

Protecting Airports from Unauthorised Drone Traffic

L. Legros on behalf of the CLASS Project



What Airports ask for?

To operate safely!

Need to sort out drone operation for the airport and the others

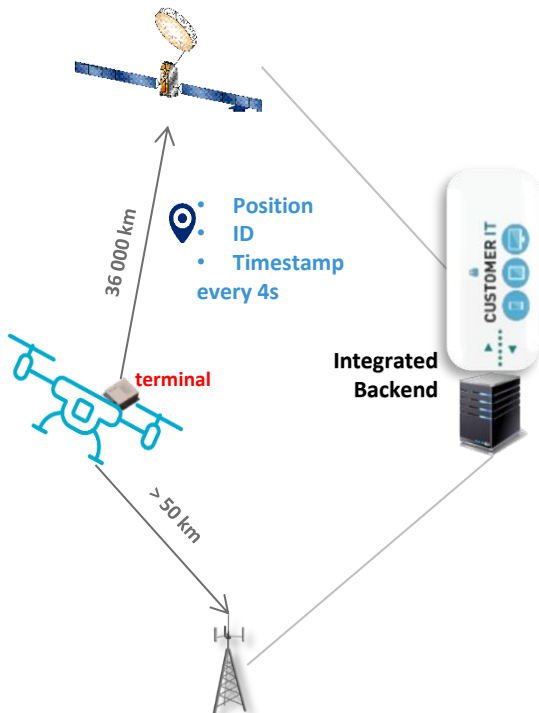
This is about Surveillance Issue

1. Detect
2. Classify
3. Track
4. Alert

AIRBUS

Drone Identifier and Tracker Drone-it!

