting Director, Office of System Architecture and Investment Analysis, FAA
10:00 - 10:30	<u>PHARE: Lessons Learned from the Organisation of Multi-National R&D on Air Traffic Management</u>	Mick Van Gool, EUROCONTROL Headquarters
10:30 - 11:00	BREAK	<i>Vienna Ballroom Foyer</i>
11:00 - 11:30	Overview/State-of-the-Art Presentation: Short and Mid-Term Improvements to ATM Operations (<u>Track 1</u>)	Diane Boone , (U.S.)
11:30 - 12:00	Overview/State-of-the-Art Presentation: Future operational concepts (<u>Track 2</u>)	Bernard Maillier , (EUROCONTROL HQ)
12:00 - 12:30	Overview/State-of-the-Art Presentation: ATM performance measurement, modeling, and assessment (<u>Track 3</u>)	Amedeo Odoni, (U.S.)
AFTERNOON		
12:30 - 1:30	<i>Lunch</i>	

<i>PM</i>		
1:30 - 5:00	(see Track Session schedules for more details)	Rapporteurs:
	<u>Track 1 Session</u>	Diane Boone, (U.S.) & Nicolas Dubois, (France)
	<u>Track 2 Session</u>	Kevin Corker, (U.S.) & Bernard Miaillier, EUROCONTROL HQ
	<u>Track 3 Session</u>	Amedeo Odoni, (U.S.) & Job Brügggen, (The Netherlands)
EVENING		
6:00 PM	<i>Departure for Downtown Disney (Dining, Shopping, Entertainment)</i>	
OVERALL SCHEDULE - DAY 2		
MORNING		
8:30 - 12:30 (see Track Session schedules for more details)	<u>Track 1 & Track 2 Combined Session: Collaborative Decision Making</u>	Rapporteurs: Diane Boone, (U.S.) & Nicolas Dubois, (France) Kevin Corker, (U.S.) & Bernard Miaillier, EUROCONTROL HQ
	<u>Track 3 Session</u>	Amedeo Odoni, (U.S.) & J. Brügggen, (The Netherlands)
AFTERNOON		
12:30 - 1:30 PM	<i>Lunch</i>	
1:30 - 5:00 (see Track Session schedules for more details)	<u>Track 1 & Track 2 Combined Session: Collaborative Decision Making</u>	Rapporteurs: Diane Boone, (U.S.) & Nicolas Dubois, (France) Kevin Corker, (U.S.) & Bernard Miaillier, EUROCONTROL HQ
	<u>Track 3 Session</u>	Amedeo Odoni, (U.S.) & J. Brügggen, (The Netherlands)
EVENING		
6:30 PM	<i>Seminar Hosted Dinner (Dining, Entertainment)</i>	
OVERALL SCHEDULE - DAY 3		
MORNING		
8:30 - 12:30 (see Track Session schedules for more details)	<u>Track 1 Session</u>	Rapporteurs: Diane Boone, (U.S.) & Nicolas Dubois, (France)
	<u>Track 2 Session</u>	Kevin Corker, (U.S.) &

		Bernard Miaillier, EUROCONTROL HQ
	<u>Track 3 Session</u>	Amedeo Odoni, (U.S.) & J. Brügggen, (The Netherlands)
AFTERNOON		
12:30 - 1:30 PM	Lunch	
1:30 - 5:00 (see Track Session schedules for more details)	<u>Track 1 Session</u>	Rapporteurs: Diane Boone, (U.S.) & Nicolas Dubois, (France)
	<u>Track 2 Session</u>	Kevin Corker, (U.S.) & Bernard Miaillier, EUROCONTROL HQ
	<u>Track 3 Session</u>	Amedeo Odoni, (U.S.) & J. Brügggen, (The Netherlands)
EVENING		
6:00	Optional <u>Demonstrations</u> by Authors	
OPEN		
OVERALL SCHEDULE - DAY 4		
MORNING		
	<i>Registration For Friday Only Attendees</i>	
8:30 - 9:00	Welcome / <u>Opening Remarks</u>	Herman Rediess, Director Aviation Research, FAA Jean-Marc Garot, Director, EUROCONTROL Experimental Centre
9:00 - 9:30	<u>Conclusions & Recommendations:</u> Short and Mid-Term Improvements to ATM Operations (Track 1)	Nicolas Dubois, (France)
9:30 - 10:00	<u>Conclusions & Recommendations:</u> Future operational concepts (Track 2)	Kevin Corker, (U.S.)
10:00 - 10:30	BREAK	
10:30 - 11:00	<u>Conclusions & Recommendations:</u> ATM performance measurement, modeling, and assessment (Track 3)	J. Brügggen, (The Netherlands)
11:00 - 11:45	Discussion / Q&A's	
11:45 - 12:30	Closing Remarks	Jean-Marc Garot, Director, EUROCONTROL Experimental Centre Herman Rediess, Director, FAA's Aviation

