

8TH EASA INTERNATIONAL COOPERATION FORUM

JOINING FORCES FOR
SAFER AND GREENER
AVIATION WORLDWIDE



COLOMBO, SRI LANKA
19-21 MARCH 2024

Building Foundations

Introducing a regulatory framework for
UAS + VTOL Capable Aircraft (VCA) in Europe

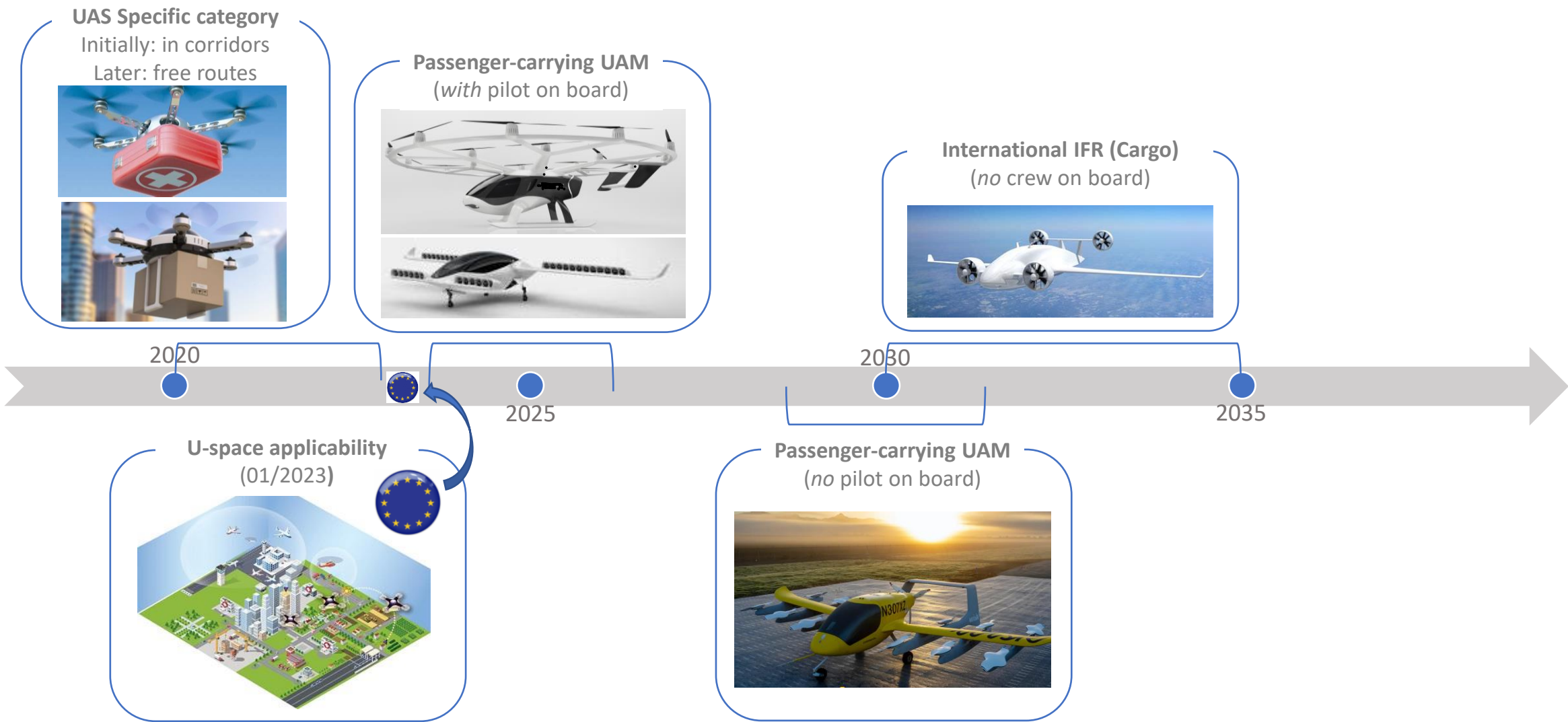
8th EASA International Cooperation Forum
Colombo, Sri Lanka
19 March 2024

Sascha Oliver Schott
Drones Section Manager, EASA



Expected readiness to market

and EASA input to European Commission *Drone Strategy 2.0*



Making it happen – safely!