Ultra Narrow Band technology



Data Fusion

Fuse Cooperative and Non-Cooperative tracks



Gamekeeper 16U

Take on drone spotting:
Stare not scan

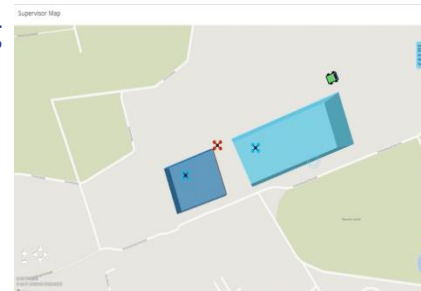
Tactical Deconfliction

Including zone infringement

AIRBUS

Air Situation and Alerts

Real Time Monitoring

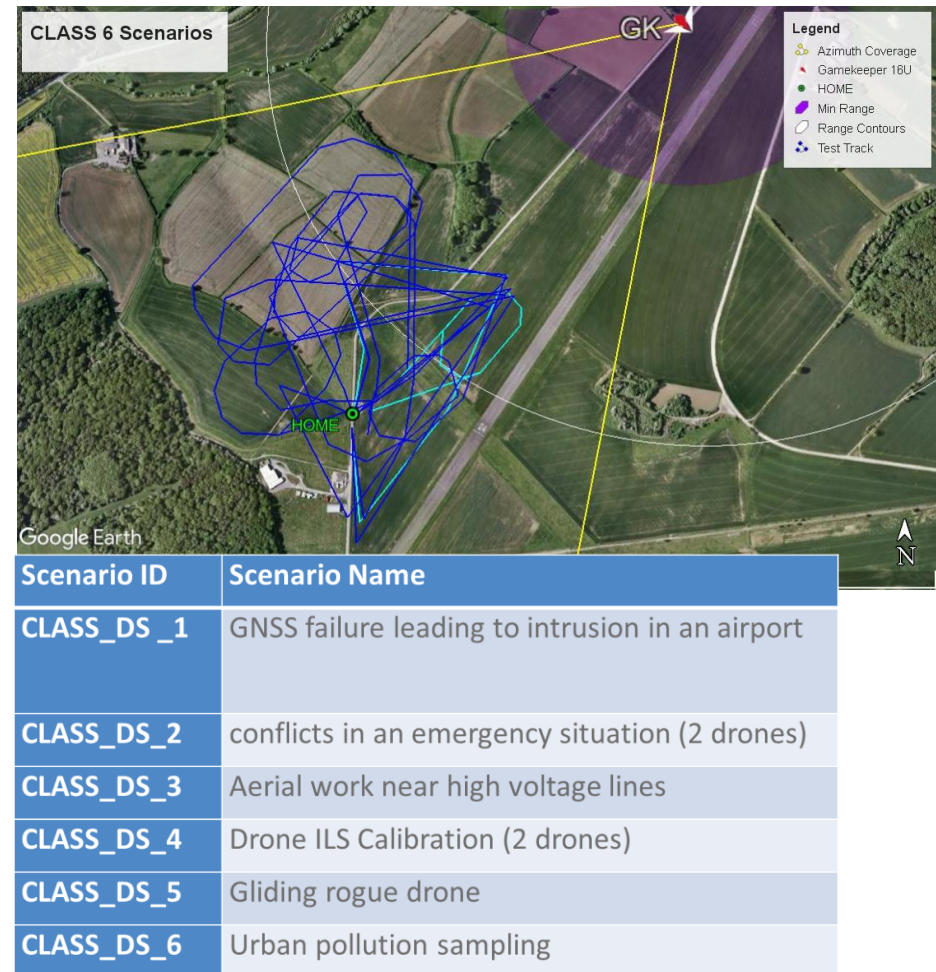


CLASS in the frame of U-space

Defining U-space Service: Tracking

Three workshops

1. Toulouse Oct 2017
-> to collect needs
Proposed 6 scenarios
2. Birmingham July 2018
-> to define KPI
3. Brussels February 2018
-> to Communicate Results



