UTM COMMUNICATIONS SMART DRONES WILL SELF-MANAGE

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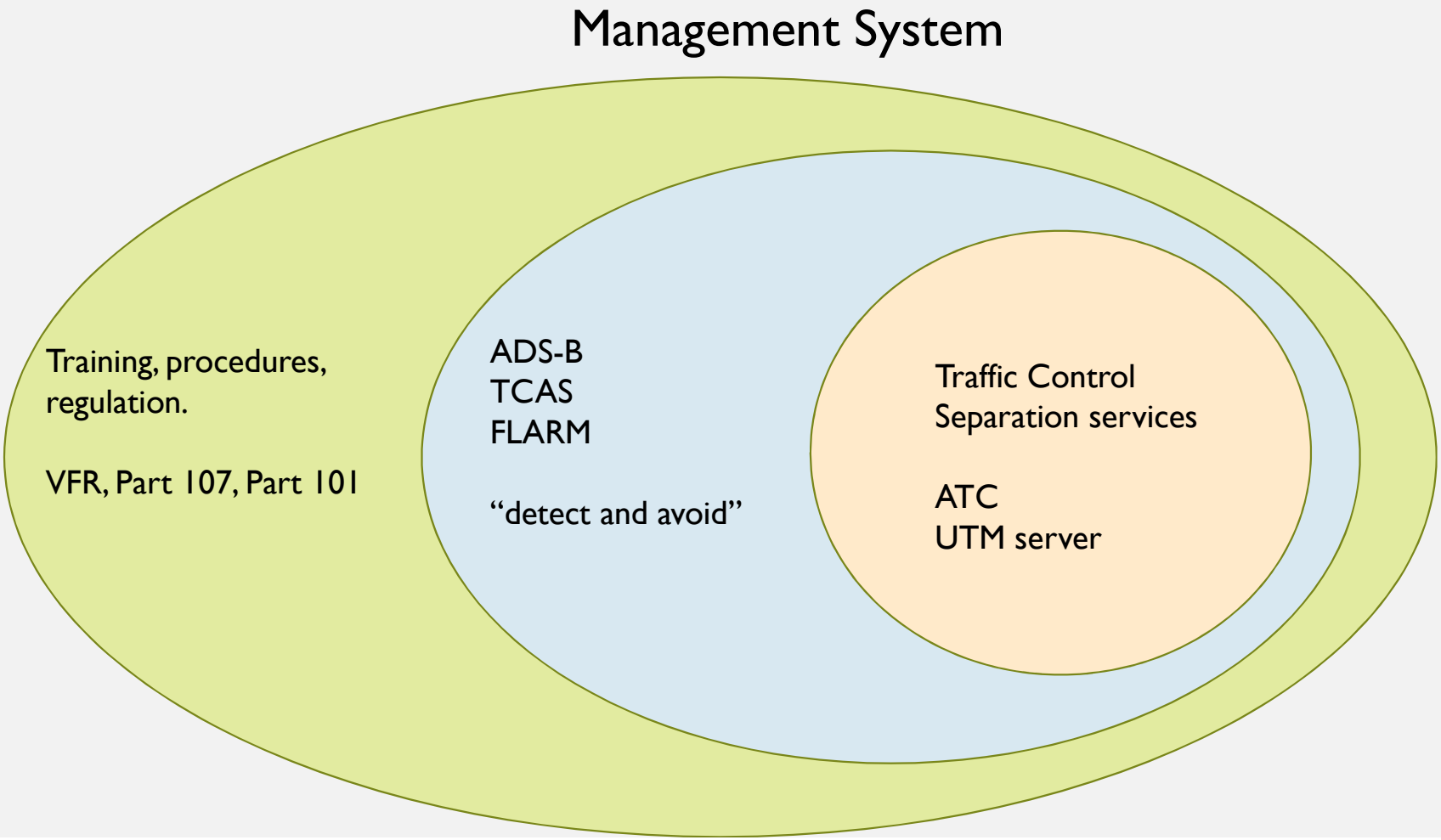
UTM IS NOT UTC



MANNED VS. SMALL UNMANNED

Manned	Small Unmanned
People on board	No one on board
Generally faster	Generally slower
More limited flight envelope	Very maneuverable
Larger	Smaller

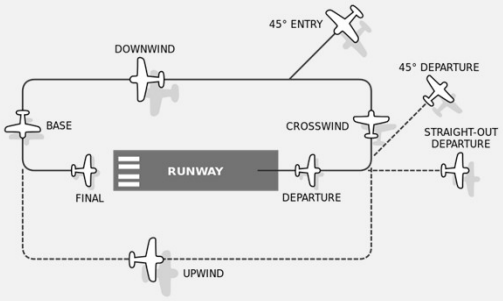
Well Clear

Kilometers, minutes

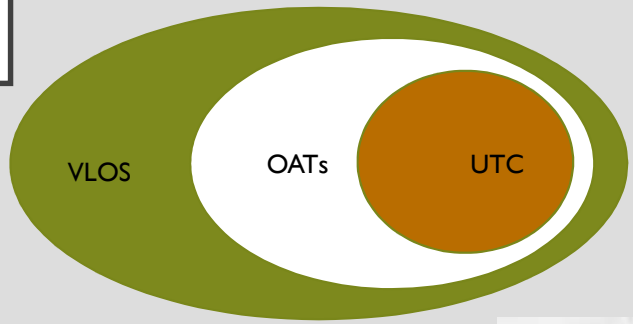
Meters, seconds

NEED FOR CONTROL

- Current airspace model controls around airports – concentration of traffic
- Many sUAS applications are:
  - Distributed – land anywhere – no concentration of traffic
  - Near infrastructure (no manned traffic)
  - Rural (low density other aircraft and bothers)

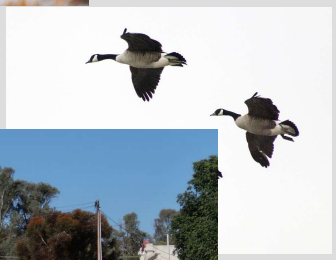


ONBOARD ANTI-COLLISION TECHNOLOGIES



Smart drones will handle the "middle" by themselves

Risks:
Manned traffic
Other sUAS traffic
Terrain
Birds, buildings and other bothers



OATs:
ADS-B in
V2V technologies (ID, FLARM, DSRC, LTE C2X)
Terrain maps, vision, Lidar, Radar

These OATs are needed for the UTC use case anyway!

OATS ENABLE VALUABLE APPLICATIONS

VLOS
Automation
OATS → Automated infrastructure inspection

EVLOS
Automation
OATS → Automated agricultural survey

BVLOS
Automation
OATS → Automated line inspection

CONCLUSION

- UTM is much more than just traffic *control*
- Not everything *needs* to be networked
- Don't forget the need for OATs