

Slido: #IAM2024



In cooperation with:



IAM Hub – Towards a system of systems



Kai Bauer

EASA Principal Advisor Sustainable Mobility



Christina Suomi
City of Helsinki

U-space project manager



Jukka Keski-Jaskari
City of Helsinki
Specialist Aviation

IAM Hub

Towards a system of systems

Goal:

- Inform about current and future capabilities
 - Collect feedback for the next phase
 - Inform about the city perspective

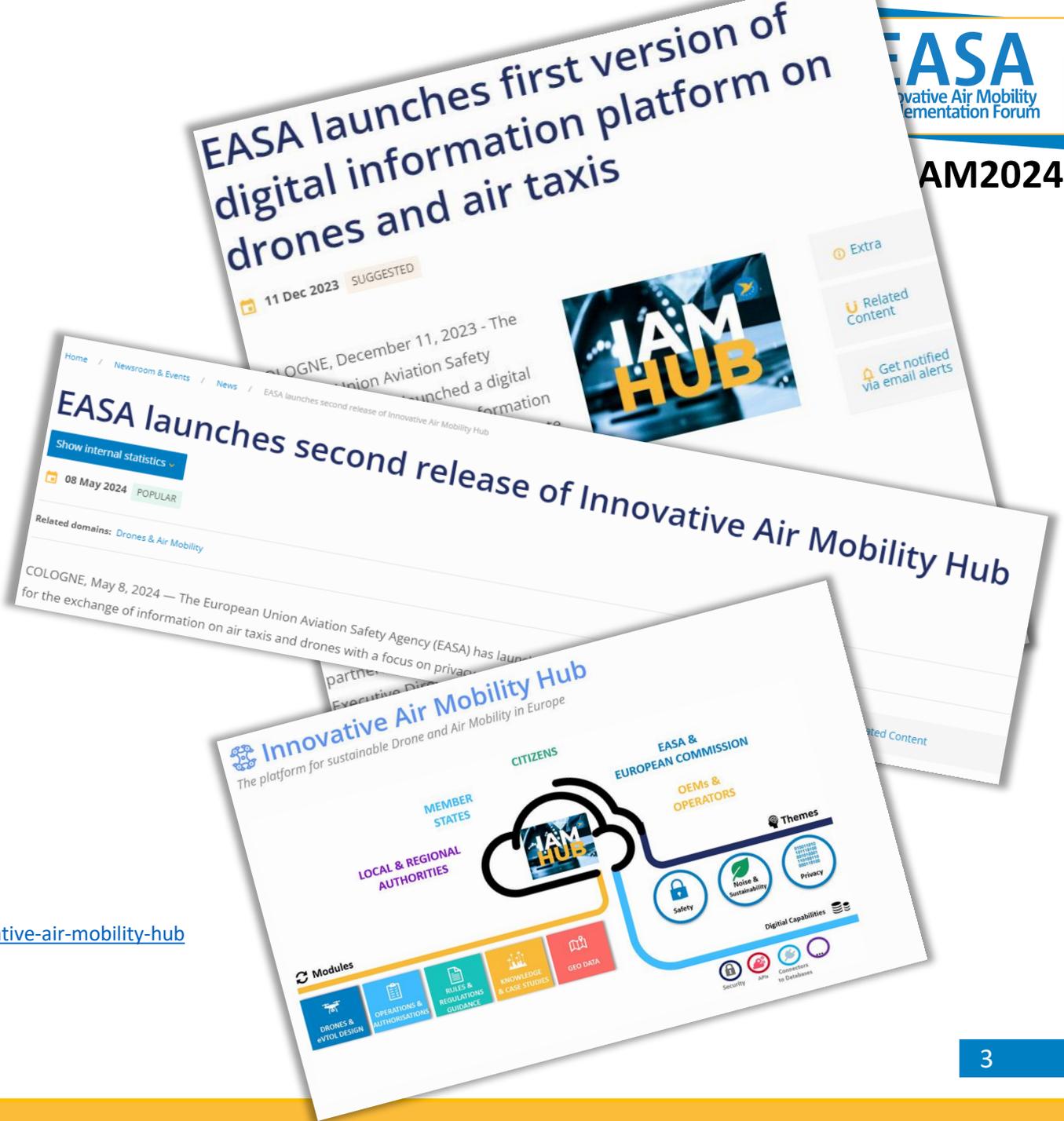


Release 1 - 11 December 2023

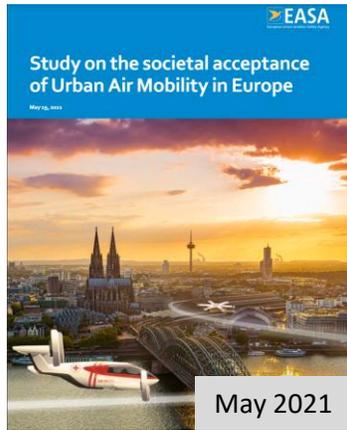
Release 2 – 08 May 2024

Release 3 – 15 July 2024

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



Rationale



Findings

- Need to address key concerns: safety, privacy, environment, noise
- Need to build trust
- Need for authorities to work together