CLASS Drone Live Experiments

Real-time operation -> to collect data

Trial Site

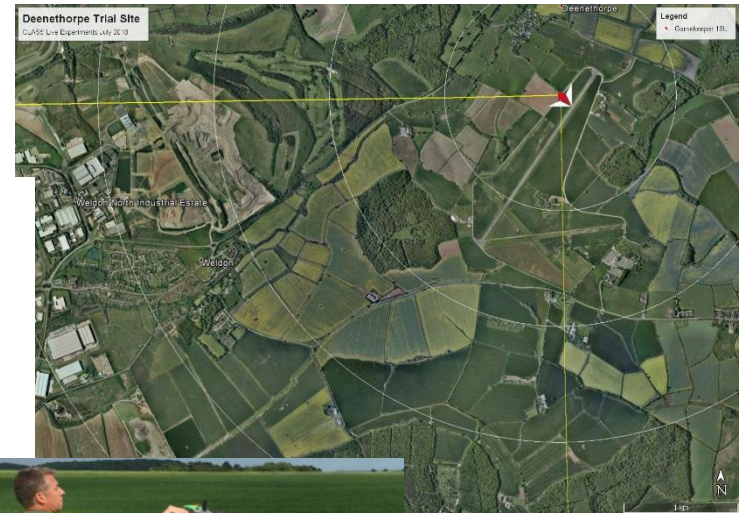
- Ex-RAF Airfield, Deenethrope

Trial Dates

- October 15th – 18th 2018

Trial Equipment

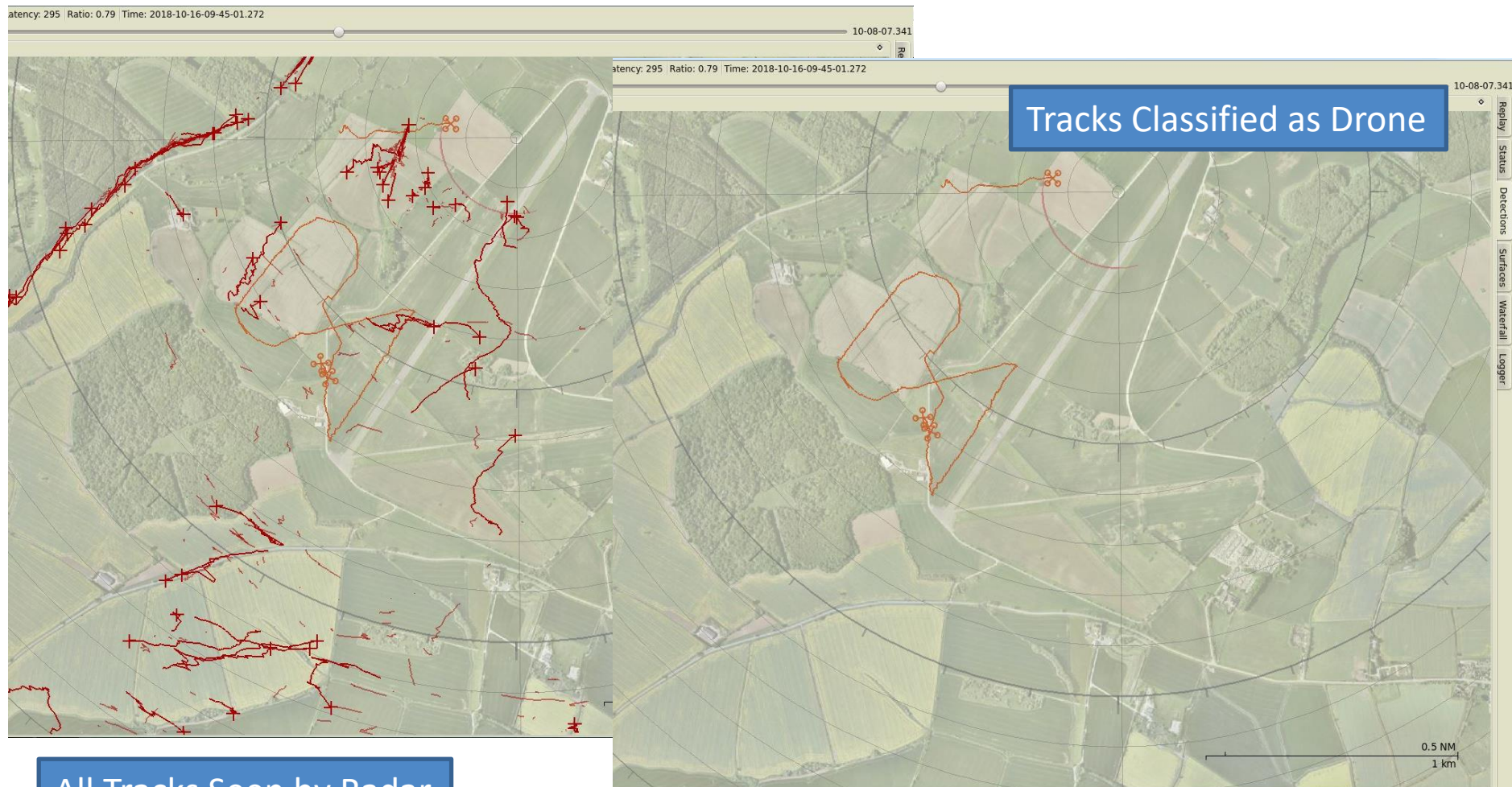
- Aveillant: Gamekeeper 16U
- ENAC fixed wing and DJI drones
- Airbus: Drone-it!
- Unifly: UTM



Mon 15th Oct	Tue 16 th Oct	Wed 17 th Oct	Thu 18 th Oct
Set-up	Live Day 1	Live Day 2	Visitor Day

