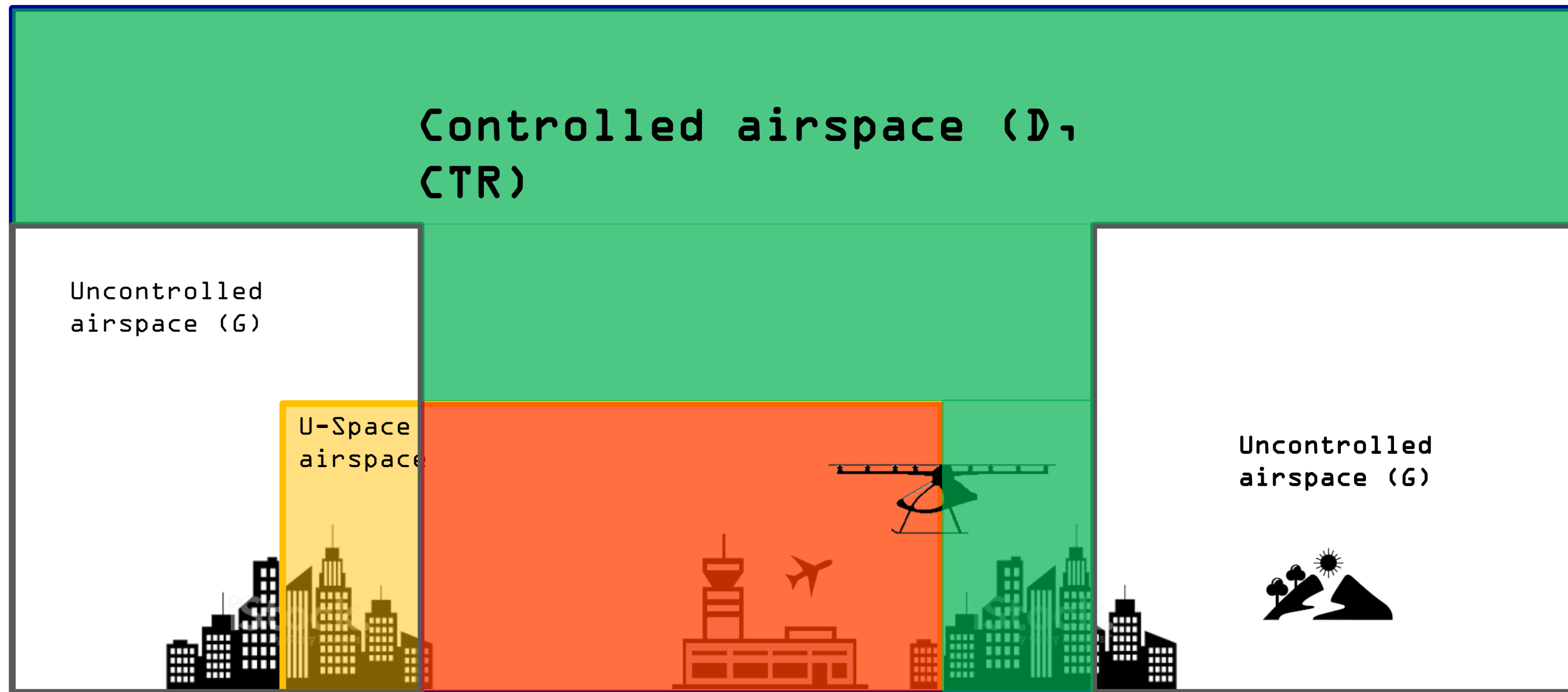


How to ensure interaction with ATM?