		Research
AFTERNOON		
12:30 - 1:00 PM	Lunch	
1:30 PM	Departure for Kennedy Space Center	

TRACK 1 SCHEDULE - DAY 1

AFTERNOON (1:30 PM - 5:00 PM, Vienna Ballroom A)		
Session 1 - Airport Area Improvements	ATM-24: <u>The Passive Final Approach Spacing Tool (FAST) Human Factors Operational Assessment</u>	K. Lee (U.S.), B. Sanford (U.S.)
	ATM-38: <u>Terminal Routes Using Speed-Control Techniques (TRUST): Initial Simulation Results</u>	D. Barker (U.S.), T. Becher (U.S.)
	ATM-47: <u>Operational Concept for a Departure Wake Vortex Monitoring System</u>	T. Dasey (U.S.)
BREAK <i>(Break service begins at 2:45 PM in Vienna Ballroom Foyer)</i>		
Session 1 Airport Area Improvements (concluded)	ATM-64: <u>Mantea Departure Sequencer: Increasing Airport Capacity by Planning Optimal Departure Sequences</u>	H. Hesselink (The Netherlands)
	ATM-81a: <u>Final Approach Spacing Tool (FAST)</u>	P. Whysall (U.K.)

TRACKS 1&2 SCHEDULE - DAY 2

MORNING (8:30 AM - 12:30 PM, Vienna Ballroom A&B)		
Sessions 2 & 3 Collaborative Decision-Making/Traffic Flow Management	ATM-12: <u>Investigation of Improved Information Distribution for the Realisation of Collaborative Decision-Making</u>	P. Martin (EUROCONTROL EEC)
	ATM-16/35: <u>ATC/Air Carrier Collaborative Arrival Planning</u>	C. Quinn (U.S.)
BREAK <i>(Break service begins at 10:30 AM in Vienna Ballroom Foyer)</i>		
Sessions 2 & 3 Collaborative Decision-Making/Traffic Flow Management (continued)	ATM-21: <u>Weather Avoidance Planning and Collaborative Routing Decisions</u>	A. Shantz (U.S.)
	ATM-31: <u>Airline Arrival Prioritization in Sequencing Scheduling</u>	G. Carr (U.S.)
AFTERNOON (1:30 PM - 5:00 PM, Vienna Ballroom A&B)		
Sessions 2 & 3 Collaborative Decision-Making/	ATM-87: <u>Supporting Collaboration in ATC through Flight Contracts</u>	S. Chatty (France)
	ATM-36: <u>Operational Concept for FAA Interfacility TFM Collaborative Decision-Making</u>	J. Pyburn (U.S.), L. Carlson (U.S.)

Traffic Flow Management (continued)		
<i>BREAK</i> (Break service begins at 2:45 PM in Vienna Ballroom Foyer)		
Sessions 2 & 3 Collaborative Decision-Making/Traffic Flow Management (concluded)	ATM-48: <u>Air Traffic Planning by Stochastic Optimization</u>	S. Oussedik (France), D. Delahaye (France)
	ATM-90: <u>The Effect of Shared Information on Pilot/Controller Situation Awareness and Re-Route Negotiation</u>	J. Hansman (U.S.), M. Endsley (U.S.)

