HIGH LEVEL CONFERENCE ON DRONES

AMSTERDAM DRONE 2023 — WEEK 21-23 MARCH

PANEL 3a
Use of ADS-L over SRD860 frequency band and mobile networks to support low-level airspace traffic integration

March 22, 2023 | 14:00 – 15:10

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Practical information

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ON DRONES

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EAS – We are 700,000 airspace users

- The **voice of sports and recreational aviation** in Europe.

- Members: **National Aero Clubs** and Air Sports Associations of **19 countries** + **7 pan-European Air Sport Organisations.**

- Representing the interests of approximately 700,000 airspace users in **powered and non-powered** sports and recreational aviation.

EUROPE AIR SPORTS

EAS: We support new technologies and new regulations[4] but we have a problem of device's cost

- **General Aviation** 2 seats certified light aircraft average price € 250.000
  Certified ADS-B device, including installation, av. price.   €   7.000
  Percentage incidence of the cost   **2,8%**

- **Micro Light** aircraft average price   € 110.000
  Non certified ADS-L device, incl. installation, av. price.   €   3.000
  Percentage incidence of the cost   **2,7%**

- **Paraglider**, entry level, average price   €   1.500
  "Matchbox" very light "to be seen" device   €   400
  Percentage incidence of the cost   **27,7%**

Mobile phone solution seems a suitable means (app cost only) Thanks to EASA that supports our point of view.

EUROPE AIR SPORTS

EAS: We support new technologies (and new regulations), but since our position paper dated October 2019 we finally say that they must be:

- **Safe,** according to the principle of the Basic Regulation (2018/1139/EU) that "a high and uniform level of civil aviation safety should be ensured at all times".

- **Free for our air space users**, as the only beneficiary of the provided services are drones.

- **Simple**, by ensuring that the administrative and operational requirements for access do not add a layer of complexity to planning and conducting a flight.

- **Technologically feasible,** considering the very limited resources of light aircraft, in particular non-motorised ones, such as gliders and hang-/paragliders or even aeromodels

EUROPE AIR SPORTS

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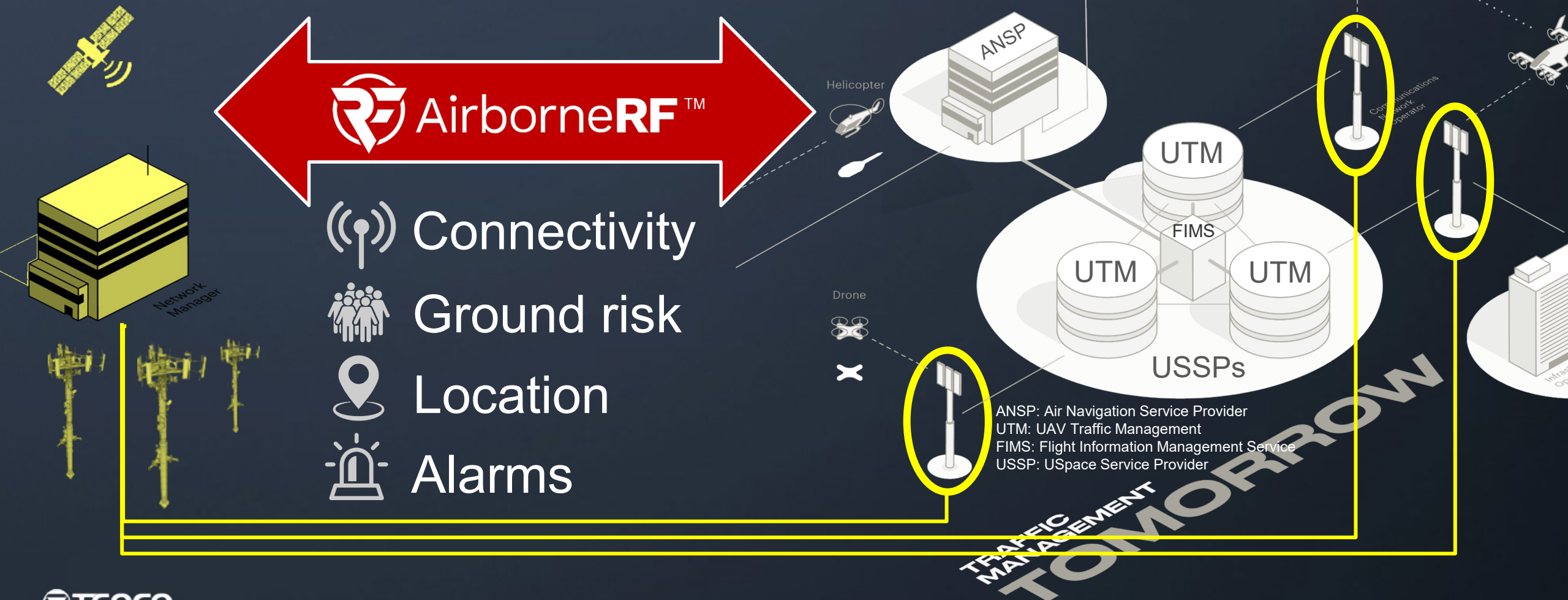Works via your browser on Smartphone, Tablet & Laptop

