

U-Space and future regulatory framework

Rémi Vesvre
Project manager & business developer

Rules of the air

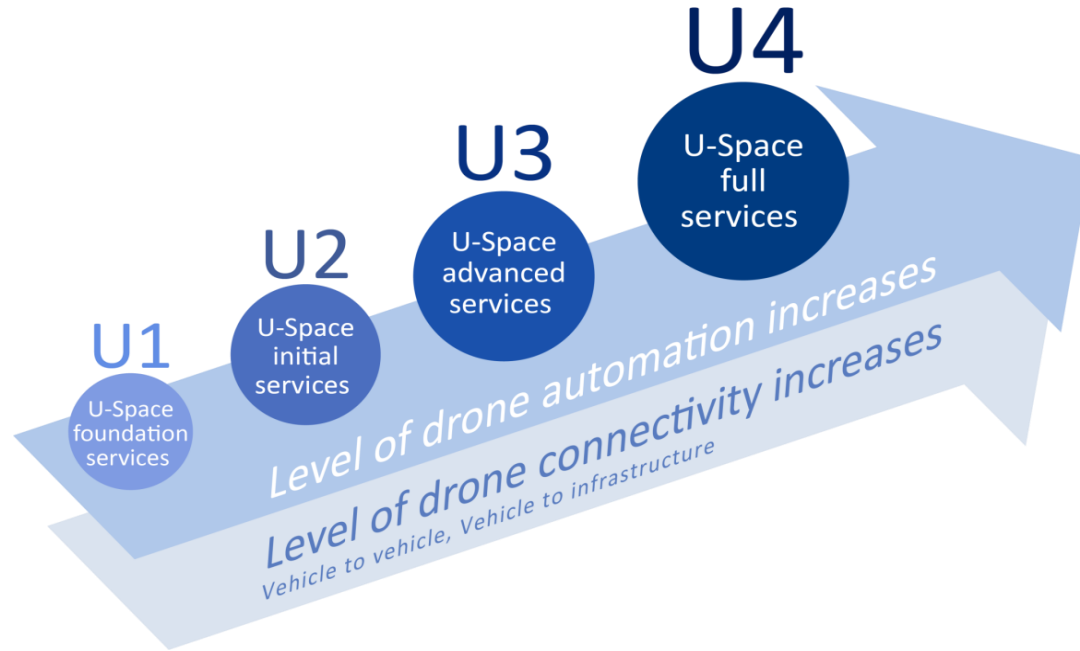
VFR or IFR

- **Visual flight rules**, "see and avoid" VFR when good visibility/weather (VMC) to allow separation from other A/C
- **Instrument flight rules**, IFR when IMC

What apply to drone?

- Drone pilots fly neither under VFR or IFR rules
- Need for a set of Electronic Flight Rules (EFR)
- Drone pilots can only maintain separation from other A/C within their visual line of sight
- Technology and standards are not yet mature to replace "see & avoid"

U-Space



U-space

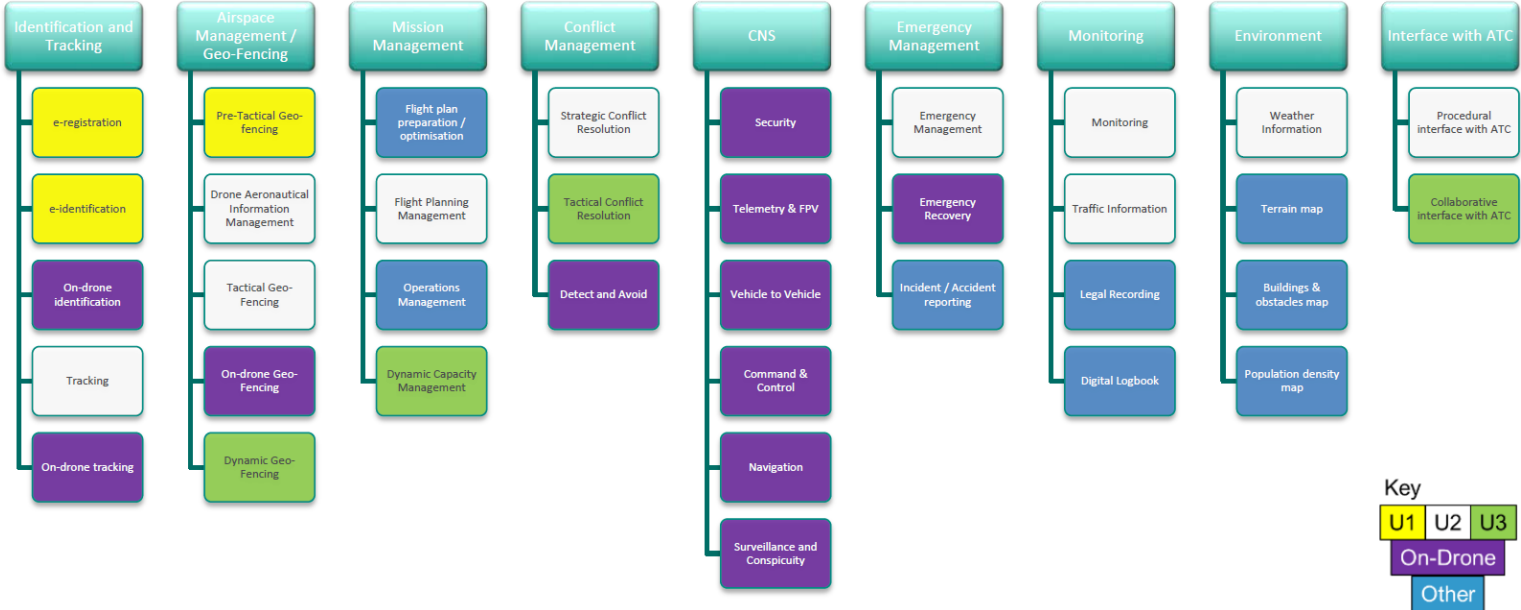
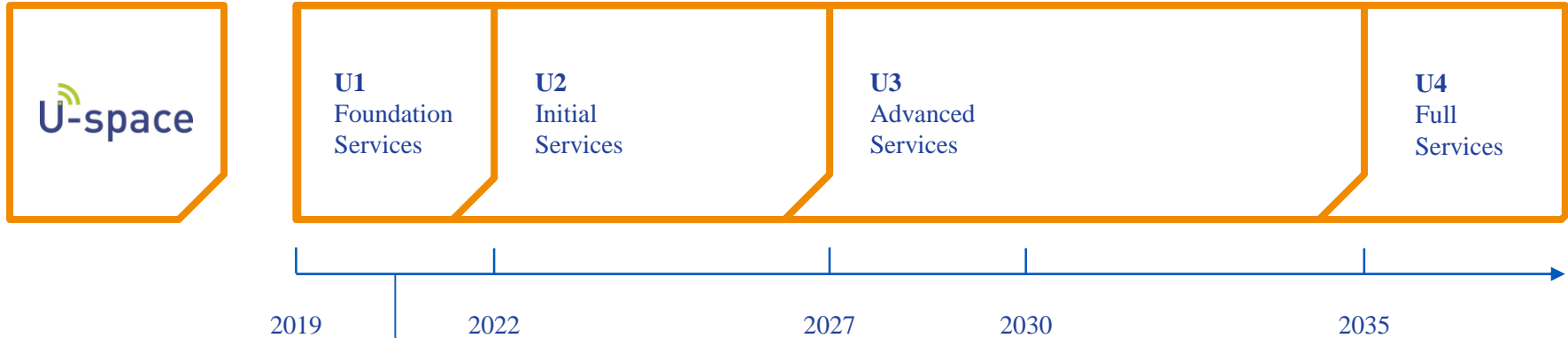