CLASS Live Drone Tracks with Aveillant Radar

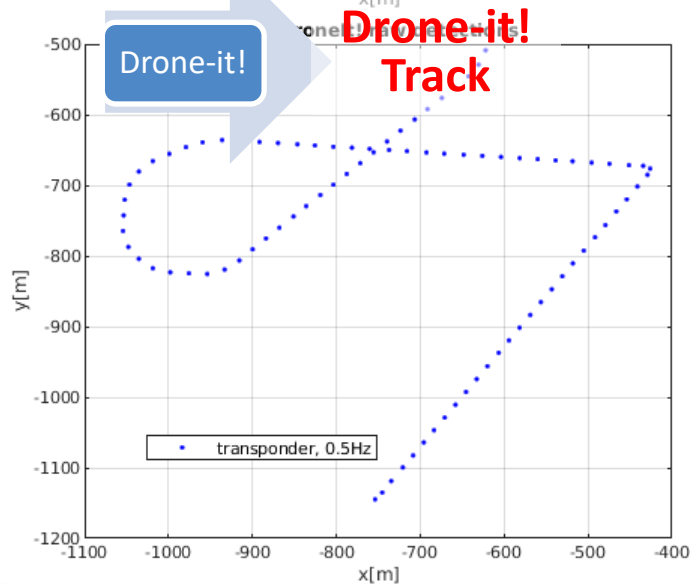
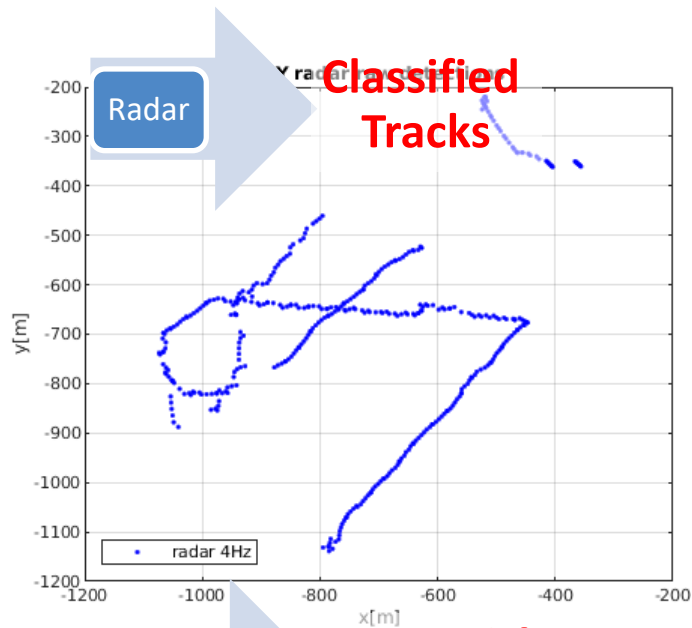
Scenario CLASS_DS_6 – Urban Pollution Sampling



All Tracks Seen by Radar

Tracks Classified as Drone

Track Fusion



Pre-processor

Normalised data

Association

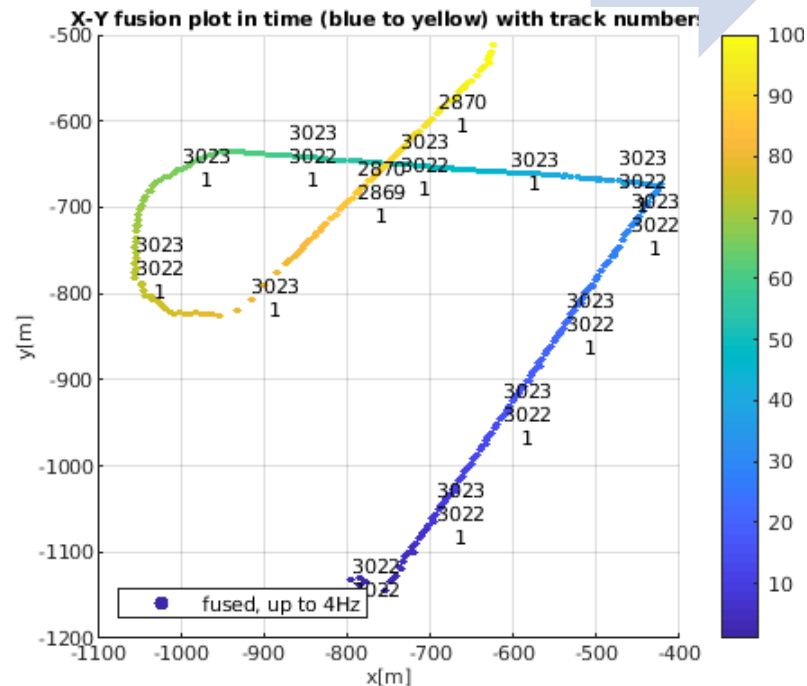
Associated Detections

Analysis

Non-associated Detections

Fusion

Fused Tracks



Conclusion

We collected data

- To benchmark the Aveillant Holographic Radar
- To validate the Drone-it! technology and identify next steps to improve it
- To tune Data fusion algorithms.

Final results will be delivered by March 2019

- Supporting the definition of U-space services:
 - Tracking
 - Tactical Deconfliction, including zone infringement detection
- Providing useful landmarks to pave the way to a full U-space solution

Tussen Takk!



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