Mandate

European Parliament Initiative
EU Drone Strategy 2.0. - Flagship 7



DRONE STRATEGY 2.0

November 2022

Overall objective

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

Phasing

Phase I - Pilot Project

2022-2024

Closing

Phase II - Preparatory Action

2024-2026

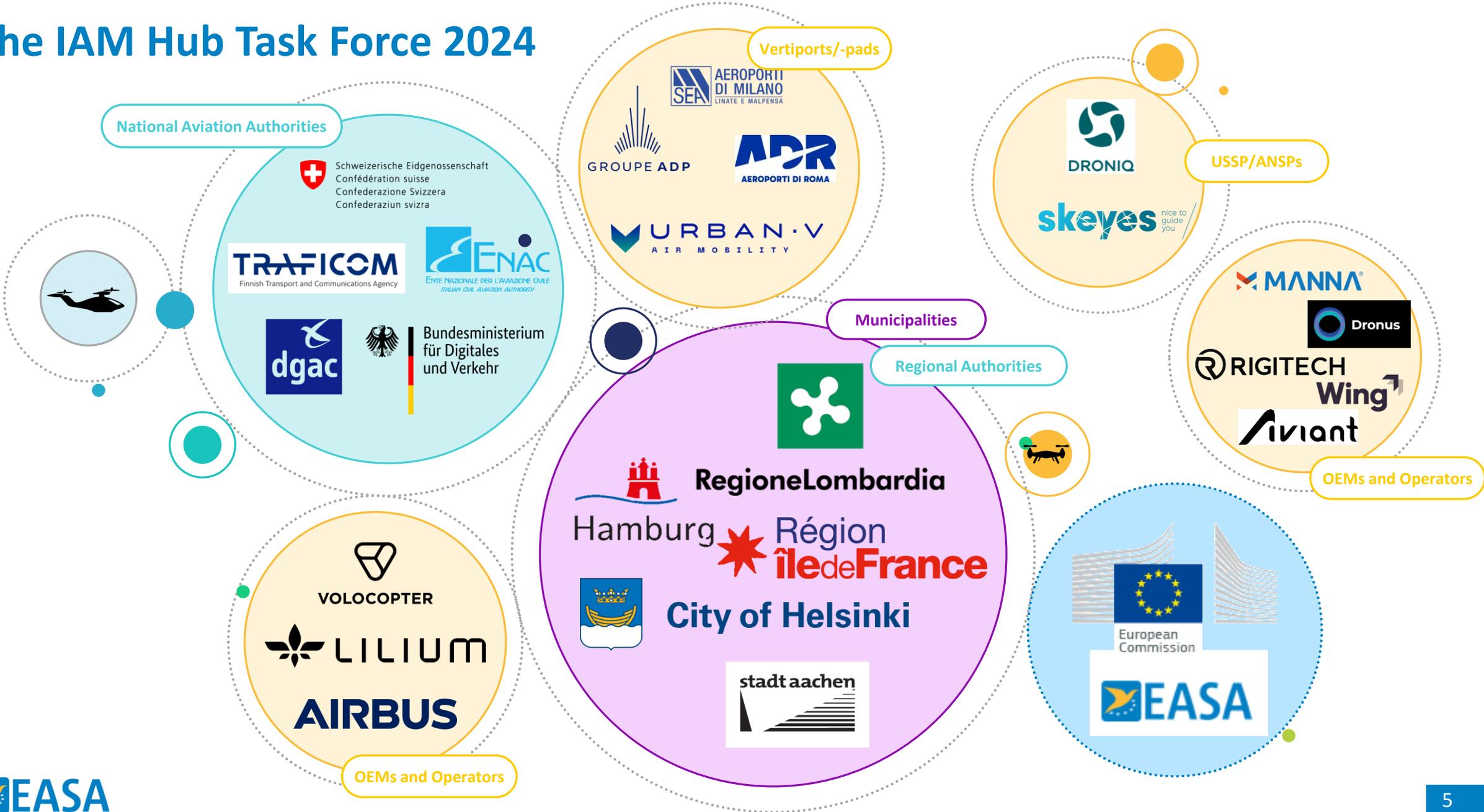
Launched 10/2024

Phase III - Operational

2026+

Under consideration

The IAM Hub Task Force 2024



Key stakeholders helped to define the IAM Hub capabilities

Connect

IAM communities

- ✓ **Best practices & lessons learnt sharing** between Member States
- ✓ **Demand** (tenders) and **offer** (services) publication
