U-space concept of operations (CORUS)
Putting U-space services to the test in Denmark, France and the Netherlands (PODIUM)

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CORUS & PODIUM

• Two projects in which EUROCONTROL contributed to U-space research

— CORUS
  • Exploratory research project
  • Developed a Concept of Operations for U-space
  • Emphasis on Consensus

— PODIUM
  • Very large scale demonstration
  • Demonstrated initial U-space
  • Provide conclusions and recommendations on U-space
Focus on VLL

All VLL is divided into X, Y and Z volumes

X = low risk

Y = higher risk

- Access only with approved operation plan
- Specific technical requirements per volume

Z = highest risk

- Access only with approved operation plan
- Za = ATC controlled airspace
- Zu under U-space

U-space Airspace Volumes

U-space webinar sessions
The ConOps

Topics covered:
• Operations
• Services, Architecture
• Safety, Contingency
• Social acceptability
• Best practices
• ...

Getting a copy:
https://www.eurocontrol.int/project/concept-operations-european-utm-systems

https://www.sesarju.eu/projects/corus

Feedback, comments
mailto:corus-mgt@eurocontrol.int
PODIUM Demonstrations

BRETIGNY – enhancing business operations
- 5 scenarios
- Reserved Zone
- CTR vicinity
- VLOS, BVLOS

ODENSE – Regular drone usage and interoperability with manned aviation
- 5 scenarios
- Restricted airspace
- Class G, TIZ, AFIS
- VLOS, BVLOS

Rodez - entering/exiting CTR, ATCO interactions
- 5 scenarios
- Class D CTR
- BVLOS
- C2 loss....

Marknesse & Eelde – “unexpected” scenarios
- 3 scenarios
- Class C CTR
- VLOS, BVLOS
- Priority, diversion...

- Operator, ATCO/supervisor roles
- Registration & identification
- No-fly zones generation
- Automatic flight plan validation
- Automatic/manual flight permission
- Drone location & tracking (GSM, ADS-B/1090 MHz, UNB/L-band)
- Conflict detection/alerting
- ATC collaborative interface
- Airspace, national/local rules data
PODIUM Conclusions

What works well!
- Flight authorisations
- Single HMI for flight preparation
- Increased situational awareness
- The technology works
- Easy to use.....

What needs more thought!
- Access to trustworthy, official and up-to-date legislation & data
- Improve HMI usability and accessibility
- Effective procedures and phraseology
- Consistent drone-on-tracker performance/robustness/RF usage
- Seeing and avoiding GA
PODIUM Documents

Documents available:
• Concept & Architecture
• Demonstration Report
• Human Performance Assessment Report
• Odense Demo Report
• Rodez Demo Report
• Bretigny Demo Report
• The Netherlands Demo Report

Getting a copy:
https://www.sesarju.eu/projects/podium
EUROCONTROL Activities

- Involvement in ICAO, EASA, EUROCAE activities
- Support to States on U-space Integration
- Airport Integration Exercise
- European Network of U-space Demonstrators