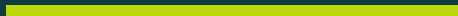
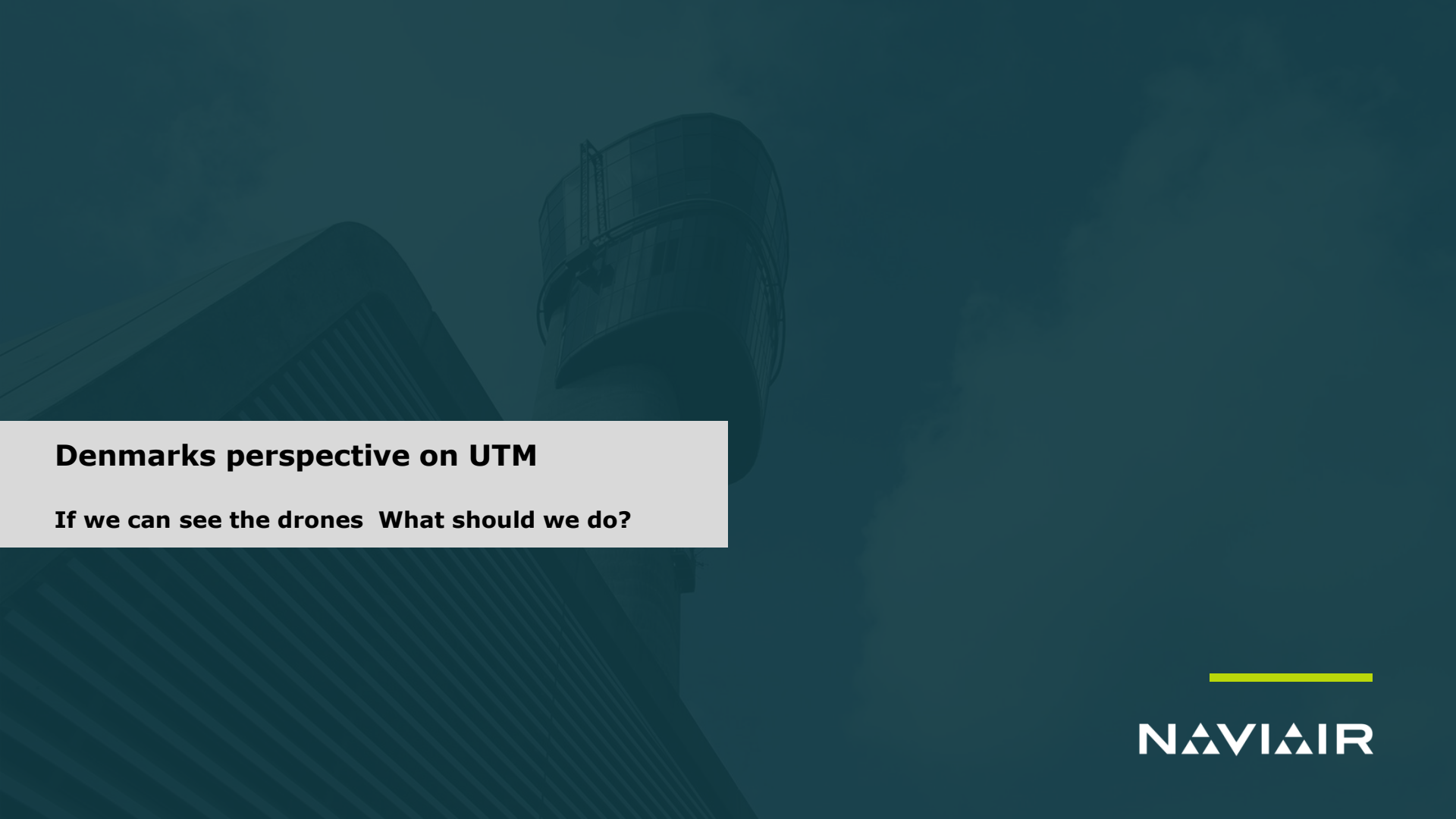


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Denmarks perspective on UTM

If we can see the drones What should we do?

