iFly final project presentation
Introduction

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iFly project

- 4+ Year innovative ATM project (2007-2011) within EC DG-TREN/MOVE
- Objective: development of an advanced airborne self separation ATM operational concept the design of which takes into account:
  - Safety targets
  - Human responsibilities
  - Complexity is well understood
- Builds on theoretical results of HYBRIDGE project for EC DG-INFSO
  - Novel methods in rare event modelling and estimation
  - Novel methods in conflict modelling and resolution
- 18 Partners, 11 of which are from HYBRIDGE
  - Total effort: ~ 45 person-years
  - Budget: 5.2 MEuro (3.3 MEuro by EC)
  - NLR is coordinator

iFly participants

1. NLR (NL)
2. Honeywell (CZ)
3. ISDEFE (ES)
4. Univ. of Tartu (EE)
5. Athens U. Economics & Business (GR)
6. ETH Zurich (CH)
7. L'Aquila University (IT)
8. Politecnico di Milano (IT)
9. Cambridge Univ. (UK)
10. NTU Athens (GR)
11. Twente Univ. (NL)
12. ENAC (FR)
13. Dedale (FR)
14. NATS En Route (UK)
15. INRIA (FR)
16. Eurocontrol Experimental Centre (F)
17. DSNA-DTI-SDER (FR)
18. Leicester Univ. (UK)

Motivation

- Free Flight has been “invented” as a potential solution for high traffic demand airspace [RTCA, 1995]
- During recent years ATM community research trend is to direct self separation research to situations of less dense airspace (e.g. MFF, ASSTAR)
- Key research question: Up to which traffic demand is safe airborne self separation feasible?
- This question has previously been addressed for a specific airborne self separation concept, known as AMFF (Autonomous Mediterranean Free Flight)

Presentations this afternoon

1. What were the main findings for AMFF?
   - Prof. Henk Blom (NLR & TU Delft, The Netherlands)

2. How does an advanced airborne self separation ConOps look like?
   - Dr. Petr Casek (Honeywell, Czech Republic)

3. What en-route traffic demand can safely be accommodated?
   - Prof. Henk Blom (NLR & TU Delft, The Netherlands)

4. Which advanced CD&R approach support this best?
   - Prof. John Lygeros (ETH Zurich, Switzerland)

5. What are the main issues of Shared Situation Awareness?
   - Prof. Maria DiBenedetto (U. of L'Aquila, Italy)

6. How is the cost-benefit analysis for application over Europe?
   - Prof. Kostas Zografos (Athens U. of Economics & Business, Greece)

7. What are the potential benefits for SESAR and NEXTGEN?
   - Prof. Henk Blom (NLR & TU Delft, The Netherlands)