- ✓ Help **IAM integration** at different levels of **authorities' ecosystem**
- ✓ **Manage societal impact** through consultation



Multi-governance platform for
Innovative Air Mobility and Services

Communicate

on IAM impact

- ✓ **Promotion of transparent information on noise and Sustainability**
- ✓ Comprehensive explanation on **Privacy, Security & Safety effects**
- ✓ Support to **local decision-making**

Support

IAM Implementation

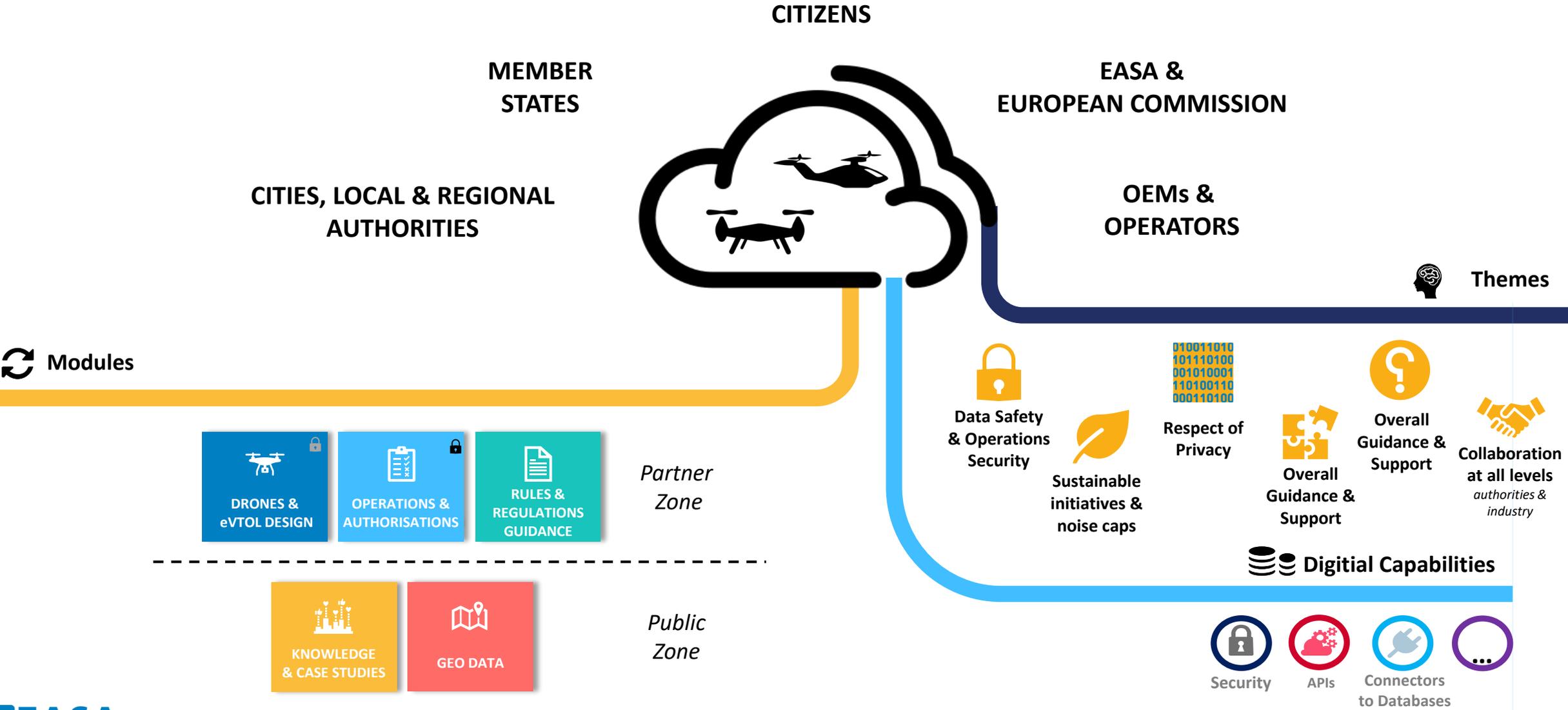
- ✓ **Guidelines for on-boarding** of all stakeholders
- ✓ **Single gateway** to digital regulations, filtered per **operation & user & location**
- ✓ Fostering of **EU rules' content and format harmonization**