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Mark Borggild

Senior Business Lead UTM & Comm. Act.

NOTAM Briefing officer	2009-2021
Flightinformation officer	2012-2021
Chief Instructor	2017-2021
Head of Operations COIF/FPC	2021-2026
Senior Business Lead UTM & Comm. Act.	2026-?

Naviair – Danish ANSP

- **Core role:**
 - **Air traffic management, flight information services, aeronautical information and operational aviation infrastructure.**
- **Drone domain:**
 - **Operational expertise, applicable aviation services and participates in Denmark's digital drone infrastructure.**
- **Boundary:**
 - **NAVIAIR is an ANSP, not the Civil Aviation Authority. We don't make the rules. We work within them.**

What is Naviairs role in droneoperations today?

- **We contribute**
 - **Aviation information, applicable ATM and FIS services, airspace expertise and assigned coordination.**
- **We help defining**
 - **Segregation areas (P/R/D)**
 - **Effective ways of communications, status information and possible integration with FIS, AFIS and ATC.**
- **We do not own**
 - **Authorisations, enforcement, counter-UAS action. Separation Is the droneoperators responsibility. Naviair separates (or informs about) volumes. Not unmanned aviation**

One airspace, several responsible actors

CAA:	Rules, authorisation and supervision.
ANSP:	Flight-safety, Aviation-services and operational and technical integration.
Airports	Local aerodrome safety and continuity.
Police and defence	Enforcement, investigation, military sites and national security. C-UAS
Operators	Safe and compliant operation.

The regulation is European. The operating model is national.

European framework

- Risk-based approval using operational limitations and mitigations.
- EU 2019/947, EU 2019/945, SORA and AMC/GM

Danish pathway

- Frequent use of airspace reservation for all BVLOS operations.
- No exceptions

Defined exceptions

- Specific concepts may avoid reservation under stated conditions Not used in Denmark today.

The industry: What is required to build a business?

Scale and access

Repeatable BVLOS and useful access to low-level airspace.

Predictability and speed

Transparent decisions, reusable approvals and clear interfaces.

Proportionate requirements

Safety measures that fit the actual risk without unnecessary barriers.

Today: Safe, understandable but difficult to scale

- **Benefit**
 - **Reserved/segregated airspace provides a clear operational boundary.**
- **Limitation**
 - **The mechanism becomes administratively heavy when operations are frequent and concurrent.**
- **Gap**
 - **Approval is slow and expensive – not scalable**

DENMARK IS CHANGING APPROACH

From accepting drones as a temporary disturbance to accepting

- **commercial demand**
- **still high level of safety**
- **Visibility**

This was all part of the new Danish dronestrategy (2023) – not yet published



The national conversation widened

- September 22. 2025...
- Important lesson:
 - Observation quality and validation matter.

New focus:

Security, resilience, identification and public confidence became part of the drone and aviation discussion.

