



SESAR walking tours

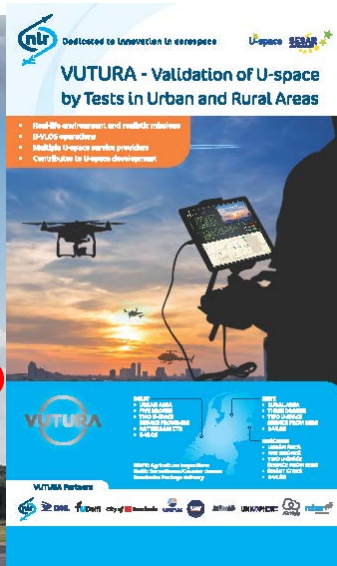
2020 World ATM Congress



Dedicated to innovation in aerospace

[#PoweredBySESAR](#)

context
U-space en S



nlr Dedicated to innovation in aerospace U-space **SESAR**

VUTURA - Validation of U-space by Tests in Urban and Rural Areas

- Real life environment, and realistic objectives
- U-space operational
- Multiple U-space service providers
- Contribution to U-space development

VUTURA

GOALS

- U-space operational
- U-space service providers
- U-space service providers
- U-space service providers
- U-space service providers

GOALS

- U-space operational
- U-space service providers
- U-space service providers
- U-space service providers
- U-space service providers

VUTURA Partners

SESAR, EASA, City of Amsterdam, U-space, Airbus, UNISPACE, nlr

VUTURA

Henk Hesselink,
Royal NLR



2020 World ATM Congress



droneport



- One drone is easy to organise
- Two drones can be dealt with as well
- Three is a crowd!



- How to organise this
=> *service providers*



DELFT

- » URBAN AREA
- » FIVE DRONES
- » TWO U-SPACE SERVICE PROVIDERS
- » ROTTERDAM CTR
- » B-VLOS

NRTC

- » RURAL AREA
- » THREE DRONES
- » TWO U-SPACE SERVICE PROVIDERS
- » B-VLOS

ENSCHEDÉ

- » URBAN AREA
- » FIVE DRONES
- » TWO U-SPACE SERVICE PROVIDERS
- » SMART CITIES
- » B-VLOS

NRTC: Agriculture inspections
Delft: Surveillance/Counter drones
Enschede: Package delivery

nlr

TU Delft

City of Enschede

LVNL

UNIFLY

UAV INTERNATIONAL

airhub

AIRMAP

robor electronics

UNIOOSPHERE



2020 World ATM Congress

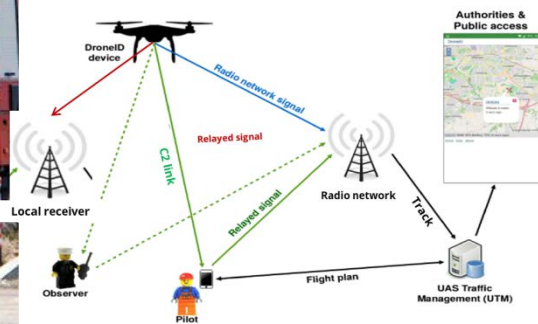




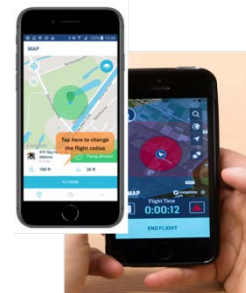


Challenges for VUTURA:

- Beyond visual line of sight
- Communication
- Priority drones
 - AED
 - Overview of incident (fire)



=> *U-space*





Demonstrated U-space with high priority situations

- Three demonstrations
- Main achievements
- 50 safety considerations
 - 25 waivers

 - 2 U-space service providers

 - 13 different drones
 - about 100 flights