Centralize

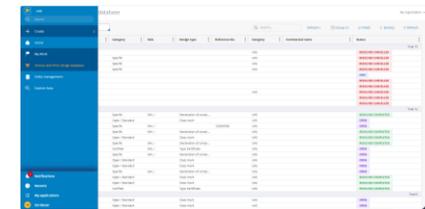
IAM data

- ✓ **Products** characteristics
- ✓ **Operations** information
- ✓ **Contacts** database
- ✓ **Geographical** data

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



The IAM Hub - Partner zone



More info on the Innovative Air Mobility Hub.

[IAM Hub login →](#)

The IAM Hub – Partner Zone

1 Drone design data base for all drones operated in the EU

The Drones Design Data is submitted by OEMs and verified in the system depending on the category. Currently EASA DVR and CE-marked drones are in the system.

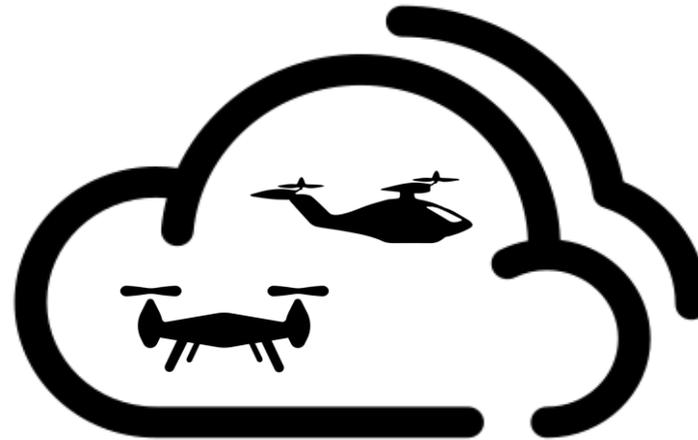
2 Multi-governance system Incl. Municipality, Fire & Police Department

3 Run the critical area calculator to support SORA

4 Submit an operational declaration (standard scenario – pilot test with Irish Authority)

Model name	Organisation Legal Name	Serial number
02022024	---	12345678945632

The IAM Hub – Public Zone



The IAM Hub – Public Zone: Managing rules and guidance

Increasing safety by making robust information publicly available through the EASA website, fully accessible to online search engines.