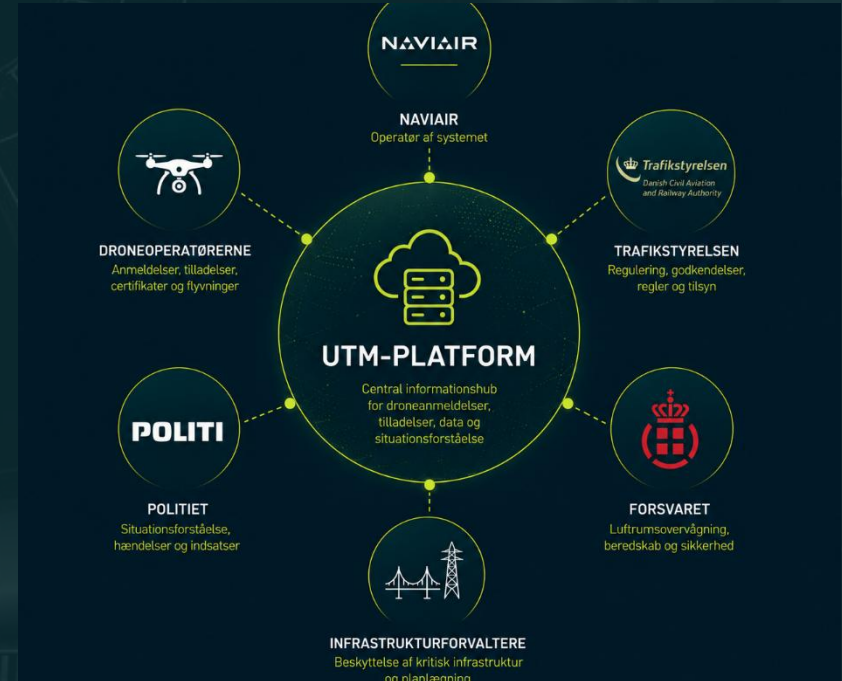
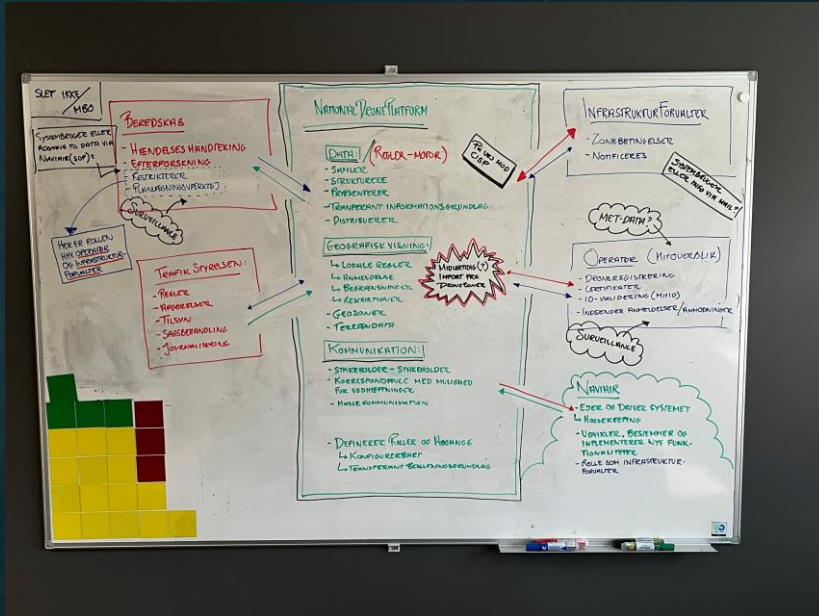


Safe coexistence – The strategy - updated

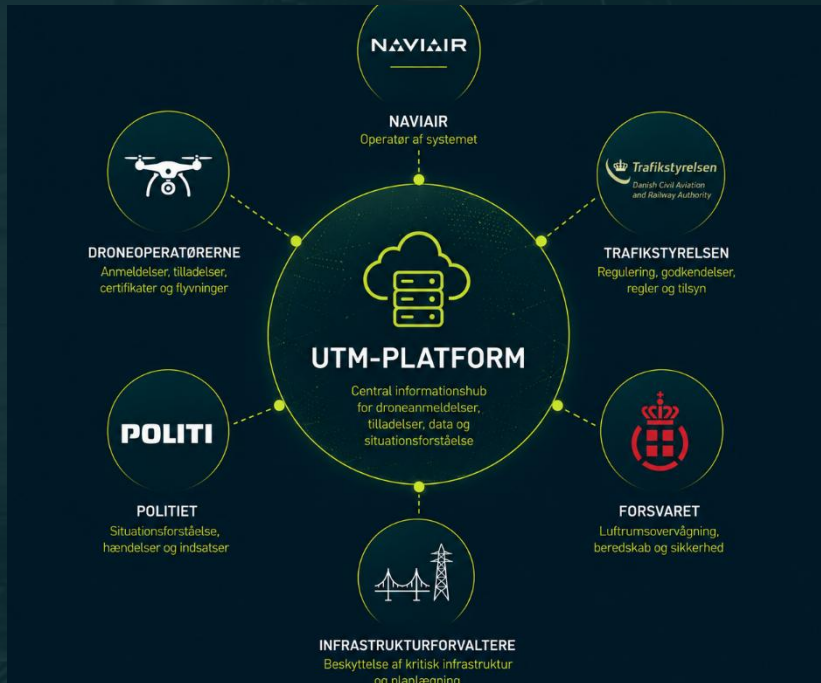
- **Enable:**
 - **Commercial and public-interest drone operations.**
- **Identify**
 - **Distinguish cooperative operations from unlawful use.**
 - **Mandatory notification**
 - In ALL airspace
 - **(Mandatory electronic visibility for manned aviation)**
- **Protect**
 - **Aviation**
 - **Critical infrastructure**