Figure 1 Abilities of, needed by and currently missing from U-space

Deployment of U-space



e-registration
e-identification
Pre-tactical geo-fencing

EASA draft opinion U-space

- EASA draft opinion = 2800 comments from MS and stakeholders
- Revised draft Q1 2020

What are the challenges?

#1- To integrate two different air traffic management systems - ATM & U-Space”

ATM & U-Space

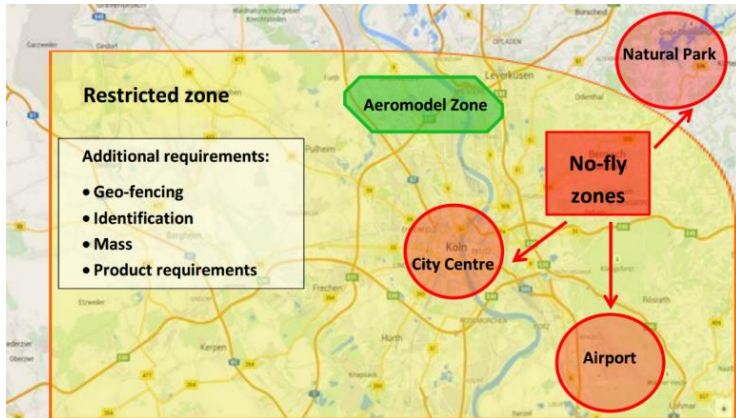
What are the challenges?

#2 – Who will pay for the development of U-space?

- The tax payers
- The drone operators
- All airspace users
- Some subset of the taxpayers
- Some combination of the above

What are the challenges?

#3 : new types of airspace need to be created



- **Green**: go & fly drone zone
- **Amber**: regulated drone zone
- **Red**: restricted or no-drone zone

What are the challenges?

#4 many stakeholders

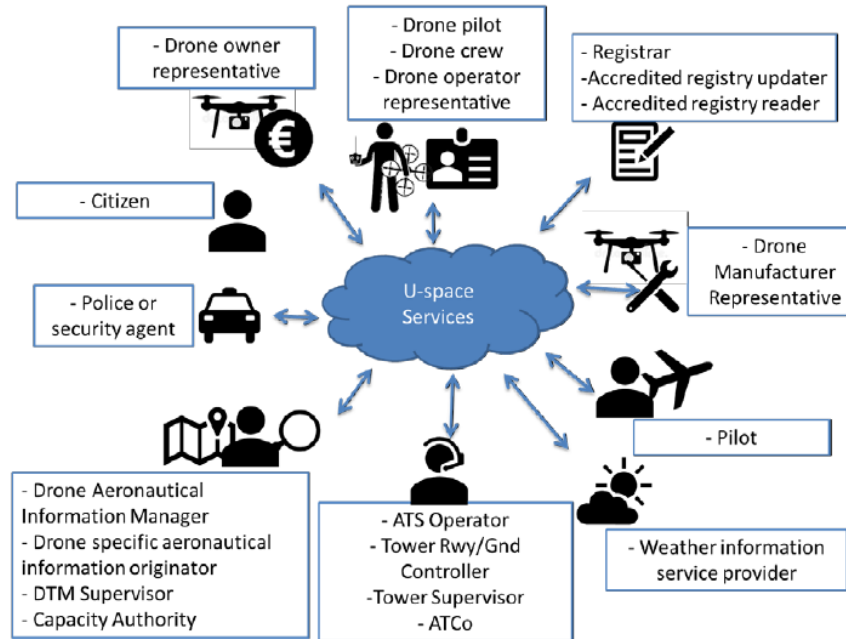


Figure 3 Stakeholder roles using U-space services