Critical UAM enablers EASA is working on

International Cooperation

Harmonised Technical Standards, Research, Demonstrations

Uncooperative and malicious Drones

Counter-UAS Action Plan

Airworthiness, Aircraft Certification and Maintenance

UAS, Command and Control Unit (CMU), VTOL a/c

Civil-Military Coordination

Dual-use Drones, ATM Integration

Vertiports

Technical Specifications and Navigation Aids

Training and Simulation

Virtual & Augmented Reality

Air Operations

Operating Rules in Urban Environments

Novel Technologies

Flight Controls, Avionics, Propulsion, Energy

Personnel training and licencing

Operators, eVTOL Pilots, Remote Pilots

Digitalisation

AI, Autonomy, Cybersecurity, IM

Operator Certification

Air Operator Certificates

Airspace architecture and integration

U-space, C2-Link, Detect-and-Avoid, iConspicuity

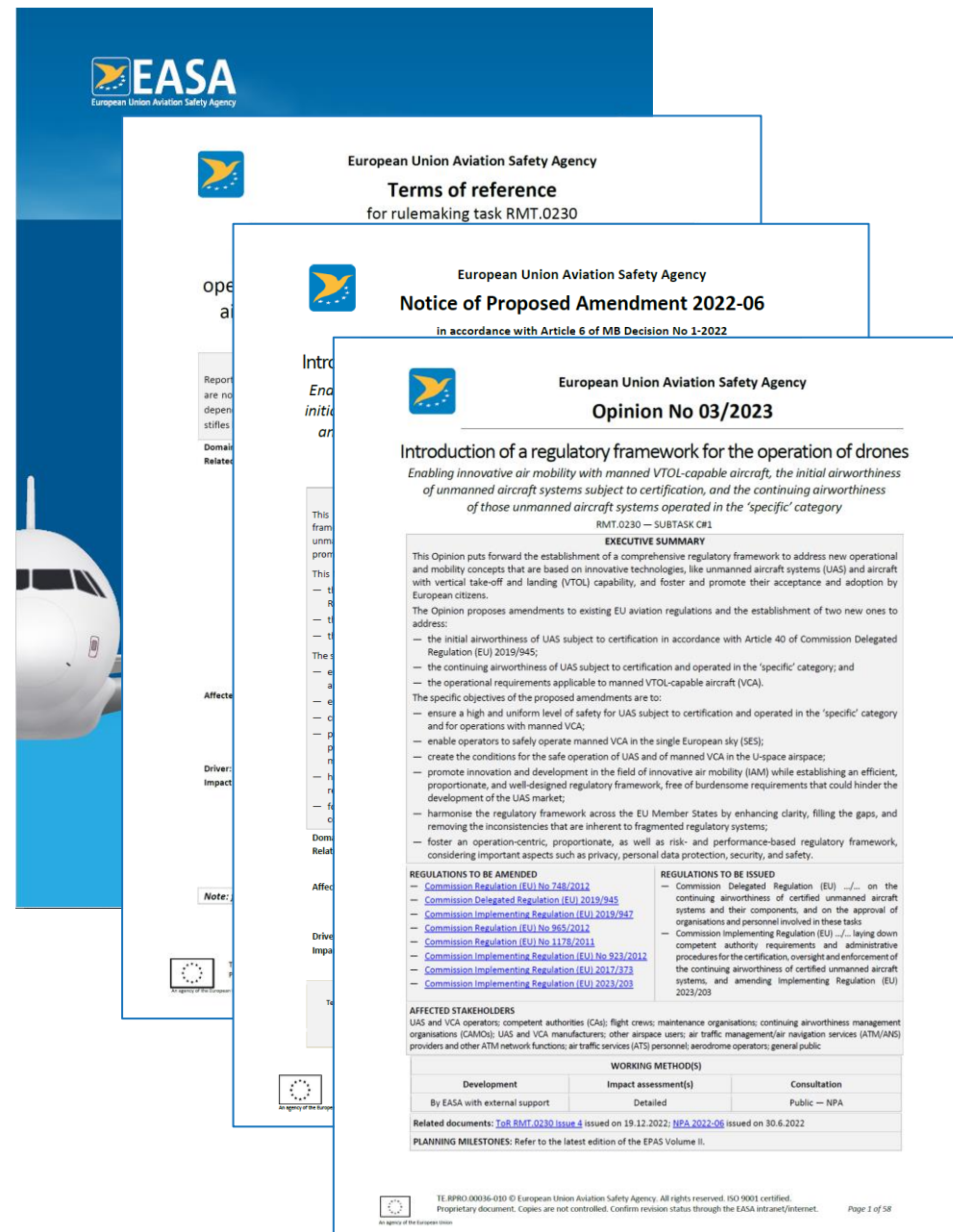


Innovative Air Mobility – EASA vision



How we communicate

- European Plan for Aviation Safety (EPAS)
- Terms of Reference for **Rulemaking Task RMT.0230**
- **Notices of Proposed Amendments** (proposed rules)
- Decisions and Opinions (final rules)
- Interim requirements
(Special Conditions, Technical Specifications)



Opinion No 03-2023



Unmanned Aircraft Systems

- High-risk operations
- Complex environments
- Integration with manned aviation



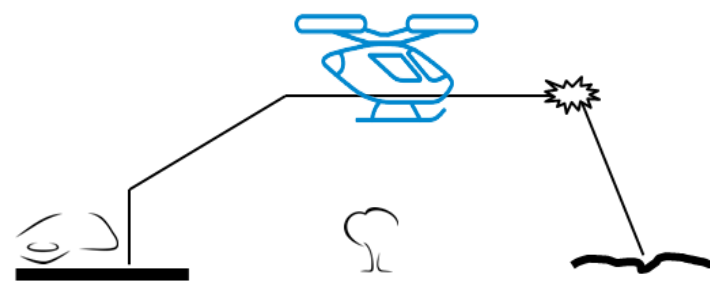
Operations of manned VTOL-capable aircraft – pilot on board (type #3)

- Complex innovative aircraft
- Urban or non-urban environment
- Interaction with other manned and unmanned traffic



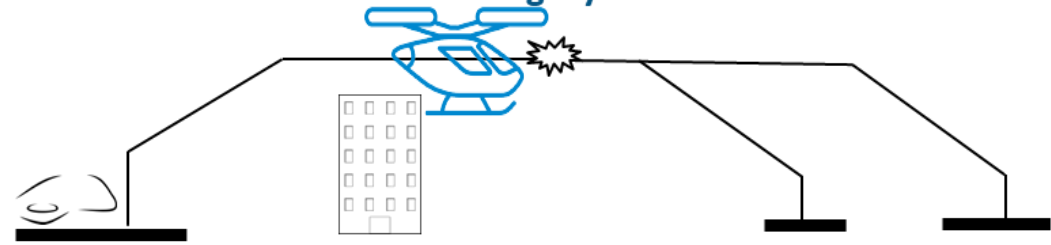
Opinion No 03-2023 – Types of operations

EASA SC-VTOL – Basic category



controlled emergency landing

EASA SC-VTOL – Enhanced category



continued safe flight and landing

Types of IAM operations
based on VCA certification

NAM

UAM

NAM

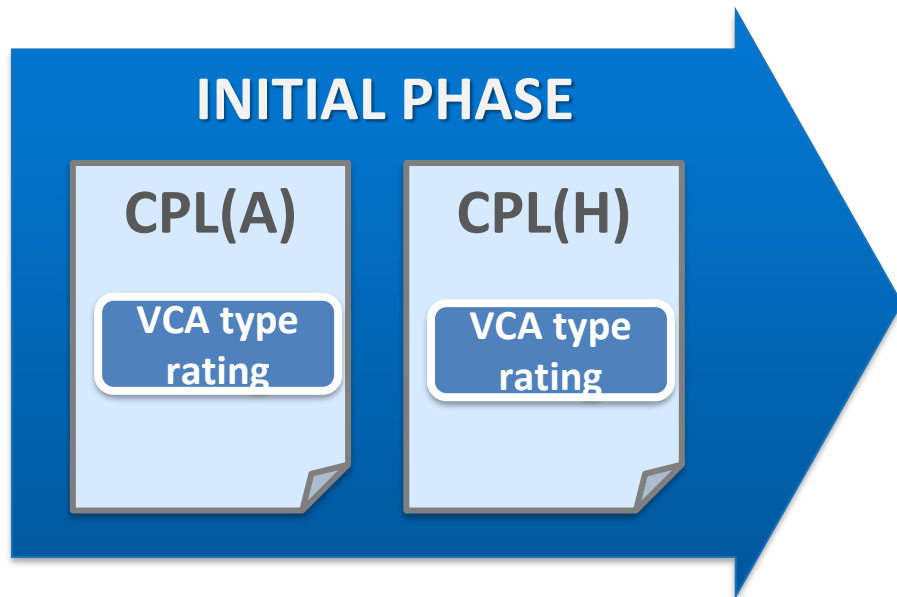
Types of IAM operations
based on purpose of the
flight