TRACK 1 SCHEDULE - DAY 3

MORNING (8:30 AM - 12:30 PM, Vienna Ballroom A)		
Session 4 En-Route Improvements	ATM-15: <u>Dependability Analysis Assessment of ARTAS</u>	S. Metge (France), A. Peytavin (France)
	ATM-77: <u>En-route ATM Decision Support Tool CHI Requirements Development</u>	M. Picardi (U.S.)
<i>BREAK</i> (Break service begins at 10:30 AM in Vienna Ballroom Foyer)		
Session 4 En-Route Improvements (continued)	ATM-78: <u>Airspace Complexity: Its Application in ATM</u>	B. Sridhar (U.S.), K. Sheth (U.S.)
	ATM-81: <u>Future Area Control Tools Support (FACTS)</u>	P. Whysall (U.K.)
AFTERNOON (1:30 PM - 5:00 PM, Vienna Ballroom A)		
Session 4 En-Route Improvements (continued)	ATM-25: <u>In-Depth Evaluation of ERATO Tools: Towards an Operational Prototype</u>	M. Leroux (France)
	ATM-52: <u>Empirical Test of Conflict Probability Estimation</u>	R. Paielli (U.S.)
<i>BREAK</i> (Break service begins at 2:45 PM in Vienna Ballroom Foyer)		
Session 4 En-Route Improvements (concluded)	ATM-83: <u>User Request Evaluation Tool (URET) Interfacility Conflict Probe Performance Assessment</u>	W. Arthur (U.S.)

TRACK 2 SCHEDULE - DAY 1

AFTERNOON (1:30 PM - 5:00 PM, Vienna Ballroom B)		
Session 1 Conceptualization	ATM-17/99: <u>Air Traffic Management Capacity-Driven Operational Concept Through 2015; A Comparison of Europe USA Operational Concepts for 2000-2010</u>	R. McCulloch (U.K.), A. Haraldsdottir (U.S.), R. Schwab (U.S.)
	ATM-95: <u>Structuring Hazard Criteria for Automated Assurance</u>	R. Simpson (U.S.)
<i>BREAK</i>		

<i>(Break service begins at 2:45 PM in Vienna Ballroom Foyer)</i>		
Session 1 Conceptualization (concluded)	ATM-100: <u>Observations of Departure Processes at Logan Airport to Support the Development of Departure Planning Tools</u>	E. Feron (U.S.), A. Odoni (U.S.), J. Hansman (U.S.), J-P. Clarke (U.S.)
	ATM-56: <u>On the Applicability of Free-Flight Mode in European Airspace</u>	P. Faure (FR) V. Duong (EUROCONTROL EEC)

TRACKS 1&2 SCHEDULE - DAY 2

TRACK 2 SCHEDULE - DAY 3

MORNING (8:30 AM - 12:30 PM, Vienna Ballroom B)		
Session 2 ASAS	ATM-22: <u>Autonomous Resolution of En Route Conflicts</u>	N. Durand (France)
	ATM-63/105: <u>Air-Ground Integration Issues in a Self-Separation Environment; Comparison of Different Airborne Separation Assurance System Conflict Resolution Strategies</u>	R. Ruigrok (The Netherlands), S. Lozito (U.S.)
BREAK <i>(Break service begins at 10:30 AM in Vienna Ballroom Foyer)</i>		
Session 2 ASAS (concluded)	ATM-54/55: <u>Statistical Assessment of the ASAS Crossing Procedure; Operational Assessment of Co-operative ASAS Applications</u>	F. Casaux (France), B. Bonnemaïson (France), M. Thierry (France)
	ATM-39: <u>Achieving Early CDTI Capability With ADS-B</u>	A. Zeitlin (U.S.), J. Cieplak (U.S.)
AFTERNOON (1:30 PM - 5:00 PM, Vienna Ballroom B)		
Session 3 Planning/ Integrated Tools	ATM-2: <u>The Tactical Load Smoother Tool for Multi-Sector Planning</u>	C. Meckiff (EUROCONTROL EEC), J-P Nicolaon (EUROCONTROL EEC)
BREAK <i>(Break service begins at 2:45 PM in Vienna Ballroom Foyer)</i>		
Session 3 Planning/ Integrated Tools (concluded)	ATM-97: <u>ESCAPADE: Display of Downlinked Aircraft Parameters</u>	B. Favennec (France), P. Salembier (France)

TRACK 3 SCHEDULE - DAY 1

AFTERNOON (1:30 PM - 5:00 PM, Les Continents)		
Session 1 - Performance Metrics	ATM-44: <u>Sensitivity of System Performance Metric to Changes in AFTM Operations</u>	L. Brown (U.S), M. Blucher (U.S.), S. Bradford (U.S.)
	ATM-108: <u>ATM Performance Review in Europe</u>	X. Fron (EUROCONTROL HQ)
	ATM-109: <u>Preliminary Evaluation of Flight Delay Propagation through an Airline</u>	R. Beatty (U.S.)

