



HSI2024
Human Systems Integration
International Conference

HYBRID EVENT, Jeju, Korea
August 27-29, 2024



Jointly organized with



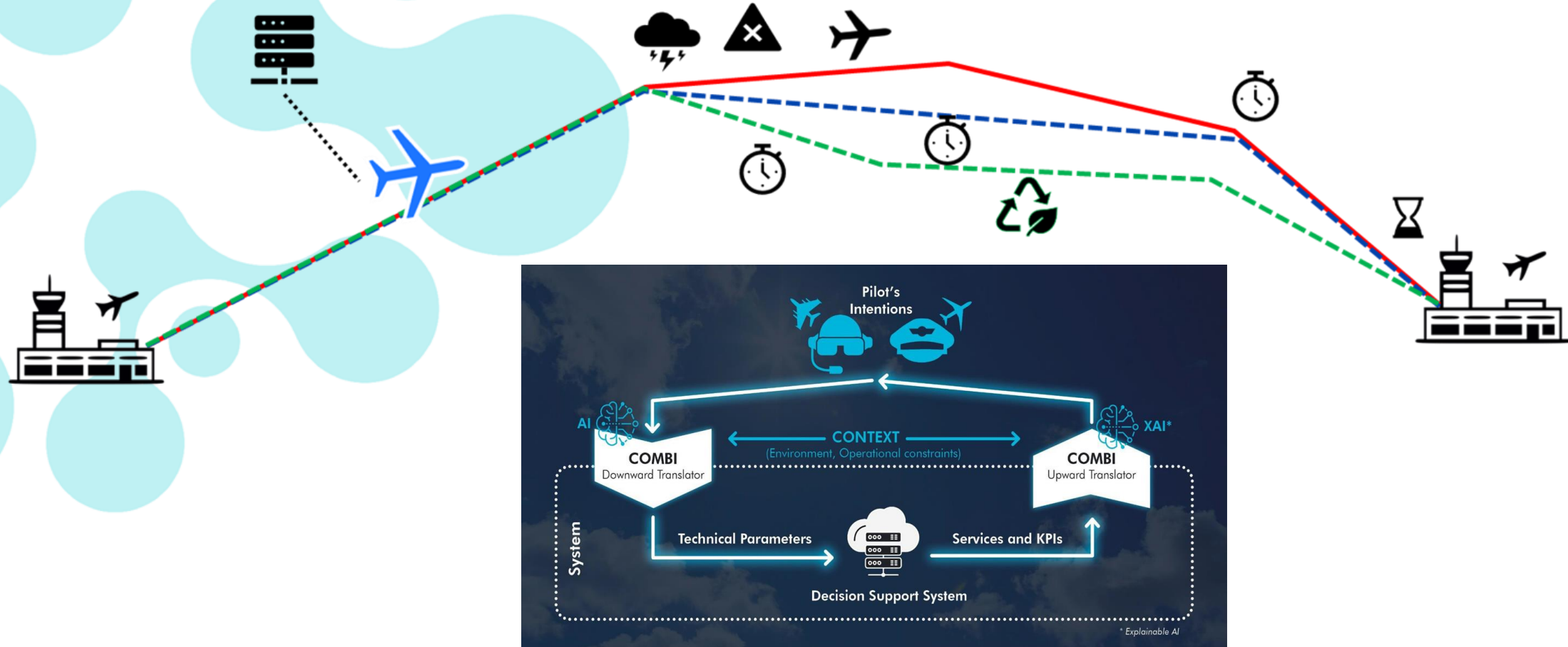
Haiku
Human AI teaming Knowledge and
Understanding for aviation safety

