



E4U Workshop #1  
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**TASK 2**  
**Single European Sky**

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Single European Sky



## **Task 2 – Single European Sky (DLR)**

- T2.1 – Integration into SES and SWIM (NLR)
- T2.2 – Liaison with the SES ATM Research program (DLR)



## T2.1 - Integration into SES and SWIM (NLR)



- SES umbrella:  
Projects ground in common with UAS.  
How UAS compare to manned vehicles?
- SWIM impact:  
Influence on UAS operation on:  
navigation, flight planning, communication.  
Maybe impact on the legislative issues.



## T2.1 relevant projects



- SWIM-SUIT – SWIM prototype to assess technological solutions
- SES: CIV-MIL cooperation
- Functional Airspace Blocks (e.g. FABEC)
- INOUI: Innovative Operational UAS Integration – UAS can benefit from SWIM
- SOFIA: Aircraft flying in UAS mode after critical event on board
- NEXT GEN (USA)



## T2.1 relevant results (so far)



- Within SES but outside SESAR we did not find any relevant results
- Mixed operations specifically relevant for UAS integration



## T2.1 Current challenges



- Liability and insurance
- Incorporating UAS's into current operation
- Decide to what extent UAS's need to be treated differently from manned vehicles (highly dependent on type of UAS)
- Decide on additional requirements for airspace structure (do UAS (missions) have special airspace needs?)
- How can UAS's benefit from SWIM?



## T2.2 Liaison with the SES ATM Research program (DLR)



- SESAR defines the airspace of the future, techniques and procedures.
- Introduction of business trajectories and SWIM
- UAS to comply with the concept



## T2.2 relevant projects



- UAS integration happens in the timeframe of SESAR
- SJU Call for Associated Membership
  - LOT 6: UAV/UAS Integration in SESAR
  - UAS insertion into “normal traffic”
  - Integration in SESAR conops
  - Interfaces with SWIM





## T2.2 relevant results (so far)



- Results to be expected within the timeframe of SESAR
- INOUI ideas might be used
- Results from trajectory oriented projects can be considered (IFATS, 4DCo-GC)



## T2.2 Current challenges



- Reliable Sense/See & Avoid
- Separation Assurance
- Comply with Business Trajectory
- Mixed operations
- ATC communications