



# CONTRACT-BASED AIR TRANSPORTATION SYSTEM (CATS)

## Project Overview & Work Plan

Presented by FREQUENTIS AG

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# Workshop Agenda (morning session)



- 10:00 – 10:15 Welcome + project presentation *FRQ*
- 10:15 – 10:35 CoO concept *EEC*
- 10:35 – 11:00 TW modelling + Safety *ETH+AFC*
- 11:00 – 11:15 Coffee Break
- 11:15 – 12:30 Platform presentation *SkySoft*
- 12:30 – 13:45 Lunch

# Workshop Agenda (afternoon session)



- 13:45 – 14:20 Benefits assessment *ORTS*
- 14:20 – 14:50 Legal issues panel *IIASL*
- 14:50 – 15:10 Discussion on assessments
- 15:10 – 15:25 Coffee break
- 15:25 – 15:55 HIL results *EEC*
- 15:55 – 16:10 Discussion
- 16:10 – 16:30 Future work and closure *FRQ*

# Motivation for CATS



- Air Traffic in Europe is expected to triple till 2020
- Air Traffic Management (ATM) system currently in operation will not be able to cope with such growth figures

- Need for more capacity, efficiency, safety and cost-effectiveness
- Radical changes are required to fulfil these requirements

**→ Contract-based Air Transportation System**

# Current Situation



- Air transport supply chain involves e.g.
    - Airports
    - Airlines
    - Air Navigation Service Providers (ANSPs)
  - Different interests and objectives
    - ANSPs' prime objective is safety
    - Airlines' objectives are (in addition to safety) punctuality & costs
  - Actors optimise their processes locally
    - in accordance with their own constraints
    - not considering the global objectives
- Highly collaborative and system-wide approaches shall be applied for optimising the overall ATM system

# Project Background



- Proposal for an innovative ATM solution capable of
  - coping with the expected traffic figures (beyond 2020)
  - improving the efficiency of the European Air Transportation System
- CATS is in line with main SESAR objectives, namely:
  - eliminating the fragmented approach of ATM
  - synchronizing the plans and actions of the different partners within a consistent and explicit framework
  - federating resources through a more closely integration of the ground and airborne segments
- CATS covers the complete SESAR ATM Life Cycle
  - from long term planning through flight execution, as well as post flight analysis
  - regarding the SESAR ATM Operational Concept Components, CATS
    - concept description will refer to the Trajectory Management
    - operational assessments will focus on traffic synchronization

# Project Overview – Key facts



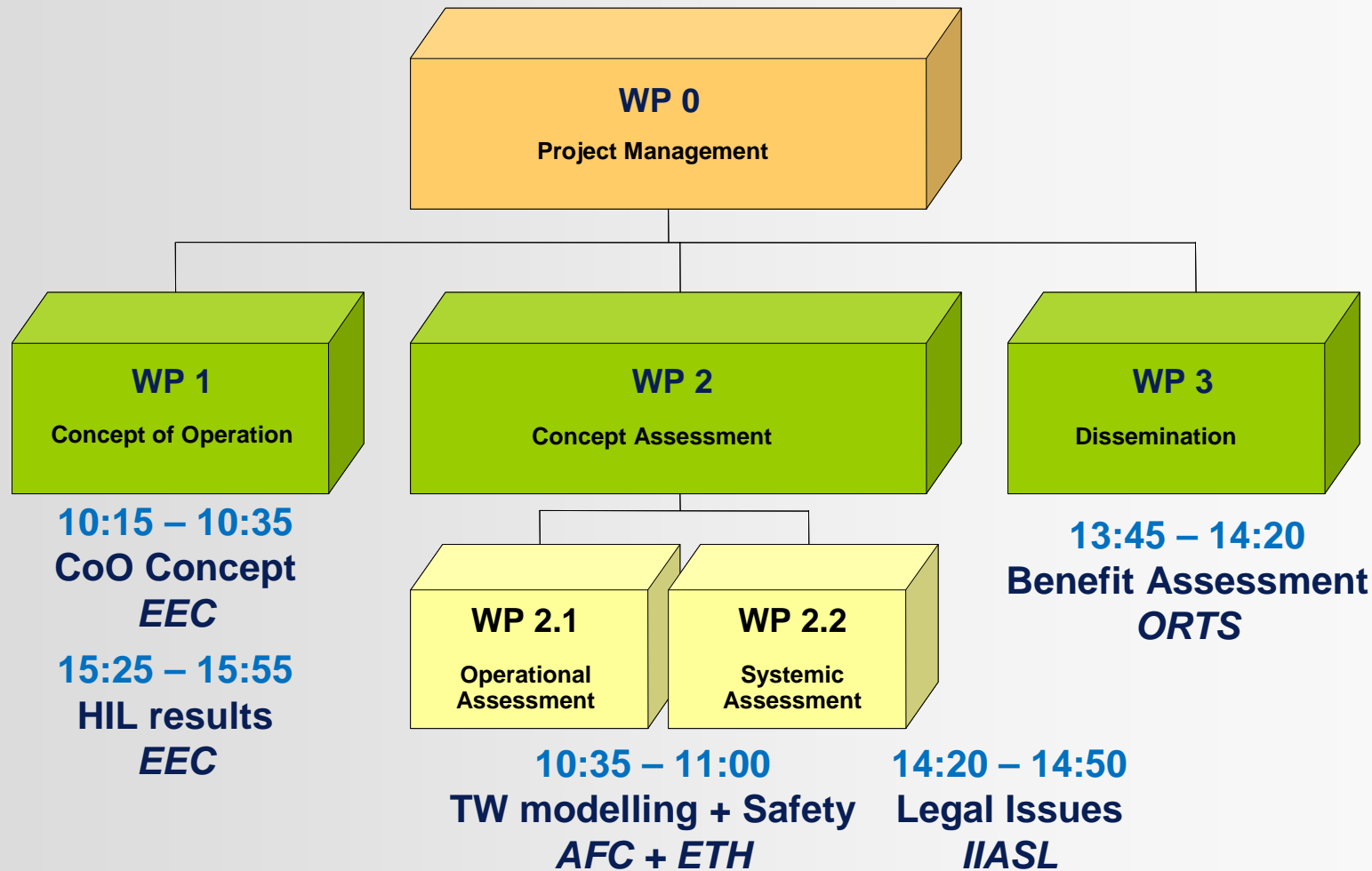
- FP6 project, co-funded by the European Commission
- Project duration: 11/2007 to 10/2010