Introducing ADS-L

→ **Minimum standard** for making manned aircraft in U-space conspicuous to USSPs

→ **Principle: "-L" is for "Light"**

→ Compatible with **low-cost devices** and **mobile telephones**

→ **GNSS-based** parameters

→ Derived from **ADS-B** and **simplified**

→ Should support possible **future applications** (traffic awareness)

EASA

Means of Transmission

ADS-B Out (1090 MHz)

For certified aircraft, using the **existing certified technology** already installed on board

ADS-L (SRD-860)

Non-certified devices transmitting at low power on the licence-free band SRD-860, in compliance with ADS-L specifications

ADS-L (Mobile telephony)

Mobile telephony application transmitting in compliance with ADS-L specifications

2022

2023

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Telecom and Aviation

Two massive industries without touchpoints

Data exchange to boost BVLOS safety

AirborneRF™

- ((·)) Connectivity
- 👥 Ground risk
- 📍 Location
- 🚨 Alarms

Network Manager

ANSP

Helicopter

Drone

UTM

UTM   FIMS   UTM

USSPs

Communications Network Operator

TRAFFIC MANAGEMENT TOMORROW

ANSP: Air Navigation Service Provider
UTM: UAV Traffic Management
FIMS: Flight Information Management Service
USSP: USpace Service Provider

TEOCO

Graphic source: AIRBUS
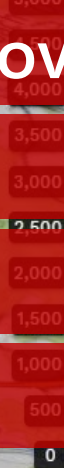
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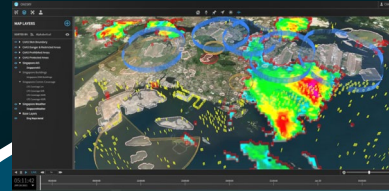Works via your browser on Smartphone, Tablet & Laptop

Aviation Grade UTM for BVLOS and AAM
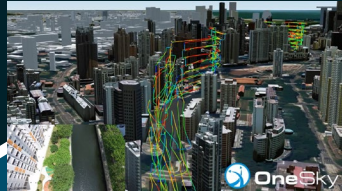
Operational Modeling & Simulation

- CONOPs Development
- Approvals & Waivers
- Safety Case
- Route Planning
- Vehicle Assessment
- Community Adoption