Commercial air transport

VEMS

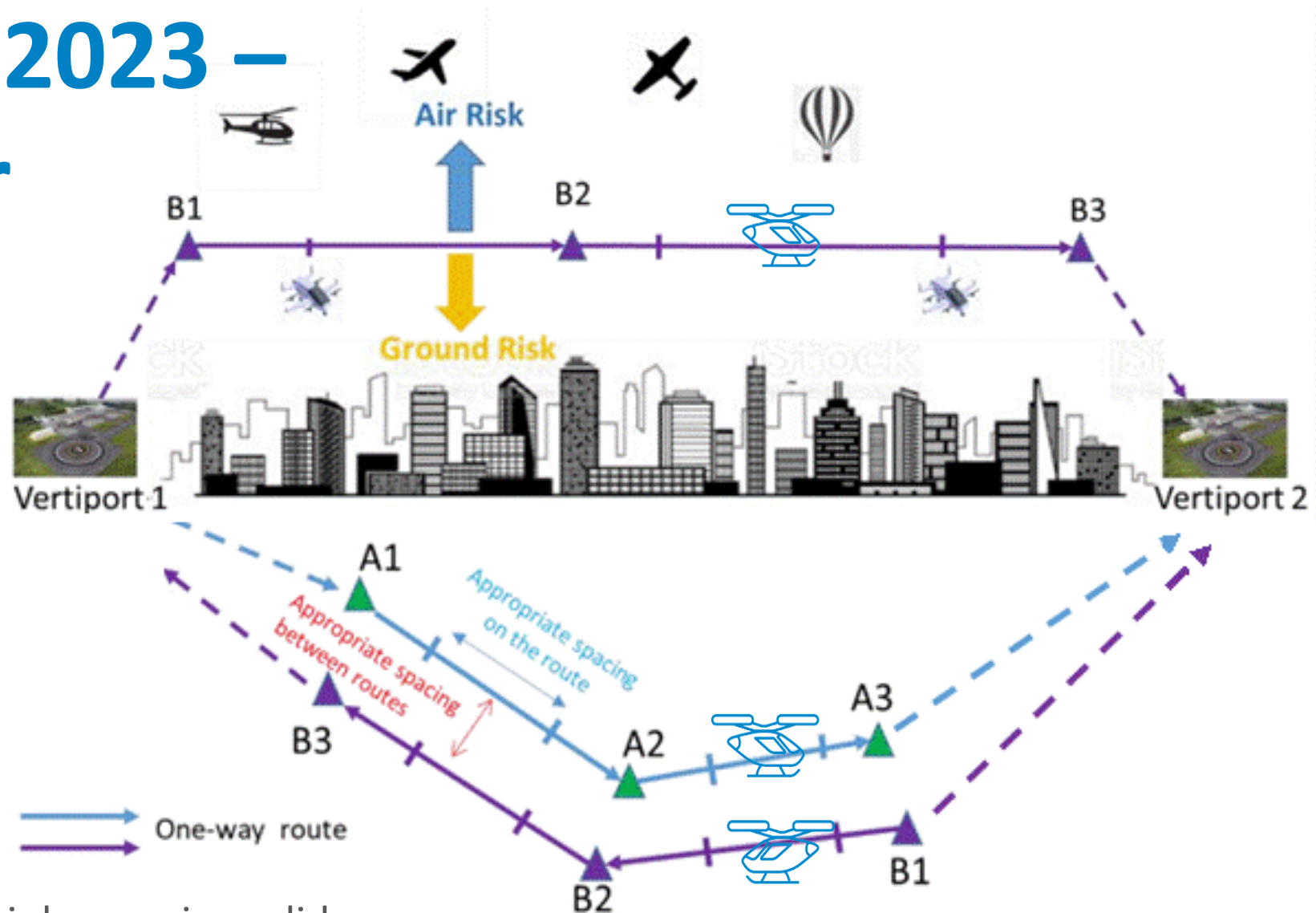
Non-commercial

Opinion No 03-2023 – Flight Crew Licensing




- VCA type rating based on Part-FCL and Operational Suitability Data (OSD)
- Existing privileges (A/H) extendable to VCA:
 - Instrument Rating
 - Instructor & examiner certificates


Opinion No 03-2023 – Rules of the Air




- 'See and avoid' principle remains valid
- Manned VCA subject to existing requirements for 'minimum heights' for VFR flights
- Use of predefined routes in urban environment


