

The future  
of unmanned traffic  
management,  
**applied today.**

## Copernicus, drones and UTM, a synergy

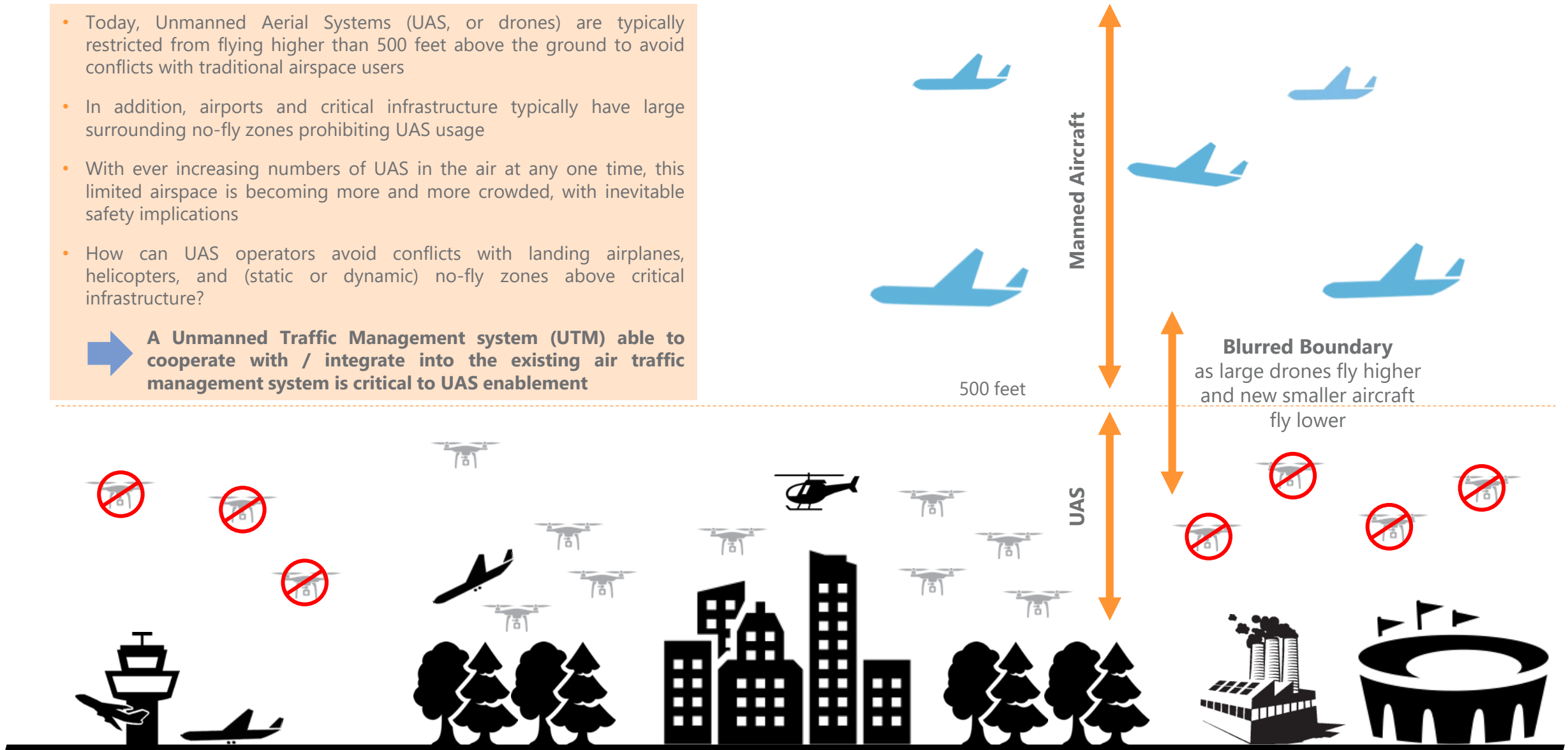
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# Drones in Today's Air Traffic Management Environment - Challenge

- Today, Unmanned Aerial Systems (UAS, or drones) are typically restricted from flying higher than 500 feet above the ground to avoid conflicts with traditional airspace users
- In addition, airports and critical infrastructure typically have large surrounding no-fly zones prohibiting UAS usage
- With ever increasing numbers of UAS in the air at any one time, this limited airspace is becoming more and more crowded, with inevitable safety implications
- How can UAS operators avoid conflicts with landing airplanes, helicopters, and (static or dynamic) no-fly zones above critical infrastructure?

