



**welke rol en
consequenties voor
politie als state operator
& als handhaver?**

About SkeyDrone

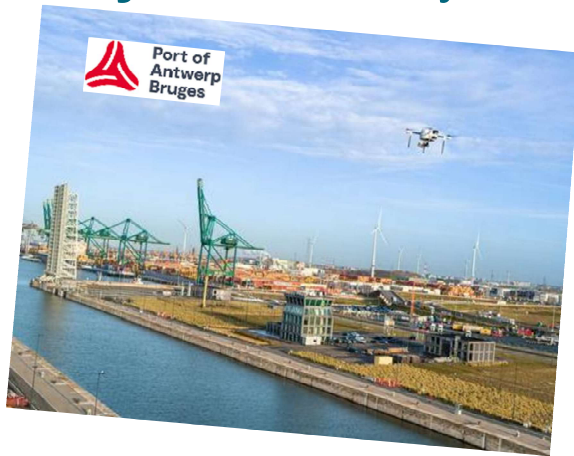
- Founded in 2020
- Joint venture between skeyes & Brussels Airport Company (since 2022)
- Drone solutions and services provider
- Leading role in U-space implementation and major European drone projects



A market in full evolution

Mature use cases

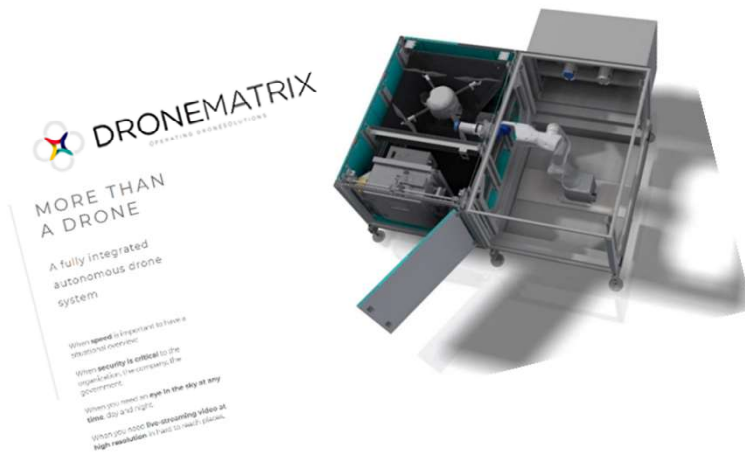
- **Infrabel**, DIAB for railway inspection
- **PoAB**, D-Hive (automated DIAB Network)
- **CityMesh** Safety Drone (70 DiaB)