Industry engagement


**EASA**
European Union Aviation Safety Agency


 **EASA Pro**


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Show internal statistics

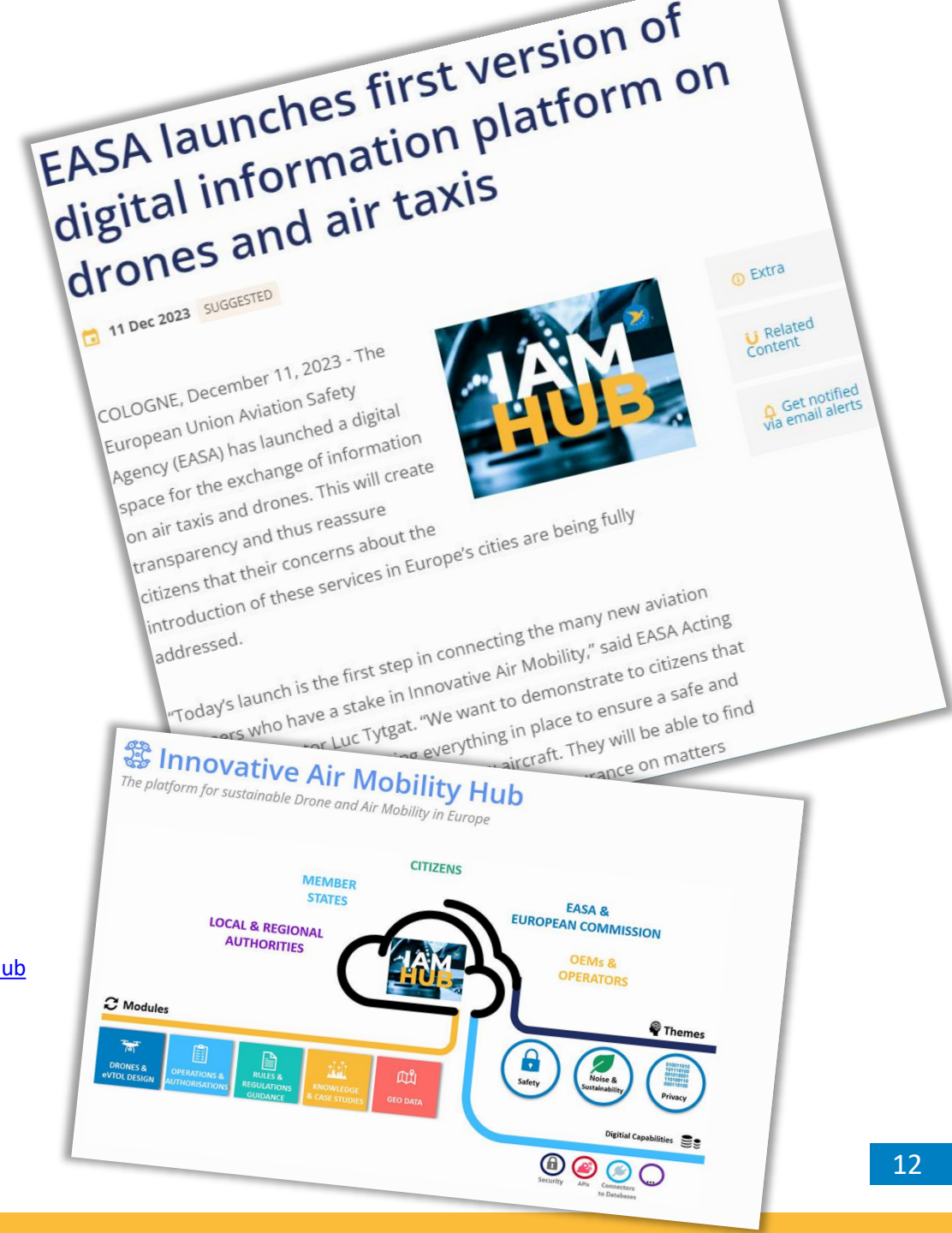
Example: WISK ConOps





Release 1 - 11 December 2023

<https://www.easa.europa.eu/en/domains/drones-air-mobility/drones-air-mobility-landscape/innovative-air-mobility-hub>



EASA was mandated by the Commission to create an 'interactive web-based platform for IAM ecosystem in support of the Drones Strategy 2.0'...

Mandate

European Parliament Pilot Project 2022-2024 to enable local IAM ecosystems: EU Drone Strategy 2.0. - Flagship 7

DRONE STRATEGY 2.0

Overall objective

To enable a safe, secure, efficient and sustainable implementation of IAM in Europe by providing an **interactive web-based platform for IAM ecosystems** in support of the Drones Strategy 2.0