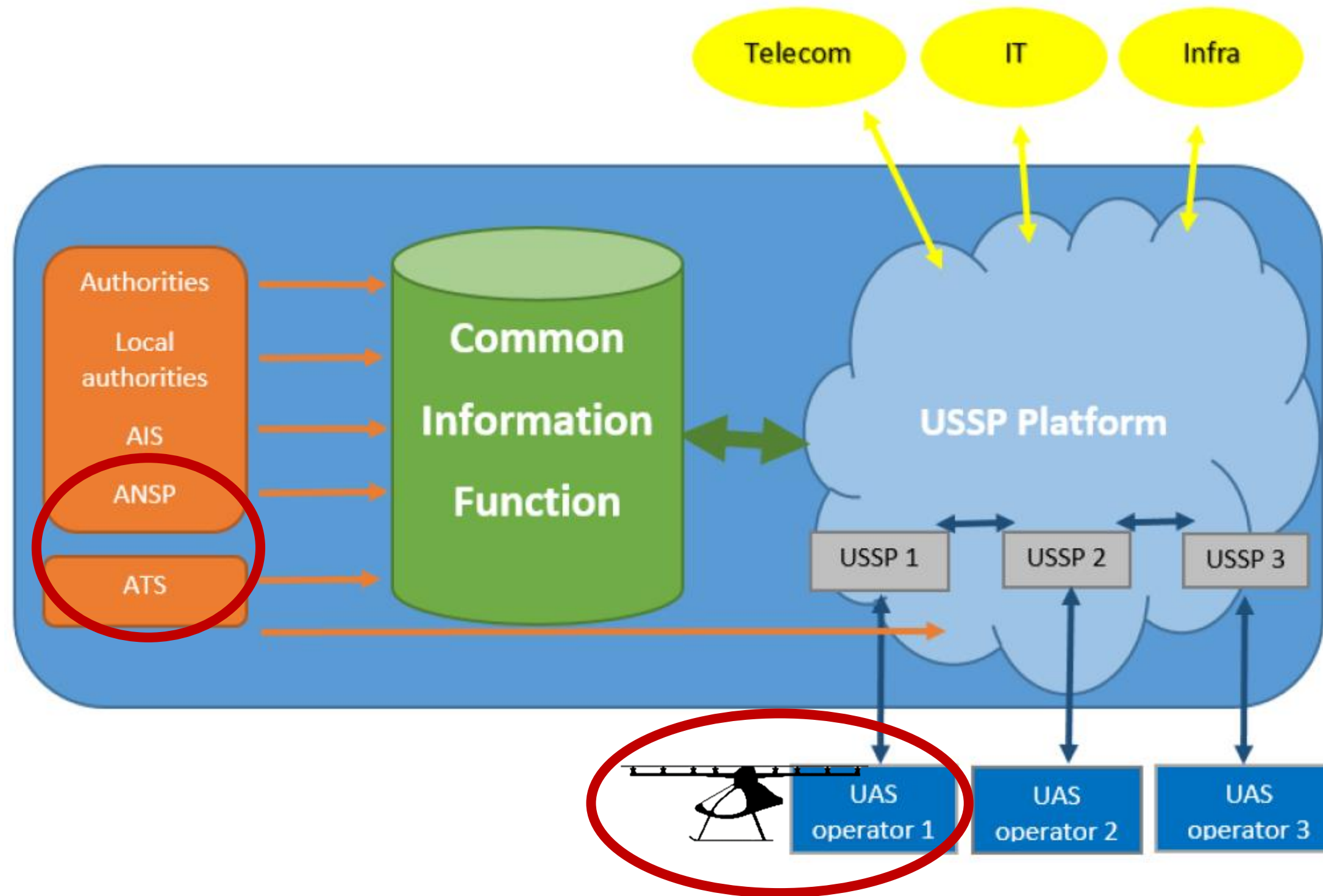
Jörn Jaeger // U-space Draft Opinion workshop, Cologne // 11.10.2019

Where to interact with ATM?

CONTROLLED AIRSPACE OUTSIDE AND WITHIN U-SPACE AIRSPACE



How to ensure interaction with ATM in the U-space eco-system?



Source: EASA, Draft Opinion in accordance with Art. 16 (Accelerated procedure) of MB Decision No 18-2015

How would air taxi operator interact with ATM (and make use of CNS solutions) in controlled airspace outside U-Space airspace