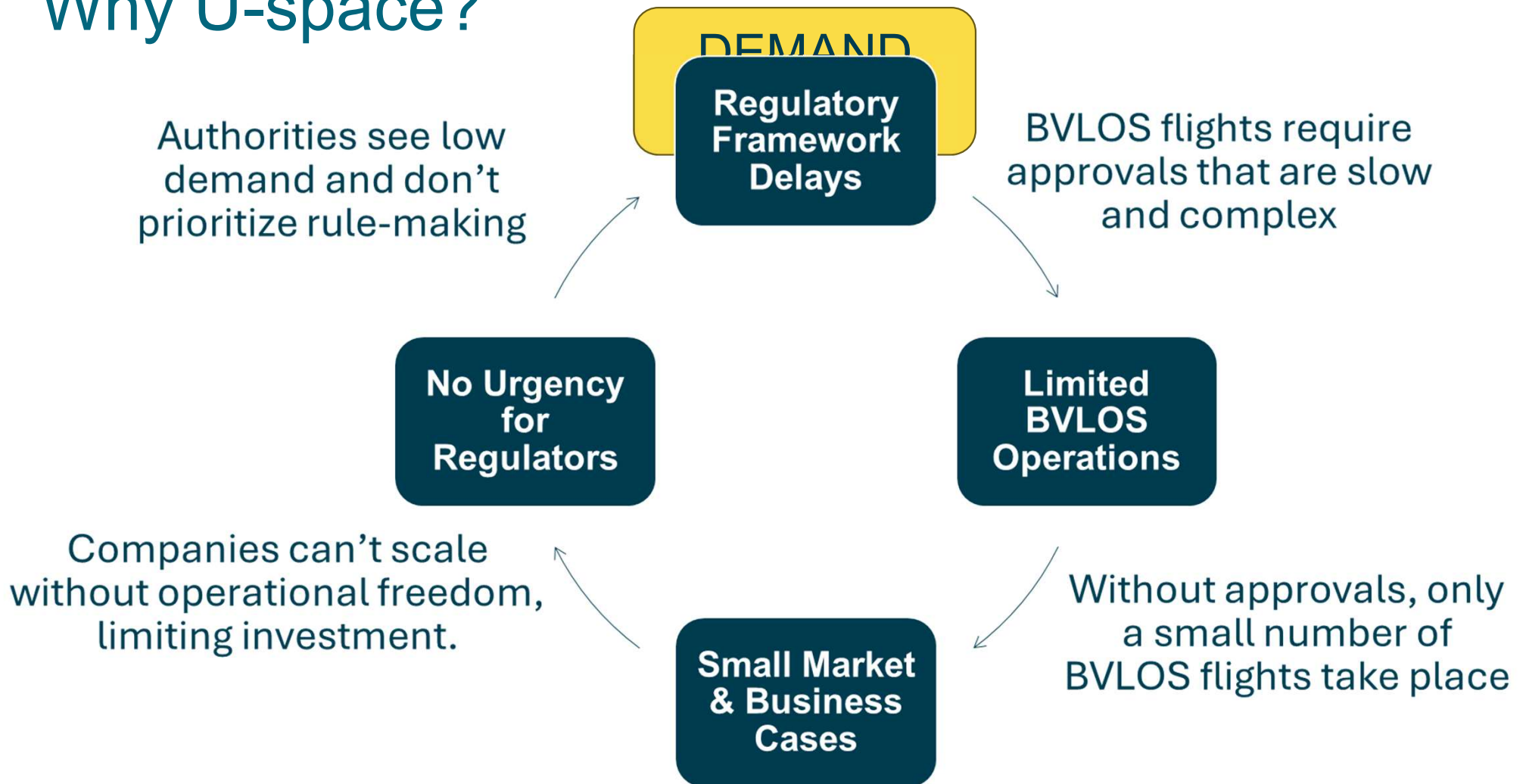
Technology in full evolution

Scalable BVLOS 'Drone in a box' systems, allowing automated, remote piloted flights, are gaining pace

Allowing cost-efficient 24/7 drone service availability



Why U-space?



Why U-space?





 U-space

U-space

Pilot

VLOS

Remote pilot

C&C center

BVLOS
Automated

U-space



How to get eyes in the skies?



How to get eyes in the skies?

Before the flight

‘STRATEGIC’

Where are you
planning to be?

The flight plan

&

**FLIGHT PLAN
DECONFLICTING**

During the flight

‘TACTICAL’

Where are you flying
now?

*The real-time
location data*

&

**COLLISION
AVOIDANCE**

Where
are you?

The solution by design: services

Deconflicting in space and time
all drone flight-plans

through the
**UAS FLIGHT AUTHORISATION
SERVICE**

Knowing all geozone restrictions
through the
**GEO-AWARENESS
SERVICE**

Where
are you?

**ONLY THE ONES THAT
COOPERATE!**

Getting to know in real-time
where all drones are flying
through the
**NETWORK IDENTIFICATION
SERVICE**

Displaying in real-time
where all aircraft – crewed and
uncrewed – are flying
through the
**TRAFFIC INFORMATION
SERVICE**



- U-space is a regulatory concept with a goal to safely integrate drones with crewed aviation.
- It consists of a special Geo-zone (**U-space airspace**),
- Where a set of risk mitigating services are obligatory (**U-space services**), offered by certified **U-space service providers (USSPs)** in an open competitive market.
- Skeyes has been appointed as Single **Common Information Service Provider** acting as data broker for data exchange with & between USSPs
- It is SkeyDrone's ambition is to become a certified USSP.