OEMs

Real-time Operations & Airspace Integration

- Operations planning
- Multi-constraint autorouting
- Real-time situational awareness
- Decision support analytics
- Compliance
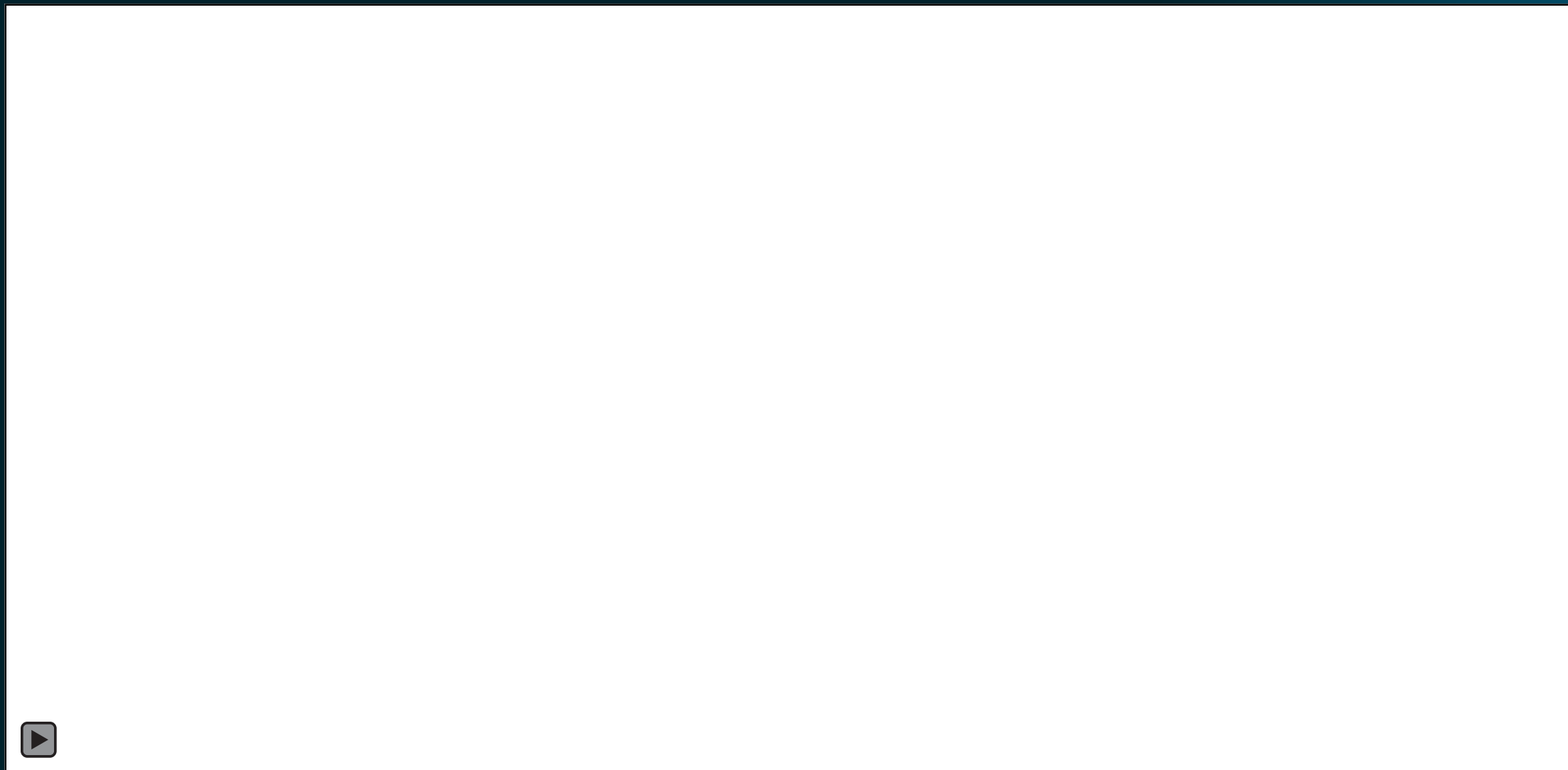- Risk Planning & Mitigation

Operators/ Vertiports

UTM – U-Space Digital Traffic Management

- UTM and AAM Portals
- CIS +USS Architecture
- Registration System
- Flight Authorisation
- U-space Services
- Uncrewed AIM

Airspace Regulators /ANSP's/USSP's

Digital Model (including Cellular) Underpins UTM

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