► ATC*

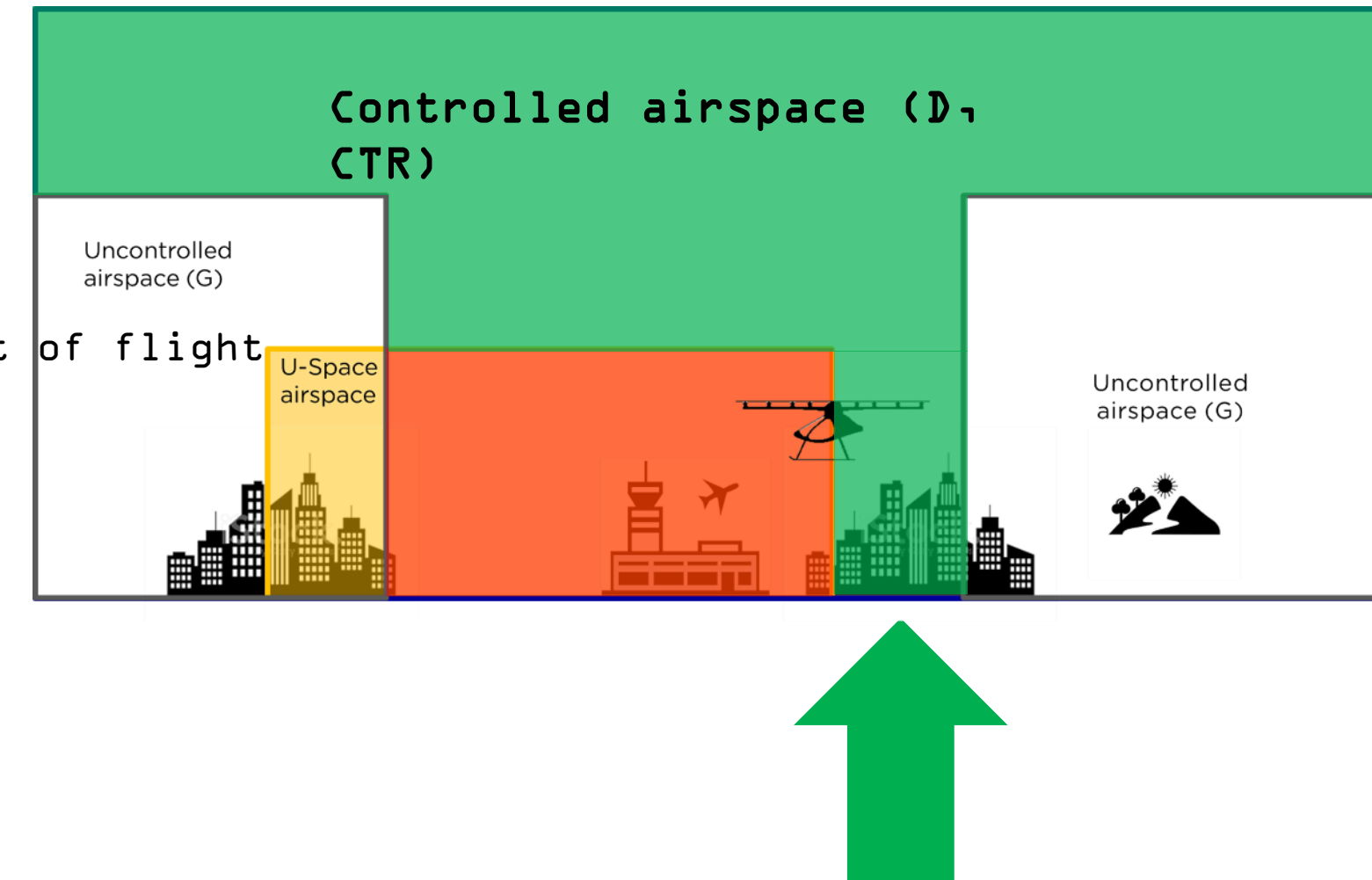
- Separation from aircraft and avoidance of obstructions
- Maintain orderly flow of traffic
- Advice, clearances and information for safe and efficient conduct of flight
- Notification of SAR

► Conventional interaction

- Voice communication with ATC(0)
- E-identification / conspicuity: Mode A/C/S Transponder

► Challenges in urban environment within controlled airspace

- Provide air traffic services (ATS) to flights due to
 - limited coverage of CNS services (especially remote from the airport and close to the ground)
 - high workload for ATC(0) providing services to UAS