THE NEW DANISH DRONE PLATFORM



THE NEW DANISH DRONE PLATFORM



- Drone Operators
- Danish Civil Aviation Authority
- Police, Fire & Rescue, Defence
- Infrastructure Managers
- NAVIAIR
- Others

Delivery model

DL1

Baseline

2027

Notification and identification
Geofencing and geozones
Real-time access for authorities

DL2

Support for authority processes

Digitally supported case handling
Faster decision-making
My Overview
Extended authority integration

DL3 - FUTURE

UTM services

Future capabilities

Remote ID
Surveillance
ATM integration
CISP role

U-space-ready

THE FIS AND AFIS PERSPECTIVE

The question is not whether more data exists. The question is whether it improves the service.

Operational impact – where will it hit first?

Information services

More observations, reports and requests.

New information sources requiring validation and prioritisation.

Need for clear criteria for when information becomes operationally relevant.

Aerodrome, FIS & AFIS operations

Increased need for coordinated local response.

Questions from pilots, operators and airport stakeholders.

Greater focus on continuity, resilience and situational awareness.

Procedures and responsibilities

New escalation paths between operational actors.

Clarification of authority, responsibility and mandate.

Avoiding implicit responsibility through access to new data.

Training and competence

Consistent interpretation of alerts and observations.

Understanding drone operations and system limitations.

Decision support rather than data overload.

What does a FISO or AFISO need?

Relevant

- Data and information needs to be relevant

Reliable and timely

- The information needs to be available at the right time
- The information needs to be correct

Understandable

- Clear meaning
- easy to “translate”

Actionable

- Needs to be within defined mandate

Notification (FPL) and surveillance (ID)

- **Notification**
 - **Who, where, when, height, conditions, permission and contact route.**
- **Surveillance**
 - **Current position, movement, track history, activation, deviation and proximity.**

Different levels of information – the question is – Does FIS want this information or not?

Do we want the same information as for manned traffic?

If the platform can do it, should the ANSPs do it?

Capability:

- **Detect, display, compare, alert, share and record.**

Mandate:

- **Assess, instruct, prioritize, restrict, enforce and intervene.**

Principle:

- **Capability can be procured.
Mandate must be assigned.**



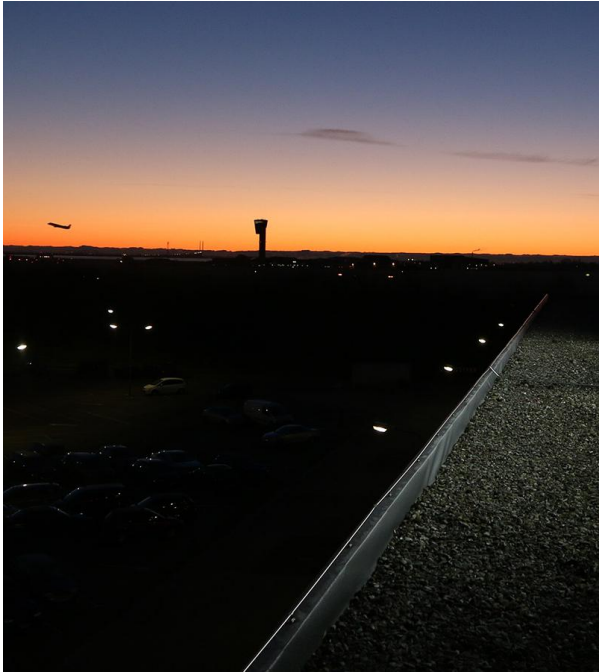
- "If you can see the drone, are you expected to do something about it?"