Specific Objectives



Guidance

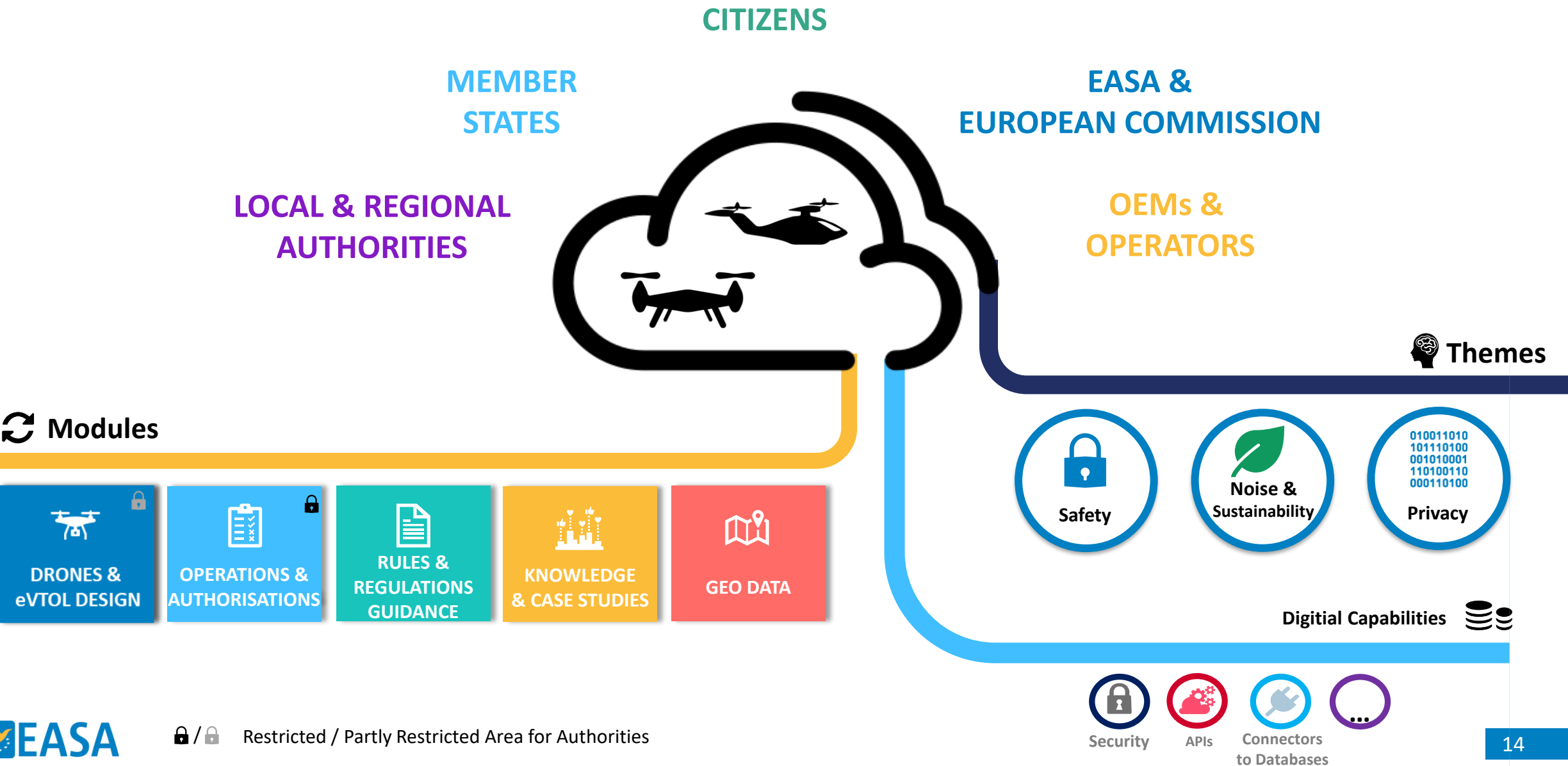


Collaboration



Transparency

The IAM Hub is a unique platform to connect the IAM eco system



Drones operated in 'open' and 'specific' categories

easa.europa.eu/connect

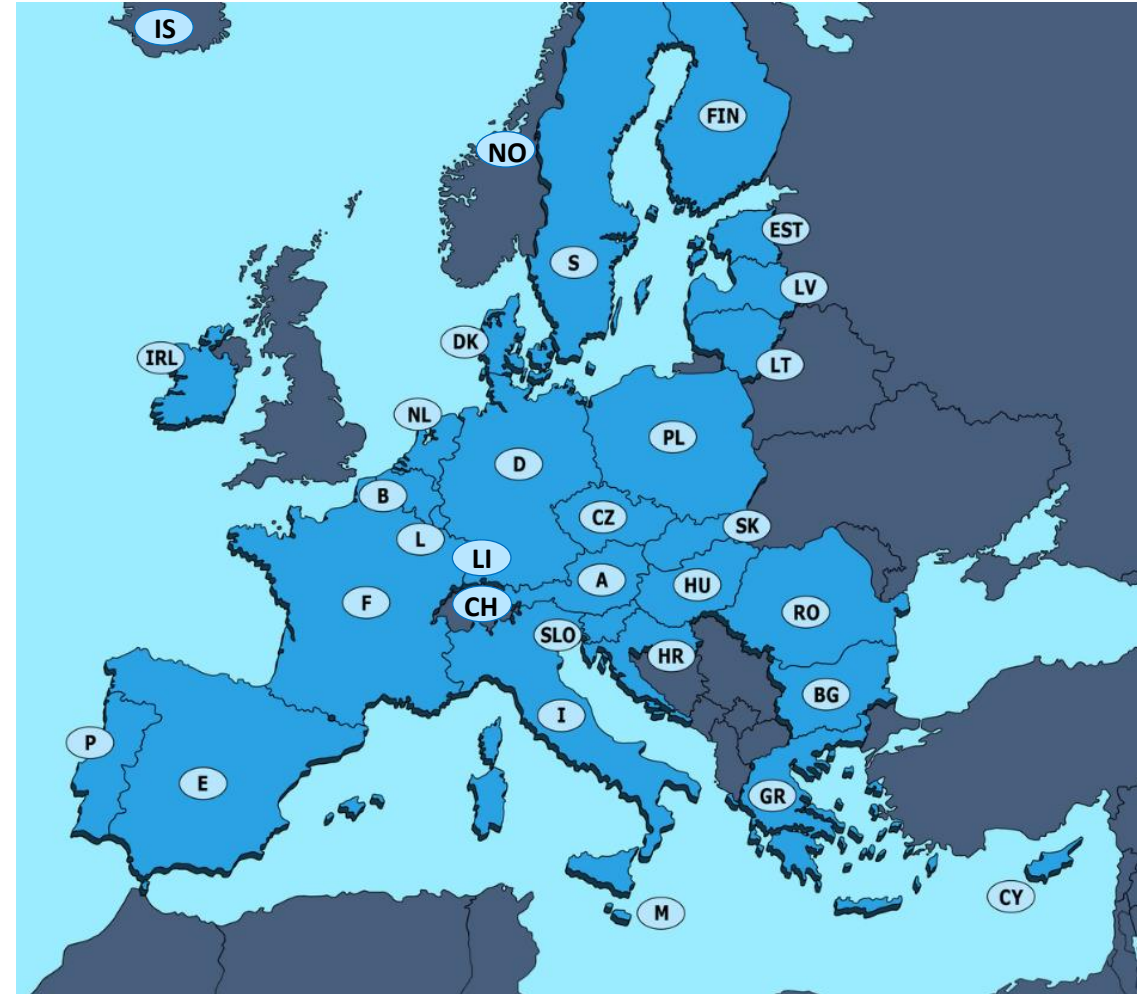
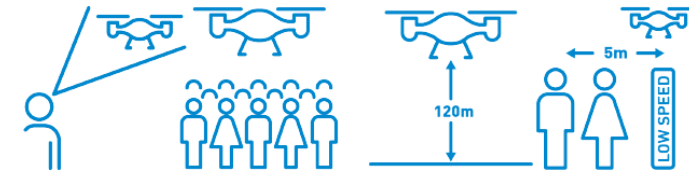


Your safety is our mission.

An Agency of the European Union 

EU drone regulation applies since 31 December 2020

- Operator registration valid in all EASA states
- Operational authorisation issued by EASA state of registration is valid in all other states (cross border procedures applies)
- Remote pilots may train and get a certificate in any EASA state



EASA states: 27 EU States

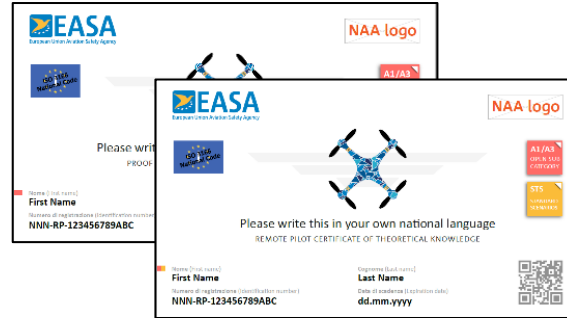
+ Switzerland, Iceland, Lichtenstein, Norway

Statistics as of 30 June 2023



Registered UAS
operators:

>1.3M



Remote pilot certificates
issued:

>1.2M

LUC

Light UAS Operator Certificates
issued

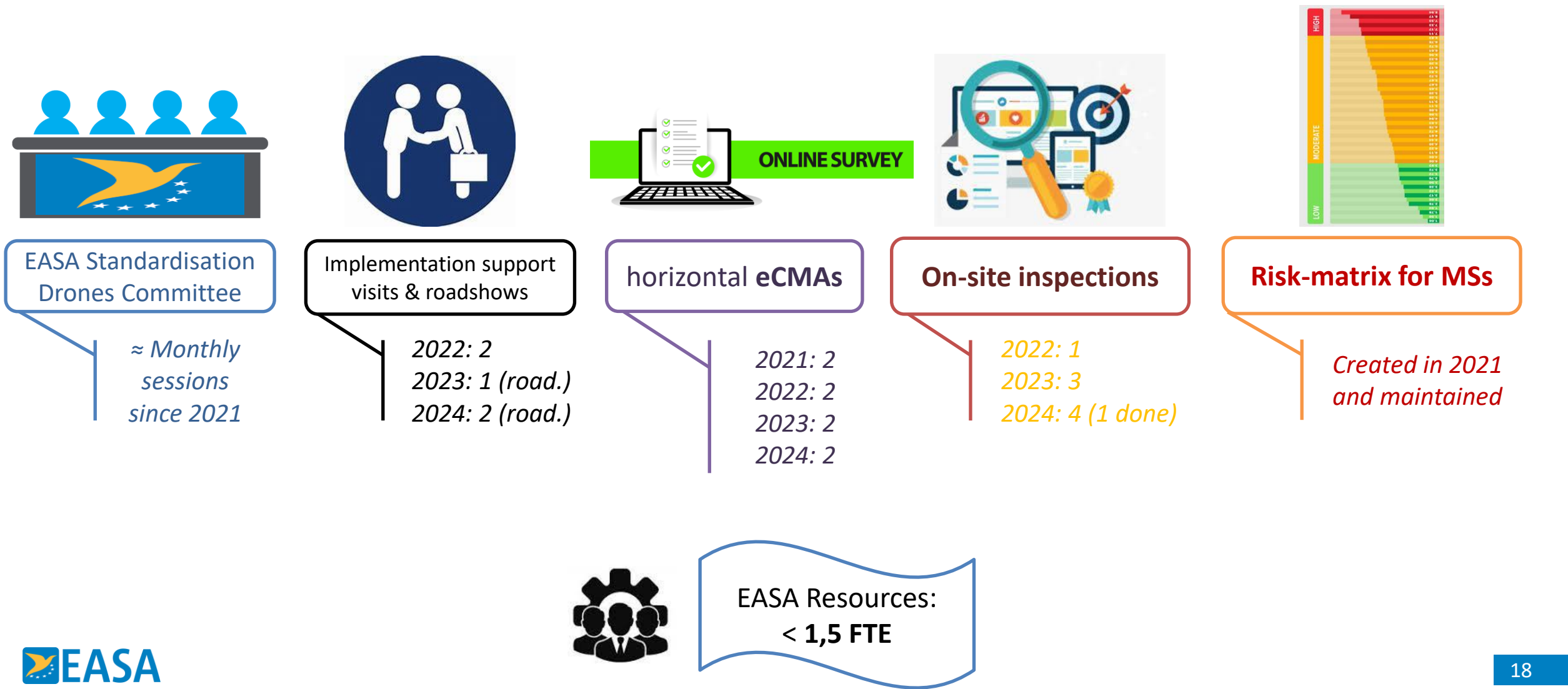
16



Active operational
authorisations issued
using SORA:

>2.1k

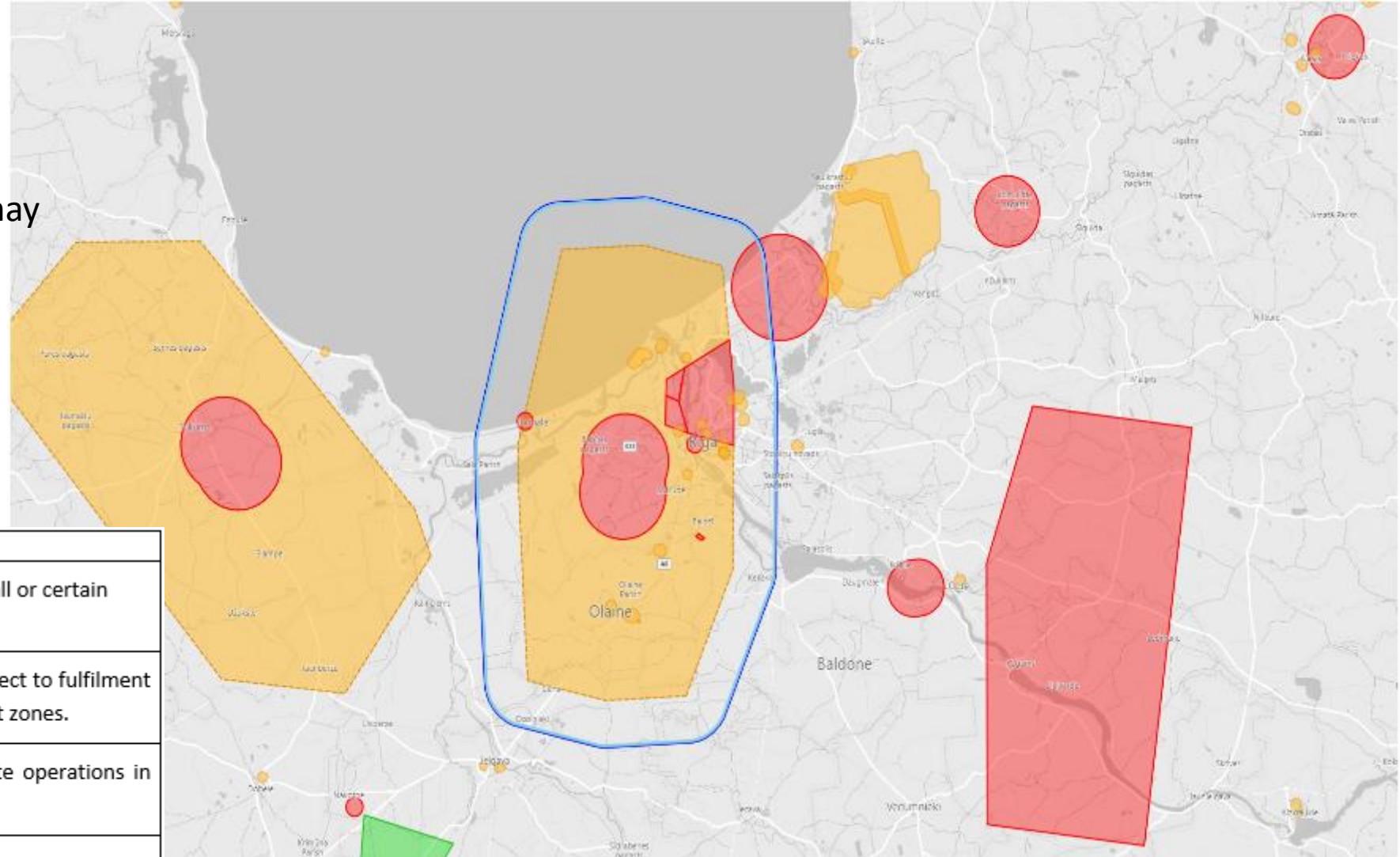
Main standardisation activities performed so far







Geographical zones published by Member States

For safety, security, privacy,
environmental protection

Operations in a geographical zone may
be subject to a flight authorisation

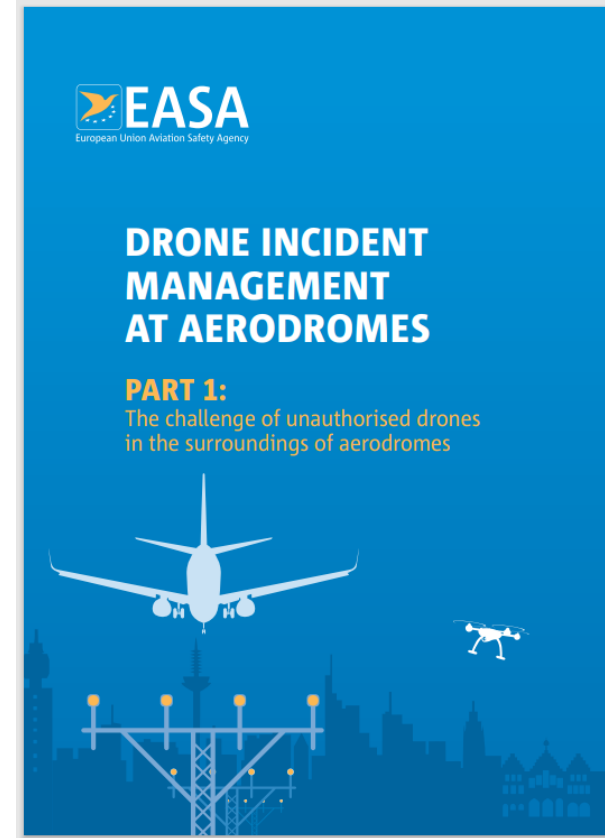


COLOR CODE	MEANING
	Flights are prohibited for operations in all or certain classes.
	UAS operations are limited and are subject to fulfilment of set of conditions imposed for relevant zones.
	UAS geographical zones, which facilitate operations in the "OPEN" category
	U-Space airspace