The U-space services: **geo-awareness**

The customer



Geozone
information

GAS



sCISP

The U-space services: **flight authorisation**

The customer



Flight plan
authorisations

FAS



Other
USSPs

The U-space services: **flight authorisation**

SPECIAL OPERATIONS

“When an authorisation request for a UAS flight which conducts special operations conflicts with a previously authorised normal UAS flight, the USSP should update or withdraw the authorisation of the normal flight, as may be necessary by the circumstances, in order to authorise the flight which conducts special operations.”

The customer



The U-space services: **flight authorisation**

The customer



Flight plan
authorisations

FAS



Other
USSPs

AND NOBODY ELSE!

The U-space services: network identification

The customer



Own identification
& location data

NIS



RoW

Other
USSPs

The U-space services: traffic info

The customer



sCISP
Controlled
airspace

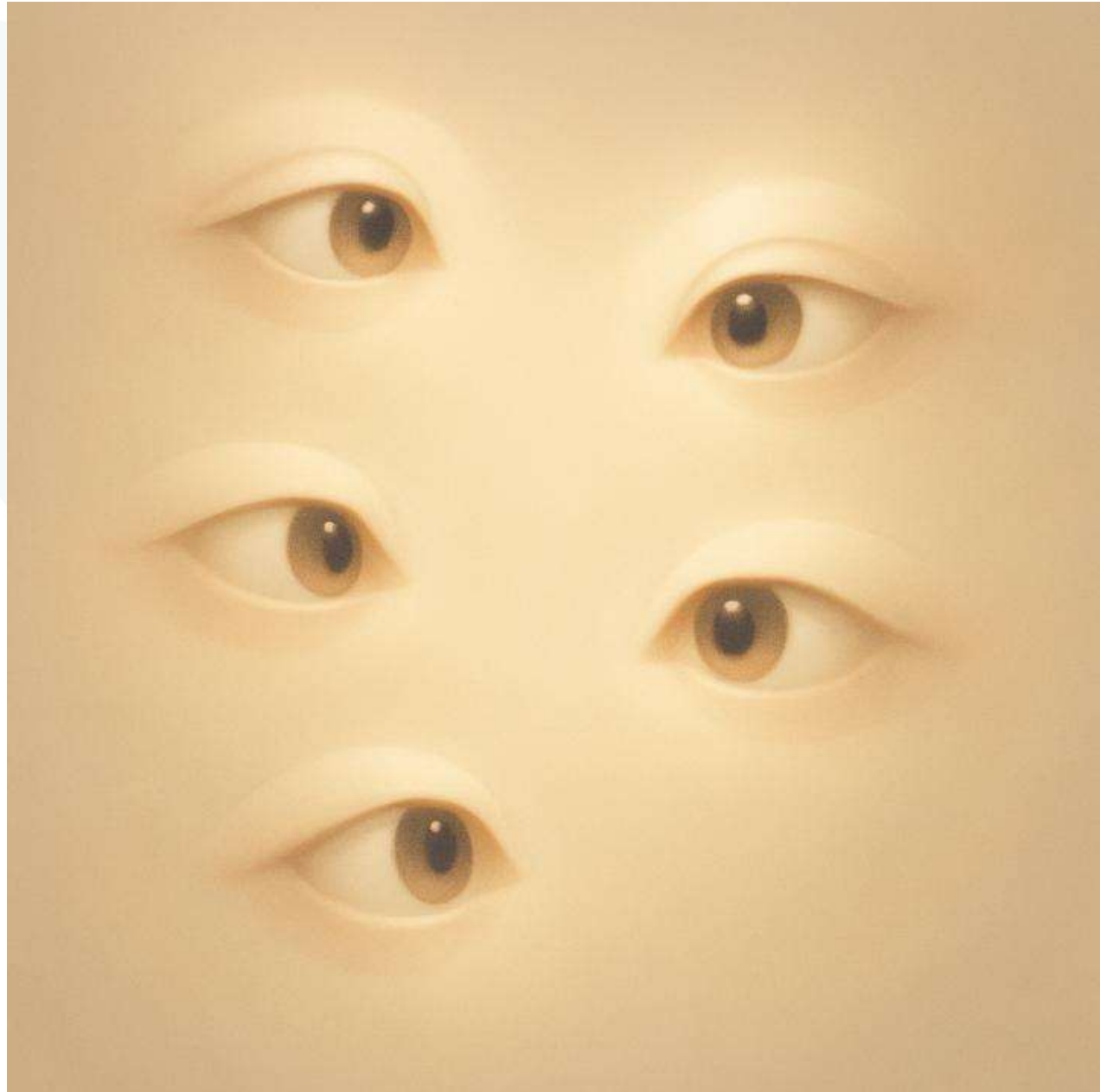
Own infra



Other
USSPs



Cooperative
environment where
all drone flight plans
are deconflicted
and
everybody can see
everybody's position in
real-time
(crewed AND
uncrewed)



Key consideration

BURDI

- Actual first Belgian U-space implementation on 3 official pillars:

1. U-space airspace readiness



2. CISP readiness



3. USSP readiness



PUBLICATION

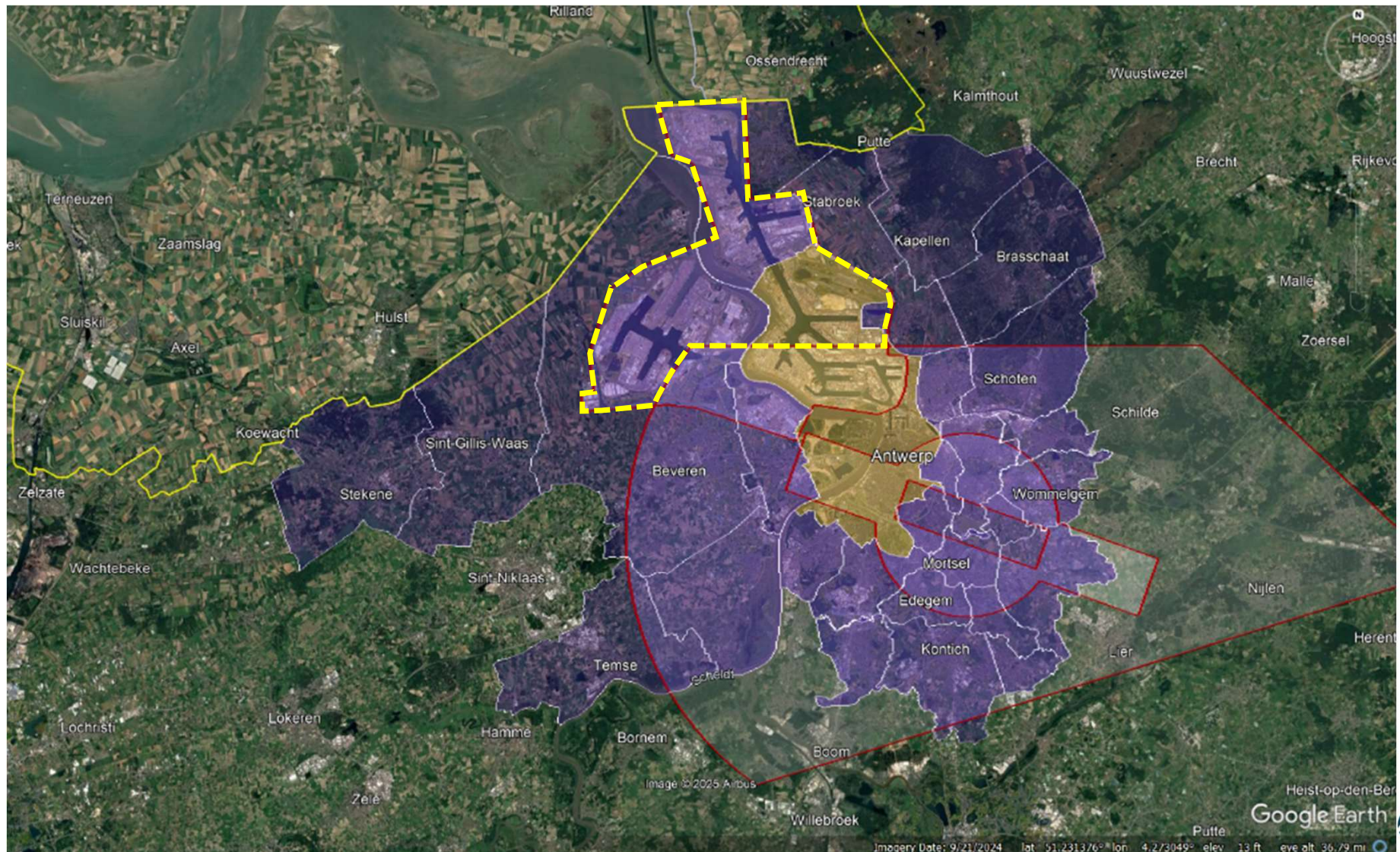
CERTIF

CERTIF

ALL NEEDS TO
BE ALIGNED

BURDI deliverables
supported by sesar*ju

Antwerp: U-space airspace





U-space

Police dual role



Law enforcement

State drone operator



Police dual role