➡ **A Unmanned Traffic Management system (UTM) able to cooperate with / integrate into the existing air traffic management system is critical to UAS enablement**



# What is an UTM?

The U(nmanned) T(raffic) contribute to ensure t  
stakeholders and tech  
to maintain safe separ  
and to provide an effic

The UTM System is a c  
running the software,  
themselves, all contrik  
or restricted standard

The UTM concept cov  
categories, ranging fr  
beyond.

**An UTM syste**

**These data is a mandatory input for validation against the legislation, navigation and flight planning**



eral stakeholders

M is defined as a system of  
ing to certain regulations,  
TM users, at very low level,

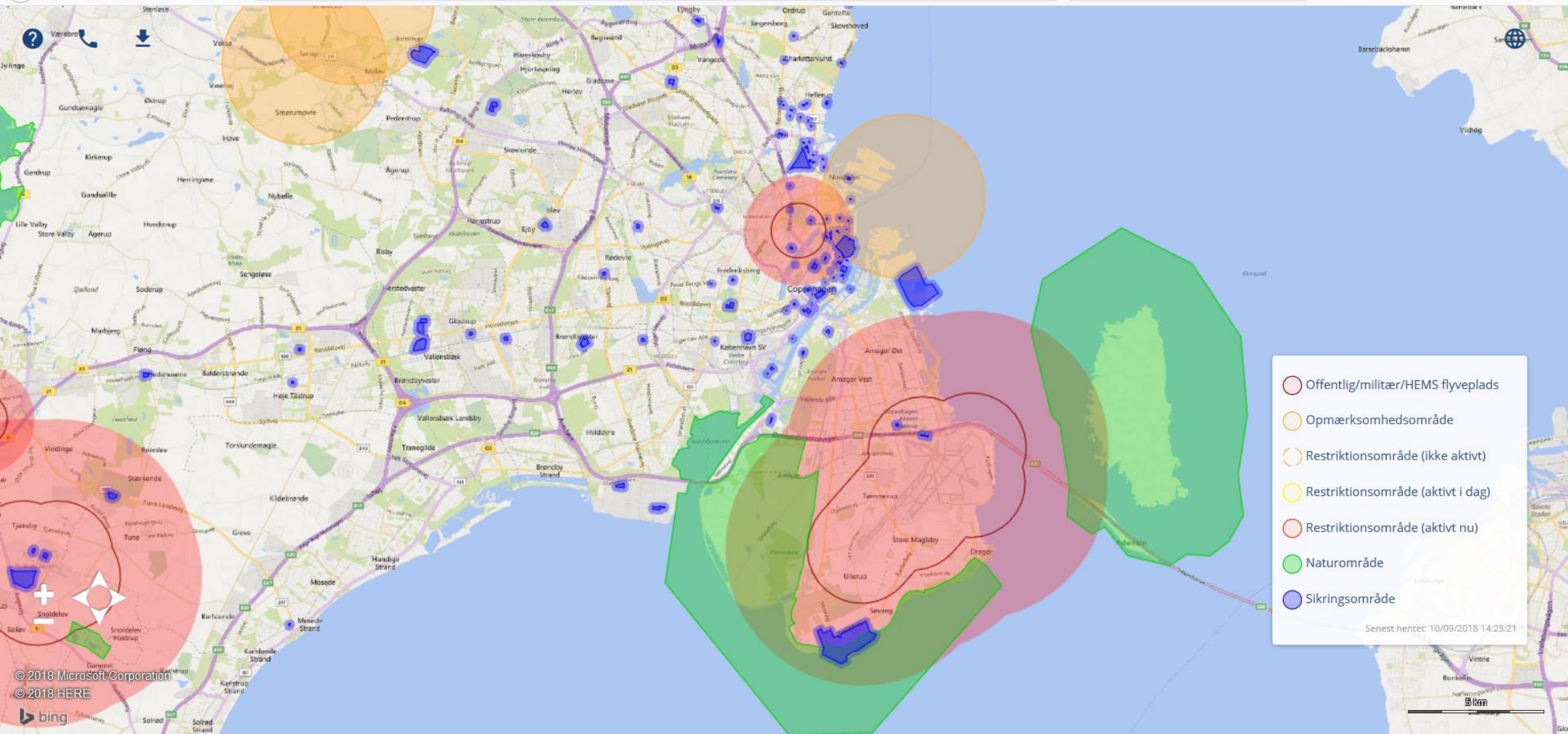
necessary infrastructure for  
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ct services through public