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Guidance for cities

Innovative Air Mobility and Services - Role of cities

Cities will play a significant role in managing the complexities of Urban Air Mobility (UAM), focusing on creating sustainable and affordable mobility solutions aligned with the European Green Deal goals. UAM goes beyond aviation technology, involving mobility planning and urban development. City planners will play a crucial role in emphasising the importance of UAM in their local planning processes.

Robust data – digitally transferred from the Member Area

Drones for EU Operations

2019/945. The technical data and specifications of these UASs are under the responsibility of the drone manufacturer/designer. More information on the [design verification report](#) page.

You are a manufacturer and want to see your drone in the list? [Register your drone.](#)

Model	Commercial Name	Operations Category	Design Organisation	Class Mark	Drone M2 Mitigation	Reference No.	Issuance Date	Type Category	Sound Power Level
Kronos AD Mavic 3M	Kronos AD Mavic 3M	Open / Standard	DRONAVIA	CS (STS 01)				Multicopter	82
Kronos AD Mavic 3T	Kronos AD Mavic 3T	Open / Standard	DRONAVIA	CS (STS 01)				Multicopter	82

Rules, Guidance and knowledge for the drone community

Drones & Air Mobility

- Getting started
 - Basics explained
 - What are eVTOLs?
 - Benefits & Use cases
 - Map - Drone Operations and Statistics in your country
 - Innovative Air Mobility Hub
 - Noise and Sustainability
 - Role of cities
 - Urban Air Mobility
- Flying a drone for fun
 - Register, train, know where to fly
 - Drone operator guide
 - Know where to fly your drone
 - Open Category
 - Approved Drones for EU Operations
 - You got a drone - now what?
 - Travelling with drones
 - Drone racing
 - Drone insurance
 - Frequently asked questions
- Flying a drone for work
 - Register, train, know where to fly
 - Operating a drone
 - Open Category
 - Certified Category
 - Approved Drones for EU Operations
 - Easy Access Rules for Unmanned Aircraft Systems
 - Map - Population density
 - Map - Geo Zones
 - Frequently asked questions
- Knowledge & Case studies
 - Urban Air Mobility
 - Air Transport by VTOL-capable aircraft
 - Understanding European Drone regulations
 - The role of cities
 - Benefits & Use cases
 - SUMP for Innovative Air Mobility and Services
 - Noise and Sustainability
 - Map - Drone Operations and Statistics in your country

Robust information on noise and sustainability

By measuring drone/eVTOL noise for noise impact assessment with EASAs CT4 NORAH tool and using the EASA drone noise measurement guidelines

By developing a robust methodology to assess environmental impacts on a life-cycle basis: EASA Environmental Footprint Aviation (EFA) methodology for Drones/eVTOLs

The IAM Hub – Public Zone: Managing rules and guidance

Increasing safety by digital rules

EASA Critical Area Assessment Tool (CAAT)

Welcome to the critical area assessment tool

The tool offers the possibility to calculate the critical area using, based on the inputs provided, the JARUS Model (SORA Annex F) or the high impact angle model. To start the calculation, please complete the following fields:

Is your UA a rotorcraft or a multirotor?

UAS characteristic dimension (in meters) *

Cruise speed (m/s) *

Aircraft maximum take-off mass MTOM (kg) *

Minimum operational flight altitude AGL (m) *

Cancel

Calculate

/easa-critical-area-assessment-tool-caat

The IAM Hub Public Zone – Geo Information

Fully integrated with the EASA website

Drone operations in EASA countries

Statistics of drone operations in EASA countries

- Number of registered drone operators: 1,469,510
- Number of operational authorisations: 2,204
- LUC: 19
- A1/A3 remote pilot certificate: 1,139,235
- A2 remote pilot certificate: 184,159

Organisation
Select a country on the map

Contact

Register as drone operator

Where are you allowed to fly

Online pilot training and tests

Where you are allowed to fly - Geographical zones in EASA countries

Portugal Geo Zones

- Prohibited
- Restricted
- Open

Upper Flight Limit (m): 7.500
Restriction: Restricted
Purpose: AUTHORIZATION
Mail: imagens.aereas@aan.pt
Website: https://www.aan.pt