Law enforcement

State drone operator



SkeyDrone USSP Platform implementation

Flight plan characteristics

- PRIORITY attribute

Standard



Priority

- PRIVACY attribute

Standard



Private

SkeyDrone USSP Platform implementation

Flight plan characteristics

- PRIORITY attribute

Non-urgent
non-covert

1

Standard



Priority

- PRIVACY attribute

Standard

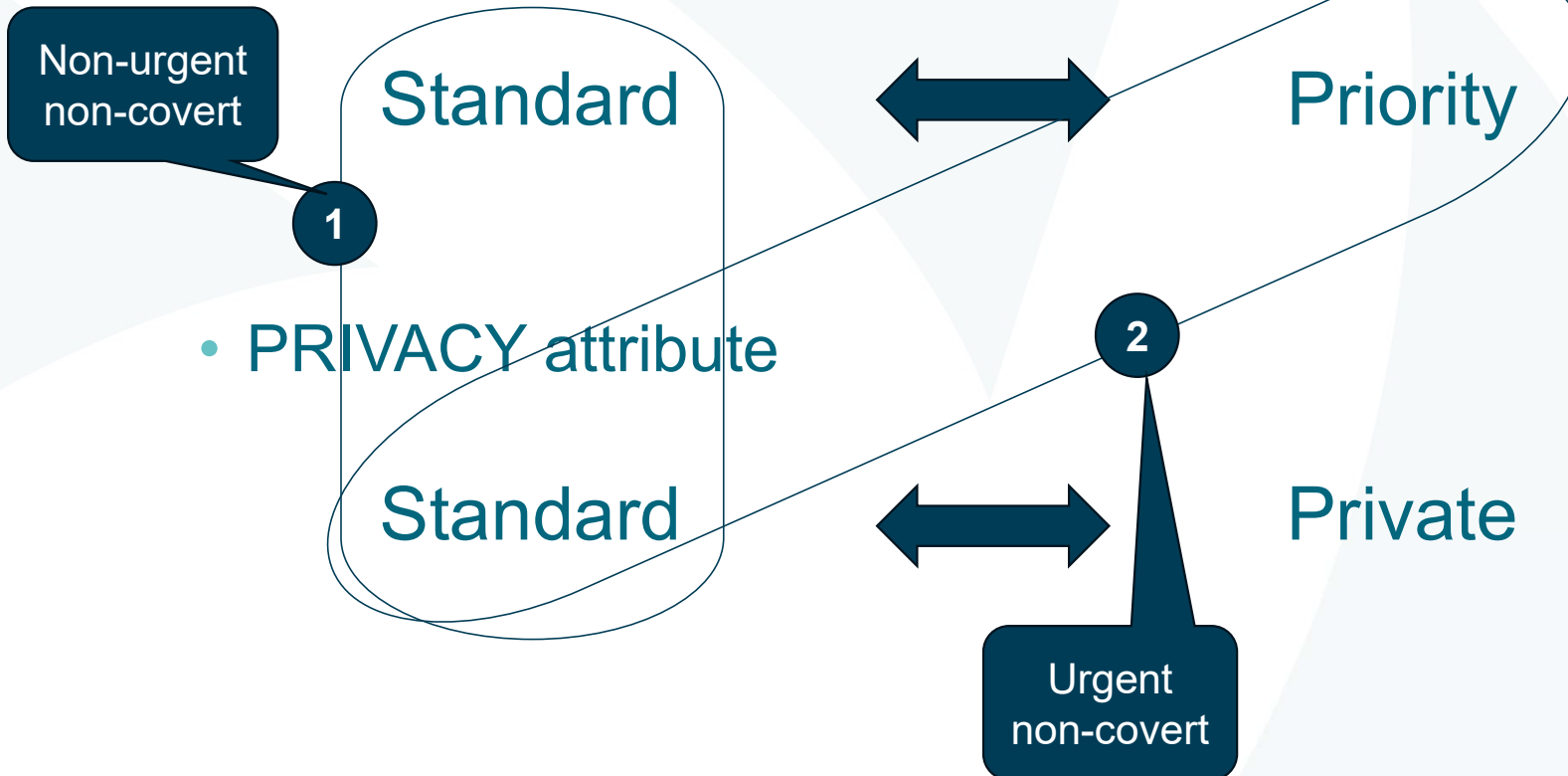


Private

SkeyDrone USSP Platform implementation

Flight plan characteristics

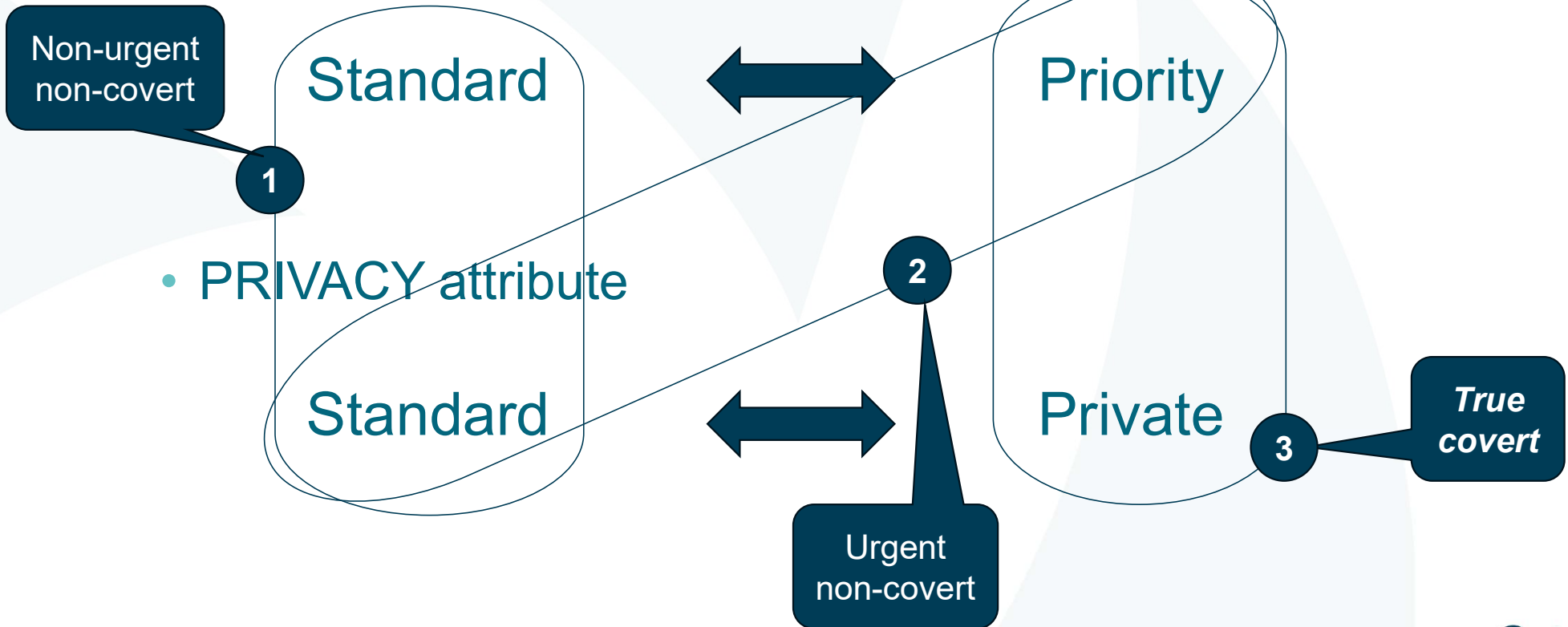
- PRIORITY attribute



SkeyDrone USSP Platform implementation

Flight plan characteristics

- PRIORITY attribute



Why a simple opt-in is such a problem:

- State aircraft drone often have a problem with:
 - Applying for a flight authorisation due to timing constraints
 - Sharing real-time position data (through U-space Network Identification Service)
- PROPOSAL: classify state aircraft drone operations in three:
 1. ***Non-urgent non-covert operations*** (with pretty much the same characteristics of civil drone flights, e.g. crowd control surveillance flights), be it with possibly an acceptance of higher risk profile => **full opt-in benefiting from embedded priority for UAS flight authorisation service and all other U-space service (incl. Traffic Info Service)**
 2. ***Urgent non-covert operations*** (e.g. search & rescue operations), be it with possibly an acceptance of higher risk profile => **still opt-in but with ‘short-cut’ exemptions on the flight authorisation operational conditions and airspace constraints**
 3. ***True covert operations*** (urgent or not) => **only opt-in on the use of the U-space Traffic Information Service as situational awareness risk mitigation measure (i.e. you’re not letting anybody know where you are, but you do know where everybody else is)**

CORUS XUAM recommendations

- Concept: where calamities occur (i.e. in Belgium: ad hoc geozones with increased air-risk due to higher traffic densities): create a **temporary U-space airspace**
 - For the sake of the obligation of the use of the U-space services to allow all to “**see and be seen**”

HOWEVER

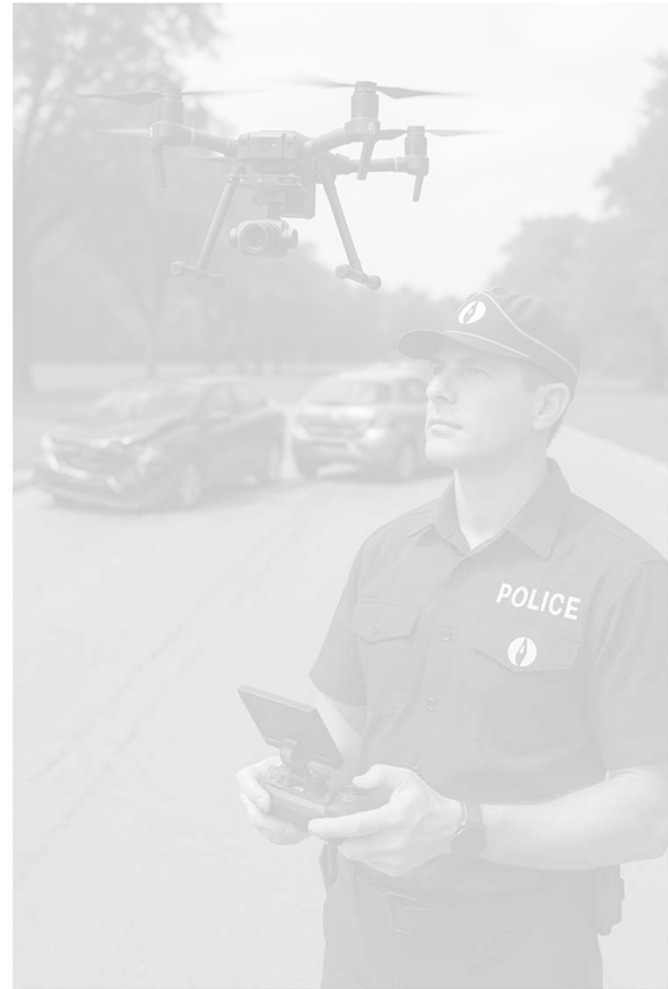
- Need for an **overarching geozone manager** that controls the access to the airspace (who's allowed in who's not)
 - No absolute need to have multiple USSPs active
 - Need for temporary opt-in for state aircraft flights
 - No time (nor need for full blown ARA with concluding performance requirements)
 - Covert operations still possible based on full opt-out and own responsibility to deconflict
- } **'special' state USSP needed?**