beyond..), in all  
mous operations and

**icles, 3 D information, land-use...**

Setting the scene...





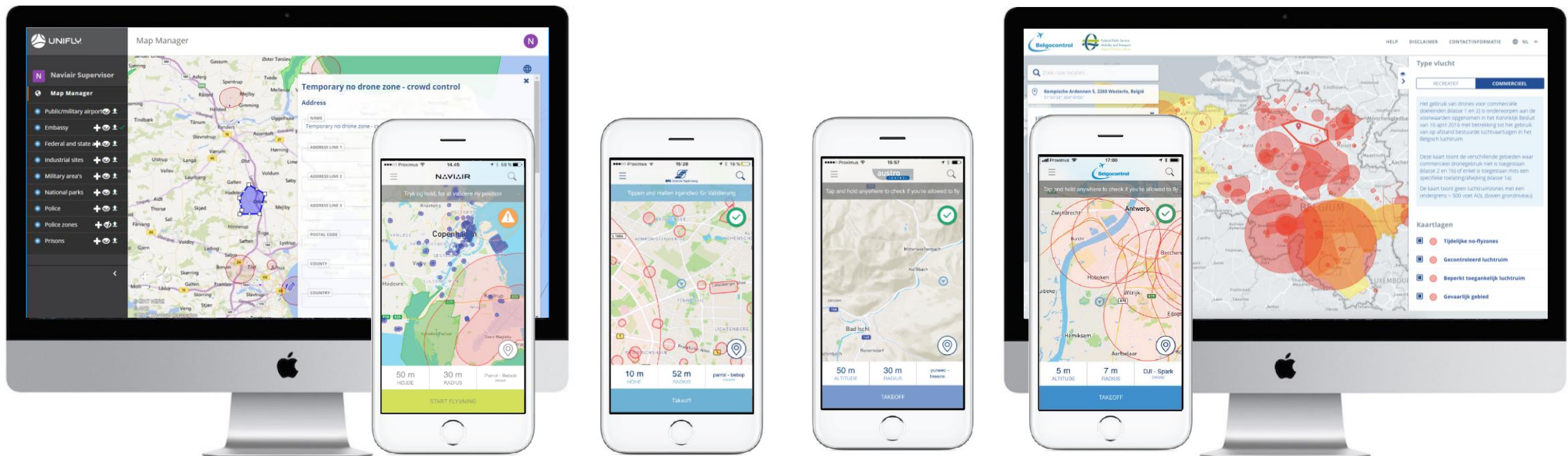
DISCLAIMER - VIGTIGT AT VIDE, FØR DU FLYVER MED DRONE

# Multiple National deployments

35 000 + registered Users / 200 + flights per day ( winter ! )



NAVIAIR



TaaS model. License fee grows as user population & traffic grows





Drone operations could largely contribute to Copernicus objectives and EO in general; though this operations are/will be typical BVLOS operations

UTM is a key enabler for the drone market and especially BVLOS operations to emerge  
UTM is mandatory to make these BVLOS operations possible in an operational manner

An UTM needs geo-graphical data (land-use, 3 D information,...) to be able validate drone flights against local legislation and allow safe flight planning. These data to a large extent is provided through the use of remote sensing data (satellite, airborne, drone,..)

With an established UTM, a wider use (BVLOS) drone operations for mapping, inspections, will be possible. Data gathered by drones could feed into the UTM to make to data up to date and more accurate

The 'future' needs UTM (and DATA), or... the 'future' will not be..





Thank you  
for your  
attention

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