TEST

Member State authorities contacts and statistics

[Drone Operations in EASA Member States - Statistics and key information from your member state | EASA](#)

Static population density in EASA Member States

Maximum population density in the flight area: people/100m²

Average population density of the adjacent area: people/100m²

EASA member states population (people/100m²)

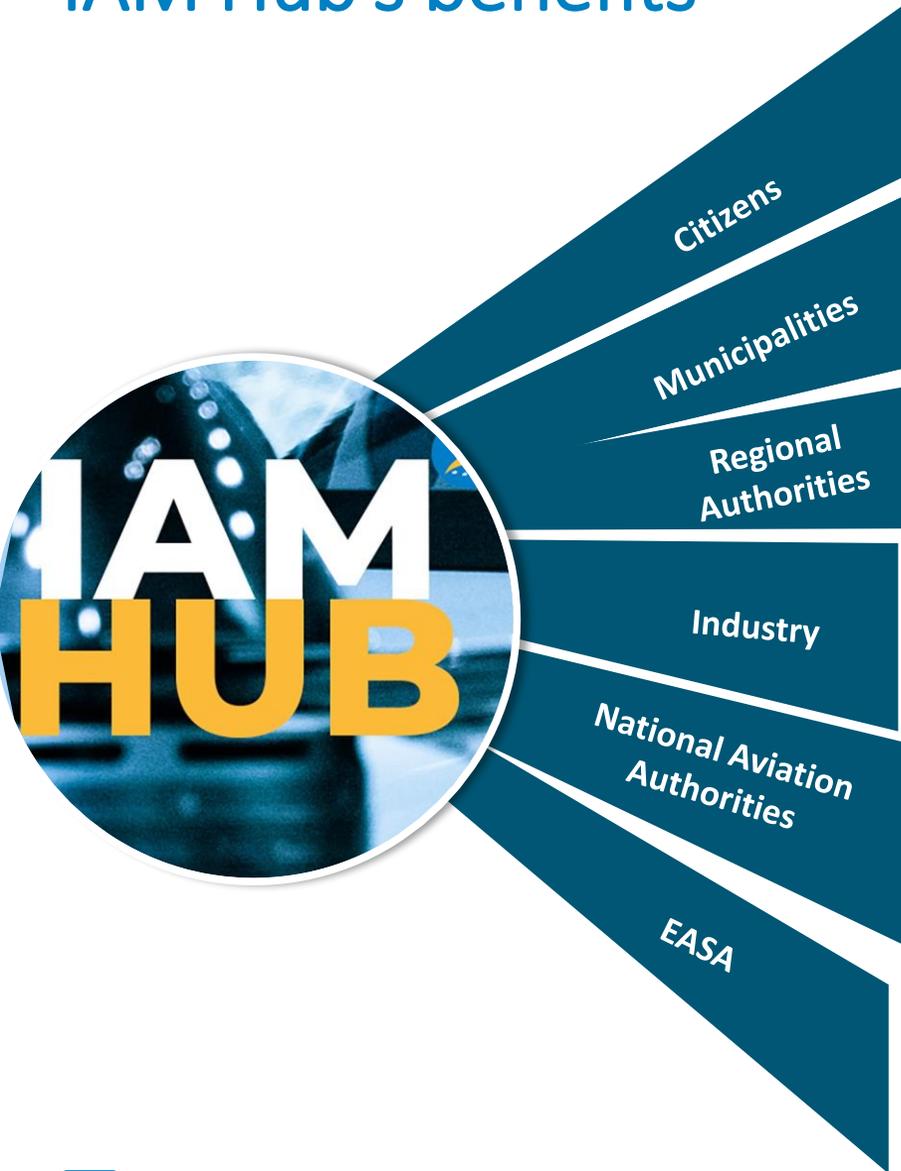
Population Density

Value

- < 5
- < 50
- < 500
- < 5.000
- < 50.000
- > 50.000

TEST

IAM Hub's benefits



Basic understanding and data on the benefits and drone and eVTOL operations from a **trusted source**

Targeted **guidance and data** on how drone and eVTOL operations can benefit cities
Liaise with other cities and actors in Europe

Understand how drone and eVTOL operations can be **integrated in regional transport networks**

Manufacturers: **approved drone design** data centrally available to NAAs and the public
Operators: **standardised SORA functionalities**, population density data to improve approval process

Access to all verified drone design data for operational authorisations
Improved applications due to standardised IAM Hub eRules and SORA functionalities
Standardised material to support public acceptance

Enhance safety by providing robust data and automated guidance to NAAs, industry and cities (e.g. Approved drones, population Density, statistics)

Digitised data and work flows

What's next?