- 9 Partners (6 countries)

- Frequentis AG
- EUROCONTROL
- Air France Consulting
- University of Leiden
- SkySoft ATM
- Unique – Zurich Airport
- ETH – Eidgenössische Technische Hochschule Zurich
- University of Trieste
- ENAV – Italian ANSP



# CATS Work Breakdown Structure



# Project Overview – Aims



- Define and assess the CoO and Target Windows involving all actors in the supply chain
- Assessment is conducted by two means:
  - Operational Assessment (3 HIL experiments: small-scale prototyping sessions)
    - ▶ Controller-Controller
    - ▶ Controller-Aircrew
    - ▶ Renegotiation involving
      - Controller (ANSP)
      - Aircrew (Airline), and
      - Airport
  - Systemic Assessment
    - ▶ Safety and Risk Assessment
    - ▶ Cost benefit Assessment
    - ▶ Legal Assessment

# Project - HIL Experiments



- First HIL experiment was conducted in from October 20<sup>th</sup> to October 31<sup>st</sup>, 2008 in Geneva at SkyGuide premises
- Second HIL experiment was conducted from October 19<sup>th</sup> to October 30<sup>th</sup>, 2009 again in Geneva at SkyGuide premises
- Third HIL experiment is expected to take place in June 2010

# Questions



# Future Work



- Project is scheduled to be completed by end of October 2010
  - Third HIL Experiment will be conducted in June 2010
    - Assessment of renegotiation of CoO in case some Target Windows cannot be fulfilled
  - Final User Forum (probably in October 2010)

# Notes



- Presentations and video will be available for download at:
  - [www.cats-fp6.aero](http://www.cats-fp6.aero)
  - [www.eurocontrol.int/eec/cats](http://www.eurocontrol.int/eec/cats)

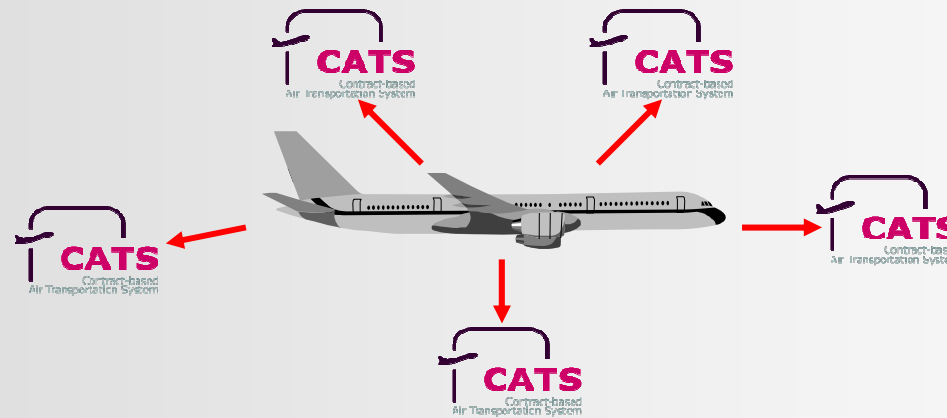


■ Time to close-up!

16:30



Thanks to all participants for their productive contributions!



Have a safe trip back home!