Human-AI Teaming for Cockpit Assistance

27-29 August 2024

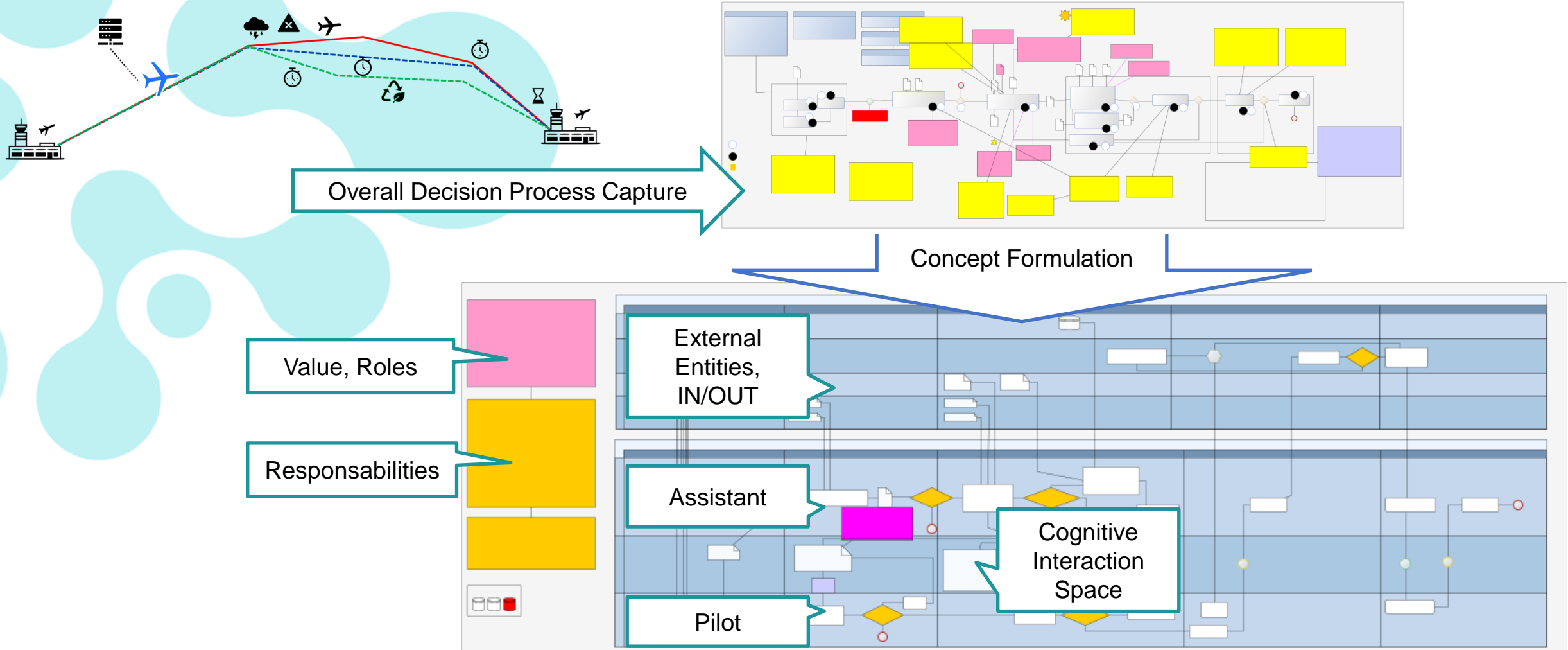
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Cockpit Assistance in Diversion