EASA Counter Drone Action Plan



1. **Educate the public** to prevent and reduce misuse of drones around aerodromes = **safety promotion**
2. **Prepare aerodromes** to mitigate risks from unauthorised drones use
= guidelines for management of drone incidents at airports
3. Support the assessment of the **safety risk of drones to manned aircraft** with scientific data
= research on vulnerability of manned aircraft to drone strikes
4. Ensure that **C-UAS measures** are swiftly considered and implemented from global safety perspective
= development of Counter UAS technical standards in EUROCAE WG-115
5. Support **UAS occurrence reporting**
= roadmap for inclusion of UAS in EU occurrence reporting regulation (on-going)



What is U-space?

A volume of airspace



Geographical zone designated by the Member State on the basis of a risk assessment considering safety, security, environment and privacy

A safe and secured environment

- to enable dense and complex drones operations (BVLOS)
- to enable drones operations in urban environment
- to ensure safety of drones operations
- to ensure safety continuum with manned aviation



A set of services



Digitalisation

Automated processing of information and decisions with limited human involvement



R-ID



e-Conspicuity

A European implementation

- Task force of 20 active EU Member States (+ Israel), led by EASA
 - To facilitate the U-space implementation in EU
 - To exchange and develop best practices for certification
 - To ensure interoperability and harmonisation
 - To support national competent authorities for regulatory compliance
- First U-space airspace are being designated:
 - Belgium, Switzerland, Spain, Portugal, Netherlands, Italy,...
- First Single-CISP and (EU/non EU) USSP are progressing
- First operations in U-space are very likely to start in 2024



THANK YOU!

easa.europa.eu/connect



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Backup slides

easa.europa.eu/connect



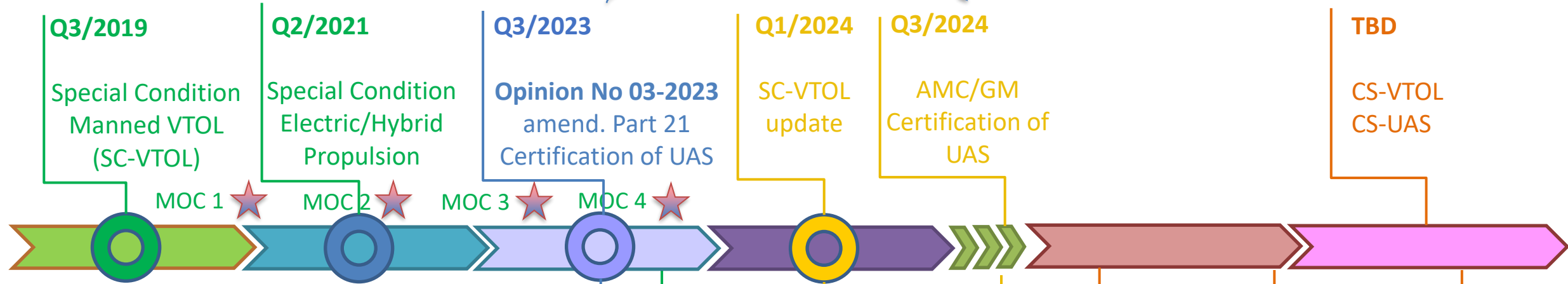
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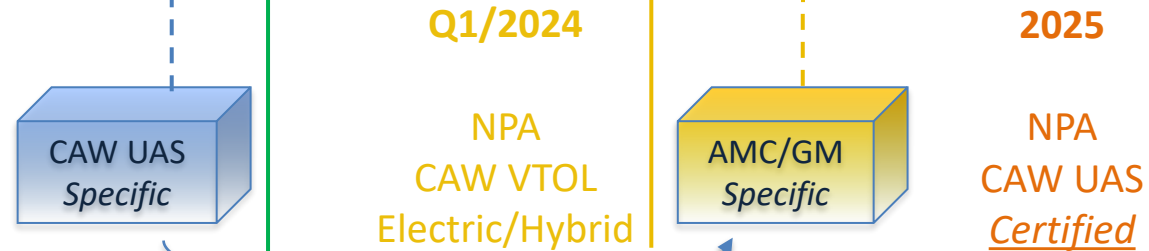
EASA roadmap to Innovative Air Mobility