Police dual role



Law enforcement

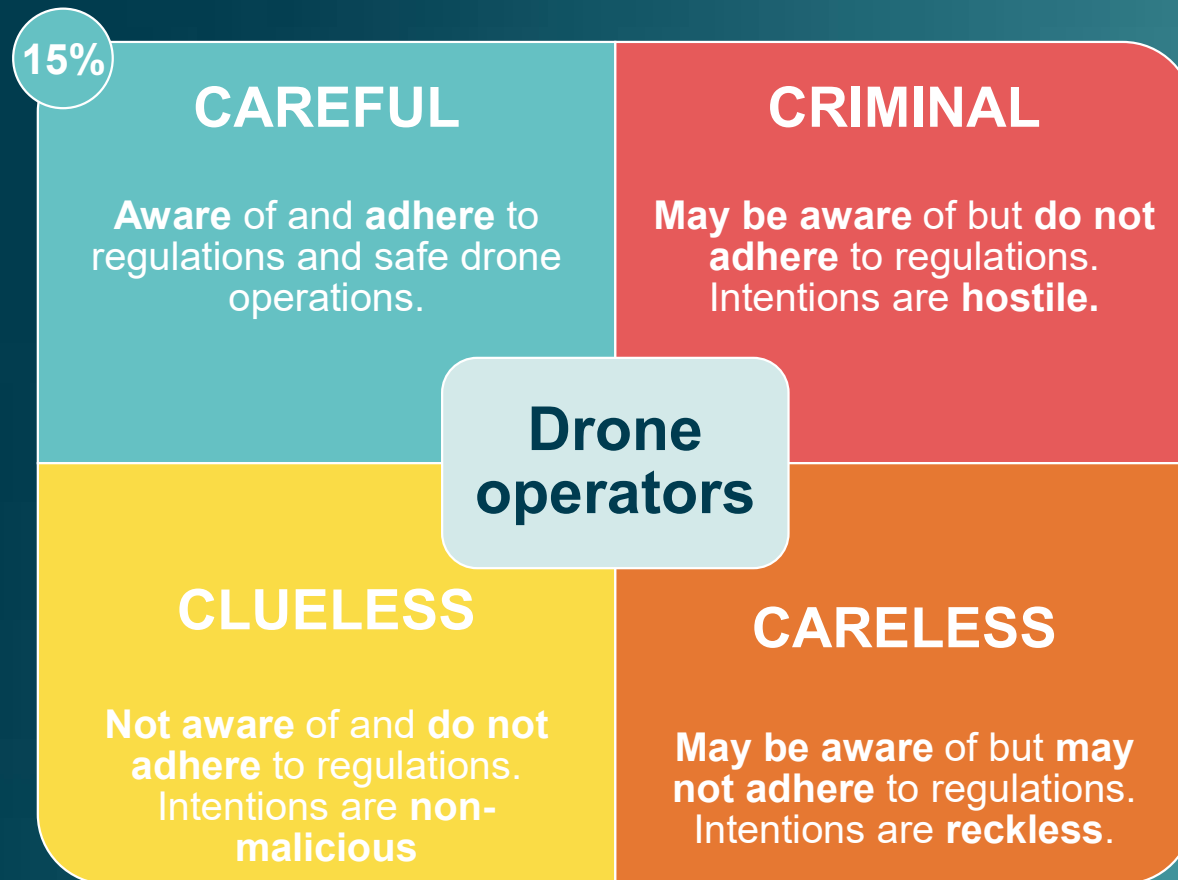
State drone operator



FRIEND OR FOE?



Not all non-compliance is equal: assessing operator risk



What to do next



STEP 1

Real-time monitoring:

Immediate alerts and live drone & other aircrafts tracking.

1



STEP 2

UTM correlation:

Seamless integration with flight authorization systems to distinguish authorized from unauthorized flights.

2



STEP 3

Historical data access:

Comprehensive detection records for post-incident review and compliance reporting.

3

Detection lifecycle

What to do next



STEP 1

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STEP 3

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Detection lifecycle

Need for an aligned civ-mil drone action plan