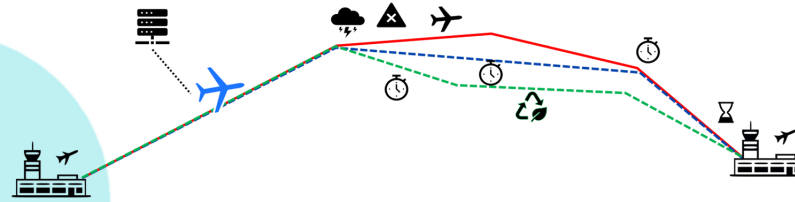


Human-AI **Teaming** enabled through **Operational Intentions**

Concept Development Approach



Three assistance concepts



SUPPORTIVE ASSISTANCE

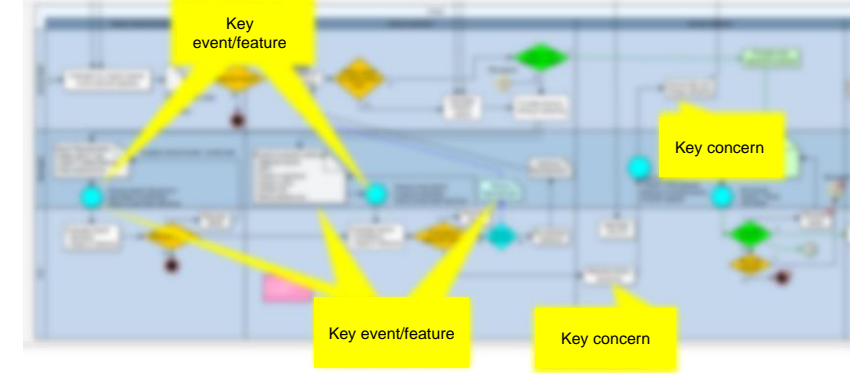
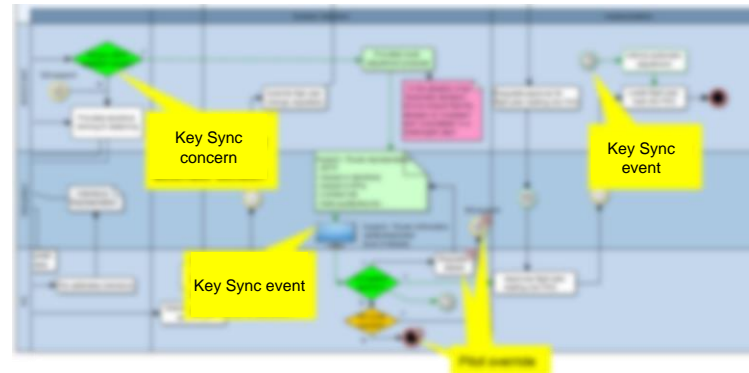
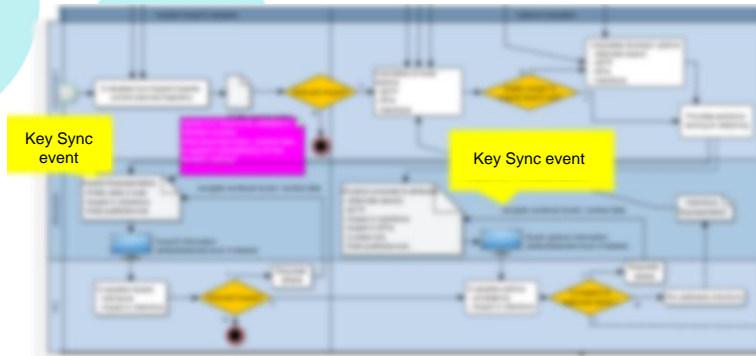
Cognitive assistance
in alternatives evaluation and
selection

COOPERATIVE ASSISTANCE

Automated low-impact
adjustments

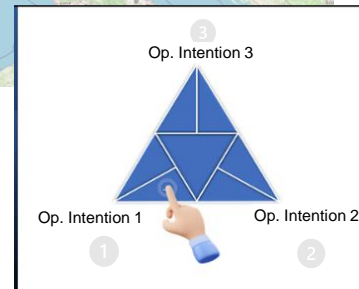
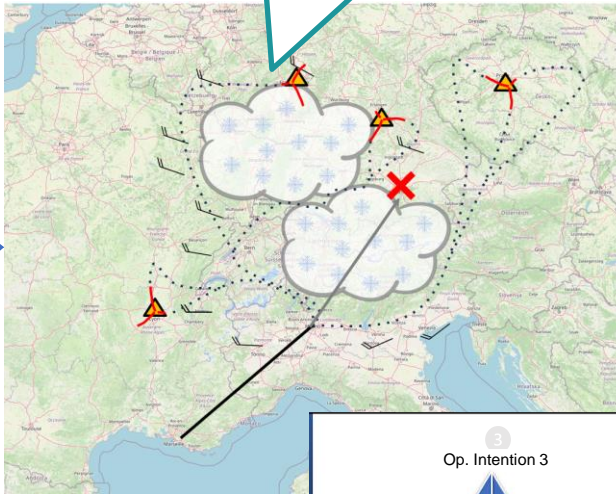
COLLABORATIVE ASSISTANCE