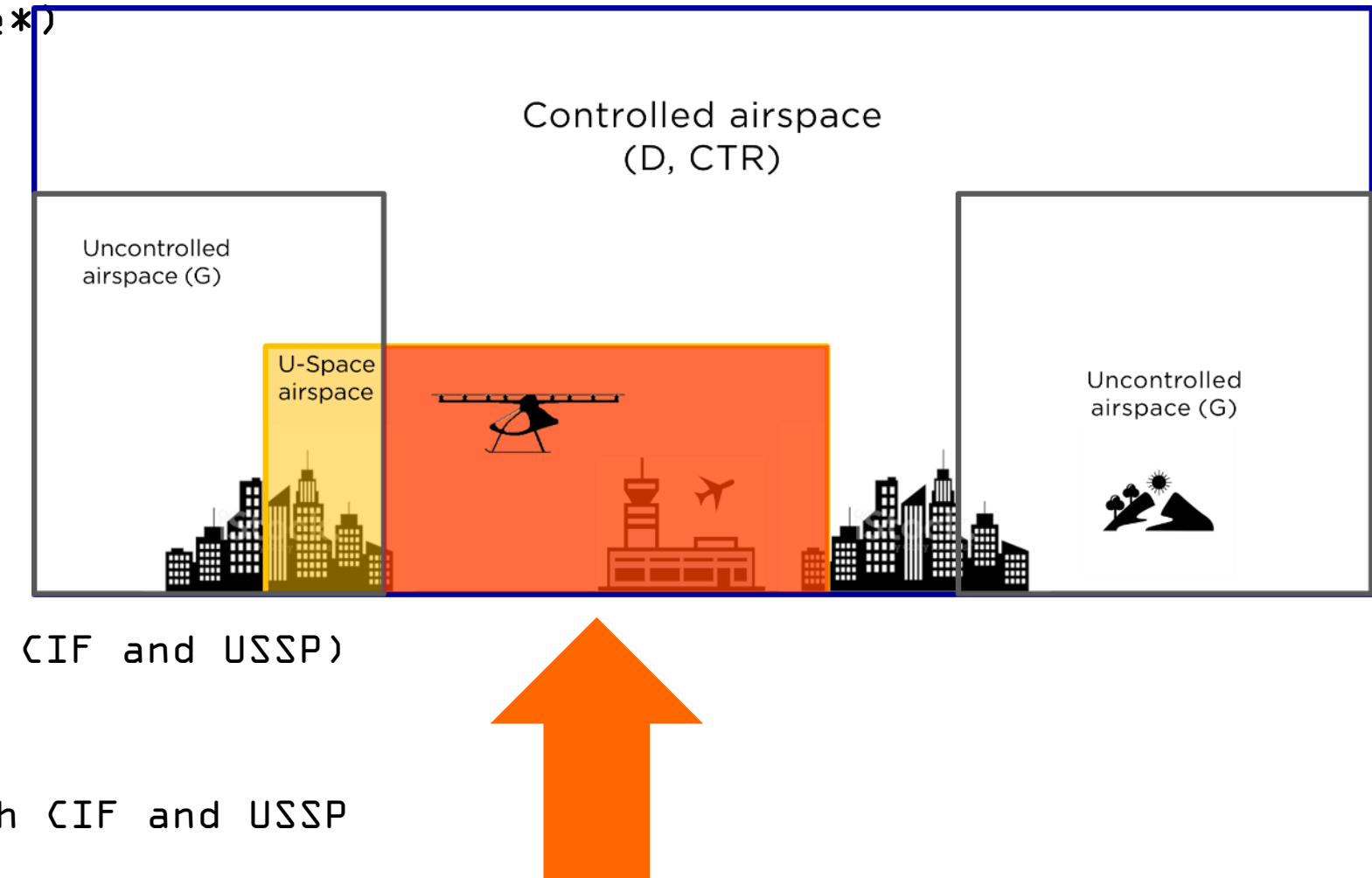


* See SERA chapters 7 to 10)

How would air taxi operator interact with ATM (and make use of CNS solutions)?

... in controlled airspace within U-Space airspace (Za airspace*)

- ▶ Workshare between ATM and UTM (?)
 - ▶ Conventional interaction with ATC or / plus
 - ▶ Interaction with ATC via U-Space Service Provider (USSP), Common Information Function (CIF) and USSP platform?
- ▶ Opportunities
 - ▶ Flight intention (also/earlier) known to ATC via UTM
 - ▶ Additional communication channel between ANSP and aircraft (via CIF and USSP)
 - > alleviation of voice channel possible
 - ▶ additional source and/or higher quality of information through CIF and USSP
 - ▶ Reduction of VMC limits at airports
- ▶ Challenges
 - ▶ Implication for aircraft equipage (to suit both ATM and UTM/USSP requirements)
 - ▶ Pilots (and ATCO) to interact with ATM and UTM systems and follow procedures accordingly
 - ▶ ATS at Vertiports (e.g. clearances)



* according to U-Space Concept of Operations (CORUS)

Happy to take on the challenge.



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