Cooperative Aircraft Trajectories Planning
Romaric Breil, Laurent Lapasset

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Cooperative Aircraft Trajectory Planning

Multi-agent system
- Resilient, fast and scalable method for problem solving
- Composed of agents (aircraft) cooperating to elaborate their trajectories
- Decisions are taken by each aircraft, based on knowledge of its local environment

Conflict avoidance by speed regulation
- Aircraft sends messages containing their estimated trajectories
- Each aircraft selects optimal speed changes based on this shared knowledge
- Speeds are selected within [-6%, +3%] of its optimal speed

Without regulation, conflicts occur

With speed regulation, conflicts are solved

Macro-structuration of air traffic
- The system reduces traffic complexity by structuring trajectories into flows
- A local network of routes is generated on demand

Unstructured traffic

Structured traffic

Contacts
Romaric Breil - PhD Student - romaric.breil@capgemini.com - Laurent Lapasset - R&D Manager - laurent.lapasset@capgemini.com