Co-constructive
decision-making and dynamic
task-sharing

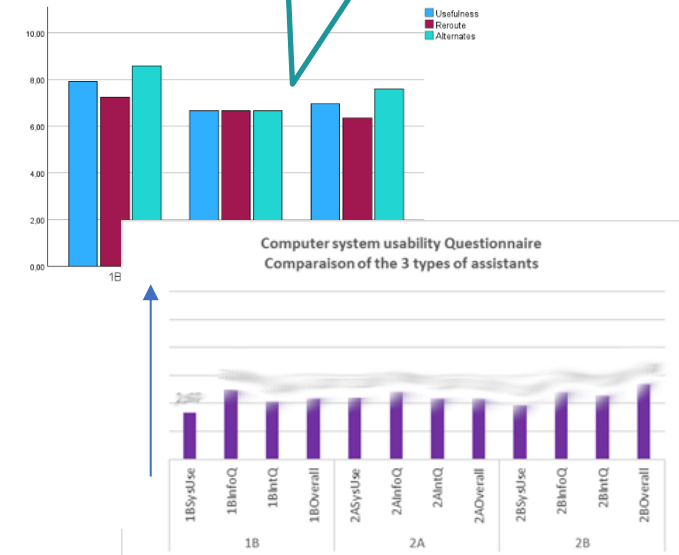


Cognitive Walk-Through Trials

Scenario Testing with Pilots
using low fidelity HMI and
Cognitive Walk Through



Survey and
debrief



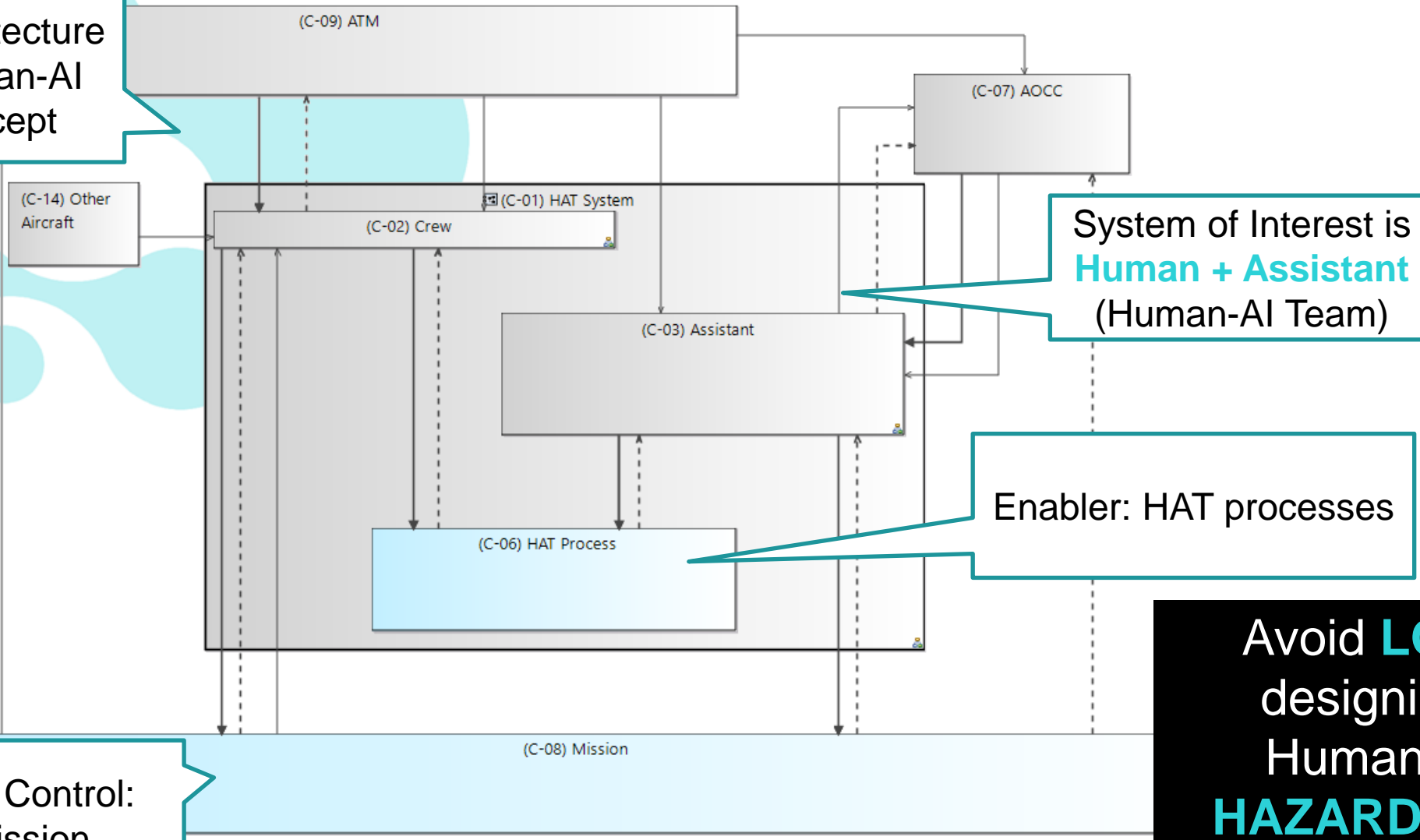
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STPA modeling