U-space

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Why U-space?



Designed for complexity

Many simultaneous UAS operations or interaction with manned aviation.

Operating model

Defined actors, certified providers, common information and mandatory services.

Question

Does every useful digital capability require formal U-space designation?

Four mandatory services

Network identification

Continuous processing of UAS identification information.

Geo-awareness

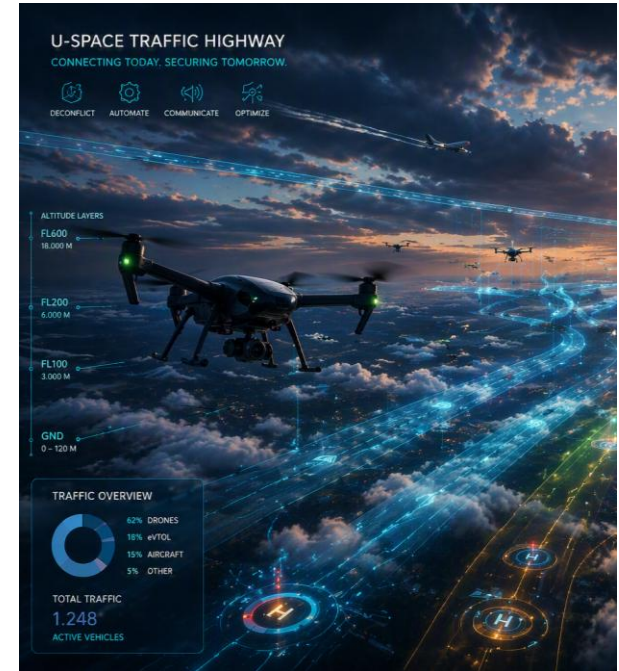
Current operating conditions and airspace constraints.

UAS flight authorisation

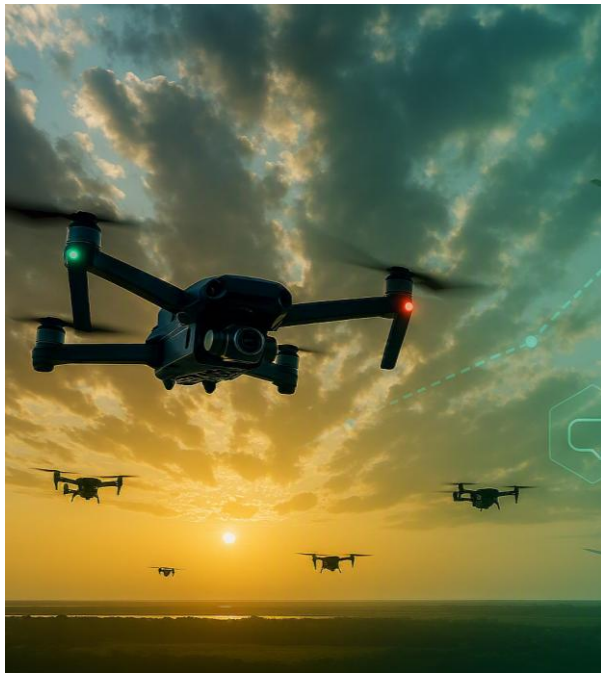
Authorisation and strategic conflict management.

Traffic information

Information about other conspicuous traffic.