	Schedule	
BREAK <i>(Break service begins at 2:45 PM in Vienna Ballroom Foyer)</i>		
Session 2 Effects of Tools and Procedures	ATM-43: <u>Conflict Probe Operational Evaluation and Benefits Assessment</u>	K. Kerns (U.S.), A. McFarland (U.S.)
	ATM-37: <u>The Initial Preferred IFR Route Restructuring Effort of the FAA</u>	L. Gordon (U.S.)

TRACK 3 SCHEDULE - DAY 2

MORNING (8:30 AM - 12:30 PM, Les Continents)		
Session 3 Modeling	ATM-30: <u>A Set of Approximate and Compatible Models for Airport Strategic Planing on Airside and on Landside</u>	A. Odoni (U.S.) , K. Zografos (Greece), L. Brunetta (Italy)
	ATM-101: <u>Modeling an Airline Operations Control Center</u>	N. Pujet (U.S.), E. Feron (U.S.)
BREAK <i>(Break service begins at 10:30 AM in Vienna Ballroom Foyer)</i>		
Session 3 Modeling (concluded)	ATM-28: <u>Data Flow Analysis and Optimization Potential from Gate to Gate</u>	M. Poppe (Germany), G.F. Bolz (Germany)
	ATM-94: <u>National Airspace Capacity Estimate</u>	A.B. Cocanower (U.S.), W. Voss (U.S.)
AFTERNOON (1:30 PM - 5:00 PM, Les Continents)		
Session 4 Methodologies	ATM-102: <u>A Probabilistic Risk Assessment Based Methodology to Assess Advanced ATM on Safety</u>	H. Blom (The Netherlands)
	ATM-7: <u>An Integrated and Operational Analysis Methodology for Air Traffic Systems</u>	P. Kostiuk (U.S.)
BREAK <i>(Break service begins at 2:45 PM in Vienna Ballroom Foyer)</i>		
Session 4 Methodologies (continued)	ATM-26: <u>The Effect of Direct Routing on ATC Capacity</u>	A. Magill (U.K.)
	ATM-74: <u>Application of Generic Metrics to Assess the Accuracy of Strategic Conflict Probes</u>	M.L. Cale (U.S.), M. Paglione (U.S.)

TRACK 3 SCHEDULE - DAY3

MORNING (8:30 AM - 12:30 PM, Les Continents)		
Session 4 Methodologies (concluded)	ATM-65: <u>Methods and Measurements for Evaluation of ATM Tools in Real Time Simulations and Field Tests</u>	F. Schick (Germany)
	ATM-106: <u>Overcoming Airport Environmental Capacity Constraints by Procedural and Operational Measures</u>	H. Offerman (The Netherlands)
BREAK <i>(Break service begins at 10:30 AM in Vienna Ballroom Foyer)</i>		
Session 5	ATM-11: <u>Using Inter-Process to</u>	S. Bradford (U.S.), D.

Cost-Benefit Analysis and Economic Performance	<u>Expand Modeling Capabilities</u>	Liang (U.S.), S. Mondoloni (U.S.)
	ATM-14: <u>CNS/ATM Enhancements in the NAS: Potential Benefits to Users and the Environment</u>	D. Liang (U.S.), D. Chin (U.S.)
AFTERNOON (1:30 PM - 5:00 PM, Les Continents)		
Session 5 Cost-Benefit Analysis and Economic Performance (continued)	ATM-6: <u>Evaluating the Economic Impact of ATM Innovation on Commercial Air Carrier Operations</u>	E. Gaier (U.S.), P. Kostiuk (U.S.)
	ATM-51: <u>Impact of Air Traffic Management on Airspace User Economic Performance</u>	J. Sinnott, (U.S.), W. MacReynold (U.S.)
BREAK <i>(Break service begins at 2:45 PM in Vienna Ballroom Foyer)</i>		
Session 5 Cost-Benefit Analysis and Economic Performance (concluded)	ATM-53: <u>Capacity-Related Benefits of Proposed CNS/ATM Technologies</u>	T. Weidner (U.S.)
	ATM-29: <u>Assessing Benefits for Airborne Flight Planners as Part of Future NAS</u>	V. Crisp (U.S.), M. Hughes (U.S.)