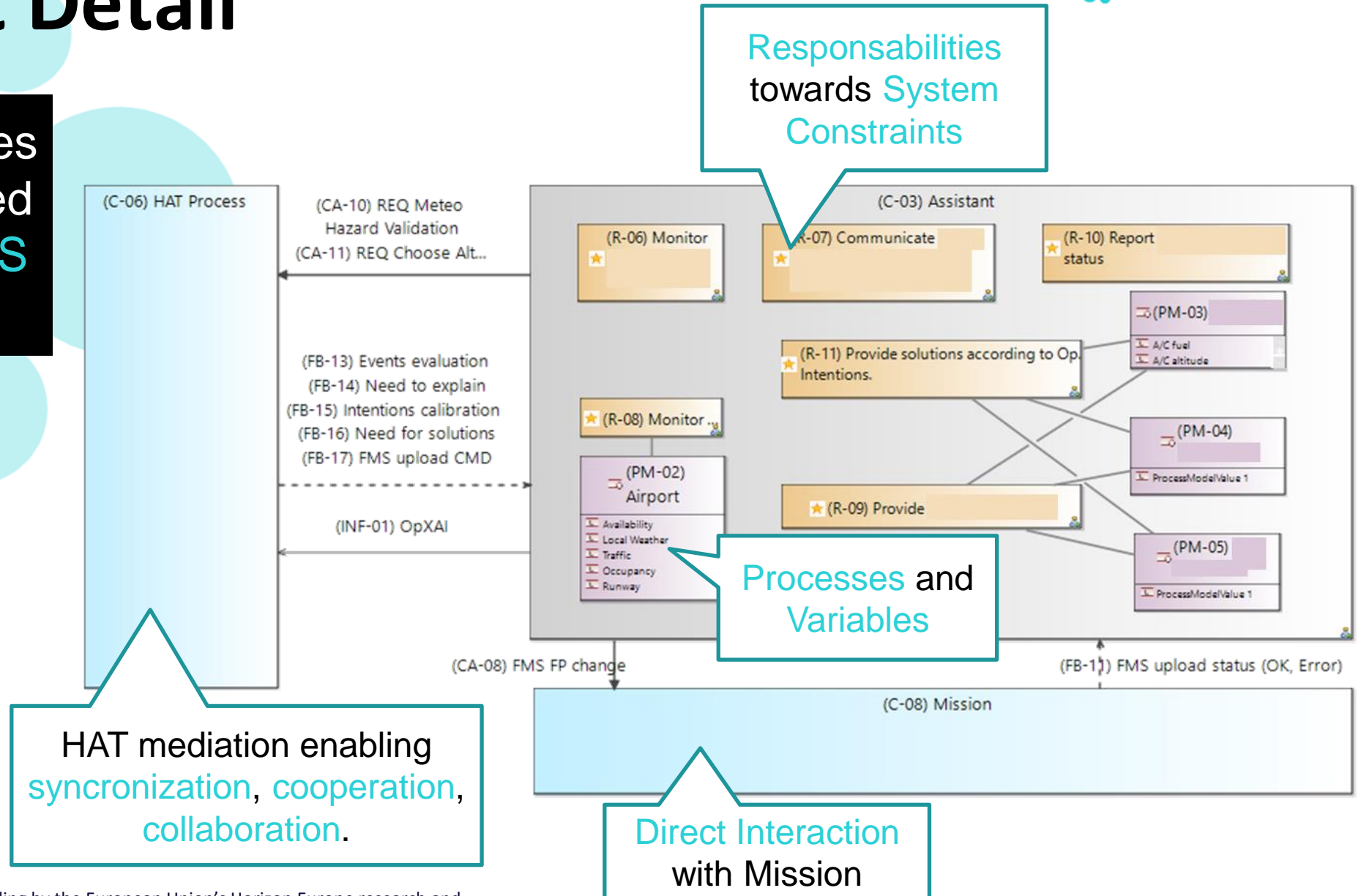
Control Architecture
for the Human-AI
Team concept



Avoid **LOSSES** by
designing for the
Human-AI Team
HAZARDOUS states

Assistant Detail

Do the HAT processes
SUPPORTS allocated
RESPONSABILITIES
?



Mid considerations

- Human integral to the System-of-Interest
- Integrated development with Human-in-the-Loop simulations (low fidelity)
- STPA approach closing:
 - Identification of unsafe scenarios
 - Analysis of HAT processes to support emergence
- **Next: High Fidelity Concept testing**

Your thoughts? Suggestions? rjreis@embraer.fr





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