Five messages to take away



Legitimate operations need greater scale.

The context includes safety, security, identification and resilience.

Notification and surveillance create different awareness.

Capability does not decide mandate.

U-space matters, but UTM capabilities can also exist outside it.

IF WE CAN SEE THE DRONE...

What should we do about it?

And who should be responsible?



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Use cases

FIS in uncontrolled airspace

Scenario

A BVLOS inspection is active below 500 ft in Class G. A HEMS helicopter is approaching.

Available

Approved volume, activation status, current helicopter position.
...and current drone position?

Discuss

What should be passed? Who assesses relevance? Does visibility imply monitoring?



AFIS and an active drone operation



Scenario

A drone is active near an AFIS aerodrome while an aircraft reports inbound.

Available

A reported position is visible, but local visual reports are inconsistent.

Discuss

Who contacts the operator? Who may pause or resume? Information, coordination or authority?

Cooperative, non-compliant or hostile?

Scenario

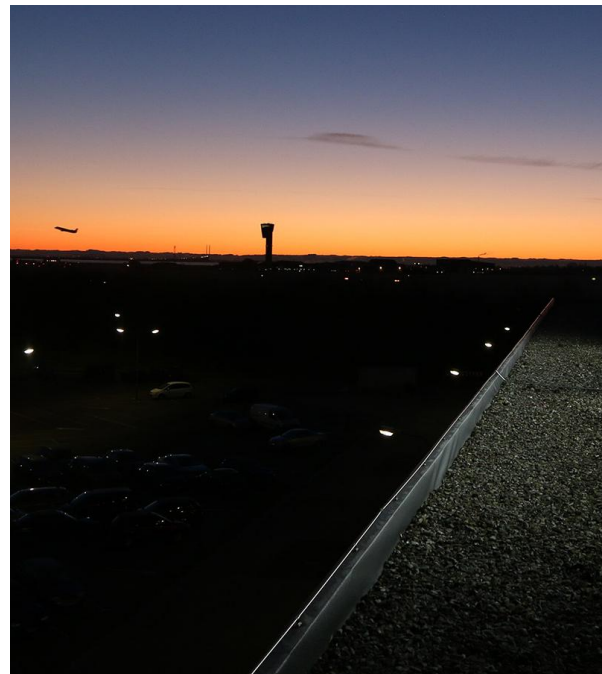
A possible drone is detected near critical infrastructure without matching notification or identification.

First question

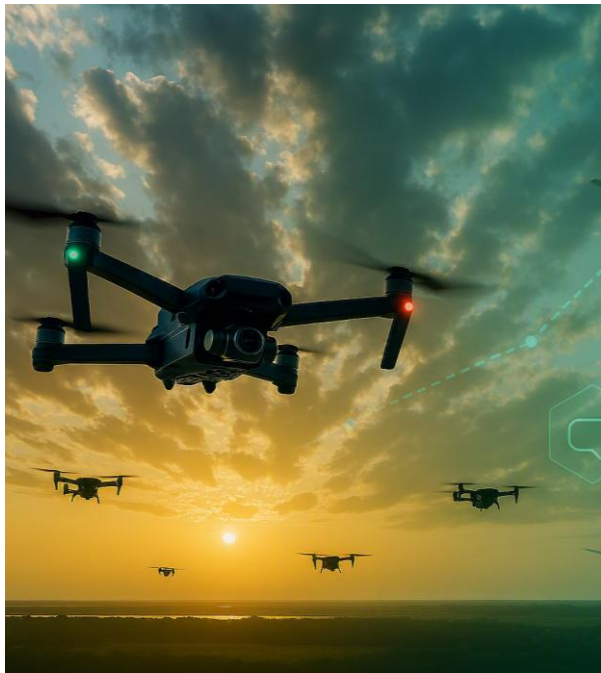
Aviation safety, compliance or security?

Discuss

Who owns the initial assessment? What is shared? Who restricts aviation while unverified?



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