



Video-based surface movements detection and tracking



Assessment of **low-cost alternative surface surveillance solutions** improving situational awareness, safety, efficiency and predictability of operations in **secondary airports**.

Concept feasibility demonstration:

- Detection, classification, identification and tracking of **cooperative targets**
- Detection, classification, manual identification and tracking of **non-cooperative targets**
- Operations in **moderate rain** and **night-time**
- Feed **Airport Tower** head-down display with unified tracking data, and augmented video
- Automatically detect **A-CDM** milestone events: TMO, AOBT/AIBT, etc.

4K wide-angle camera

Deep Learning
Detection
Classification

Carcassonne Airport - LFMK

Results

Detection range

- LIDAR: up to 100m 360°
- Video: up to 500m 109°
- ADS-B: Cooperative only

Distance (m)	Commercial		General Aviation	
	R < d < 100	100 < d < 200	R < d < 100	100 < d < 200
Cooperative (TMO, AIBT)	99%	99%	99%	99%
Non-Cooperative (TMO, AIBT)	99%	99%	99%	99%



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