Airworthiness and Environmental Protection

DESIGN



MAINTENANCE



ENVIRONMENTAL PROTECTION



EASA roadmap to Innovative Air Mobility

Operations, airspace, infrastructure

INFRASTRUCTURE

Q1/2022

PTS Vertiports

AIRSPACE

Q2/2021

U-Space
Regulation

Amend
Part SERA
Part ATM

TBD

Part-ACAS, CS-ACNS
ATM/ANS Interoperability
Regulations amended

TBD
CS-VPT-DSN

OPERATIONS

Q3/2023

Opinion No 03-2023
Manned VTOL
Operations type #3

Q1/2024

AMC/GM
Manned VTOL
Operations type #3

2025

NPA
Manned VTOL
Operations type #3+

TBD

NPA(s)
UAS operations
type #1 and #2

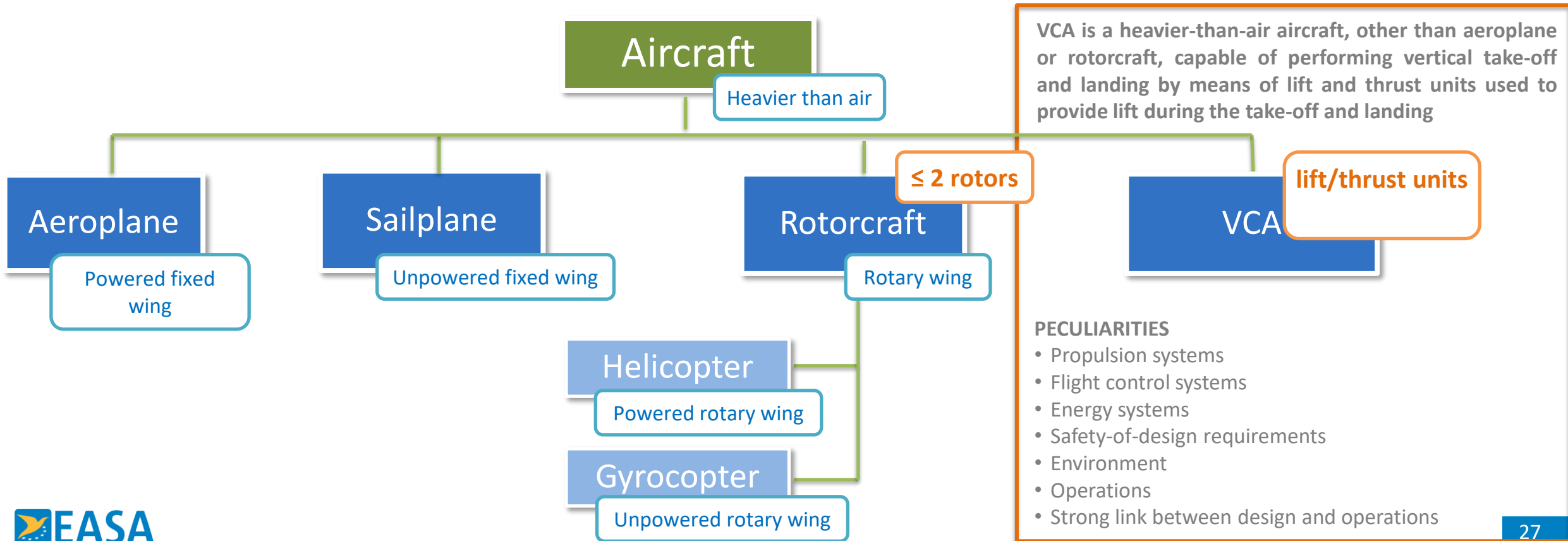
VCA Pilot License

Remote Pilot License

AIRCREW

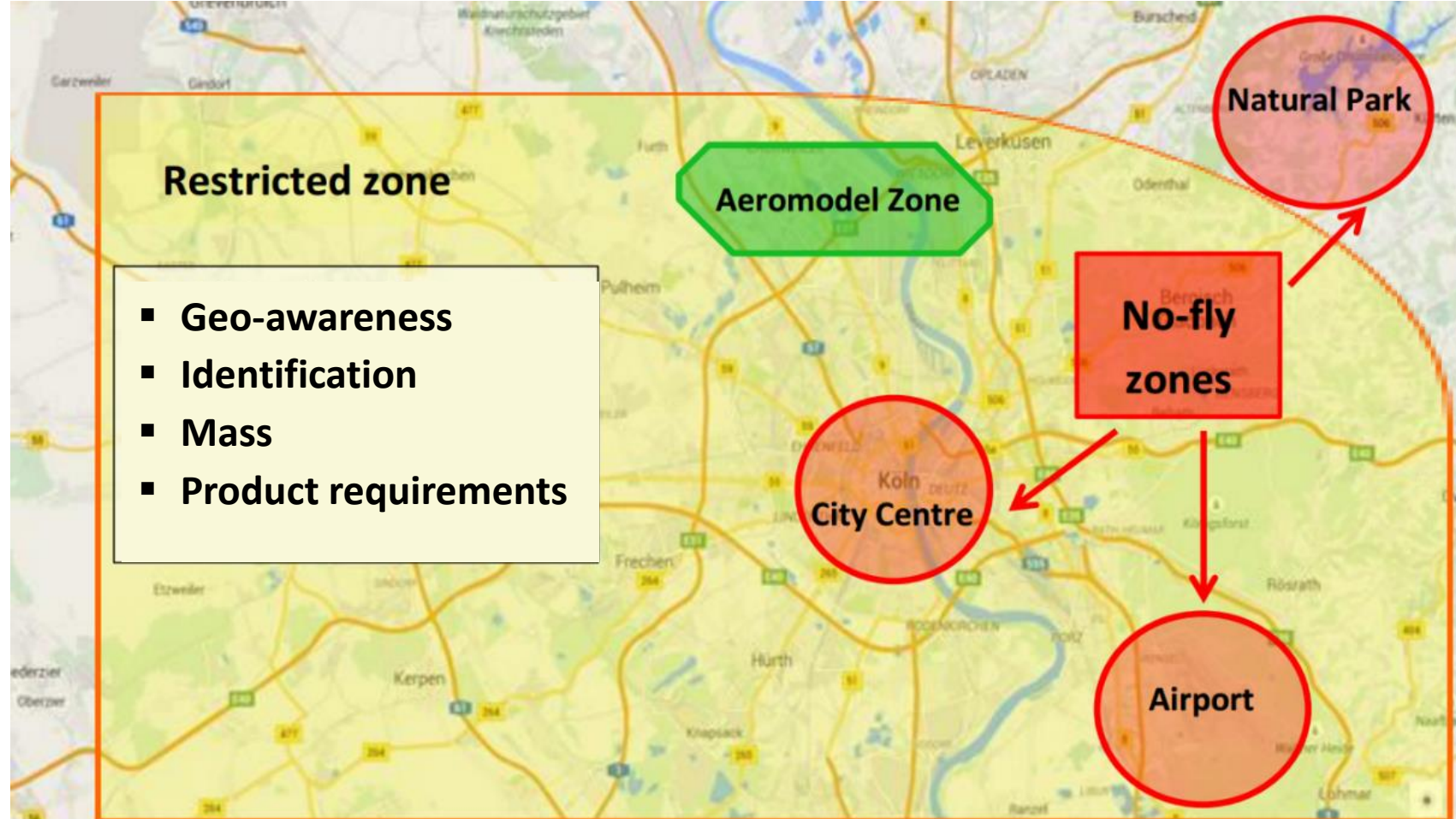
Opinion No 03-2023 – VTOL Capable Aircraft

CLASSIFICATION BY PRINCIPLE OF GENERATION OF LIFT/THRUST



UAS Geographical Zones

Geographical zones defined by Member States i.a. (EU) 2019/947 art 15!



U-space is/does



- A safe and automated access to the airspace
- “Deconflicted” UAS operations
- Supported by certified and oversight service providers
- A coordinated airspace, including special (state) operations
- Ensure safety continuum with manned aviation
- An enabler for U-space operators
- A catalyzer for the drones market

U-space is/does NOT (at this stage)



- An equivalent to (EU) 2017/373 for ATM/ANS (even if sharing similar spirit)
- An integrated airspace between manned and unmanned aircraft
- A controlled airspace (i.e. operations inside the U-space airspace are not placed under the responsibility of an ATC or “UTM controller”)
- Provide traffic information to manned aircraft
- Support to IFR drones operations
- Support operation with human passengers (e.g. autonomous “Air Taxi”)