IAM Hub Phasing

Phase I - Pilot Project

2022-2024

Closing

Phase II - Preparatory Action

2024-2026

Launched 10/2024

Phase III - Operational

2026+

Under consideration

IAM Hub Phase II: Towards a system of systems

Assessing key functionalities
with Member States



Multi-governance platform for
Innovative Air Mobility and Services

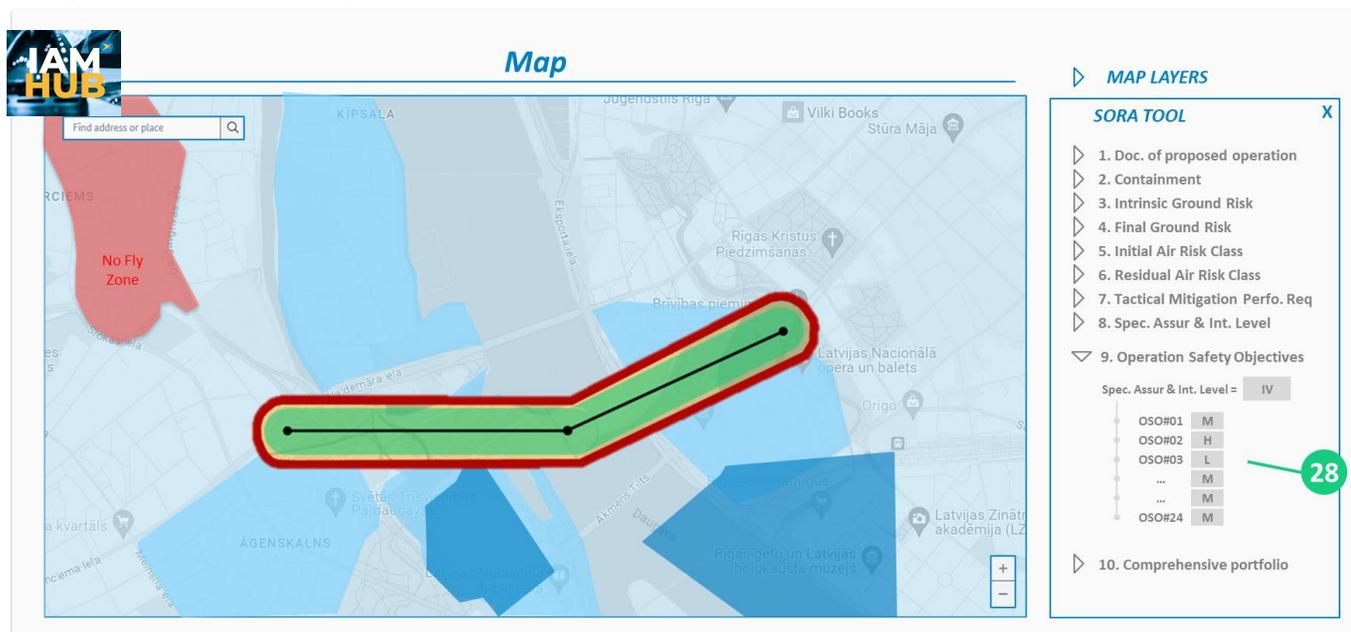
Providing basic information
and digital rules (eSORA),
noise and environmental
footprint

Use key functionalities end-
to-end with Pioneer Cities
and Member State Partners

Phase II: Next generation digital rules & guidance

IAM Hub to provide a digital application (eSORA) to guide through the SORA AMC ...

... to generate a draft report for basic use cases...

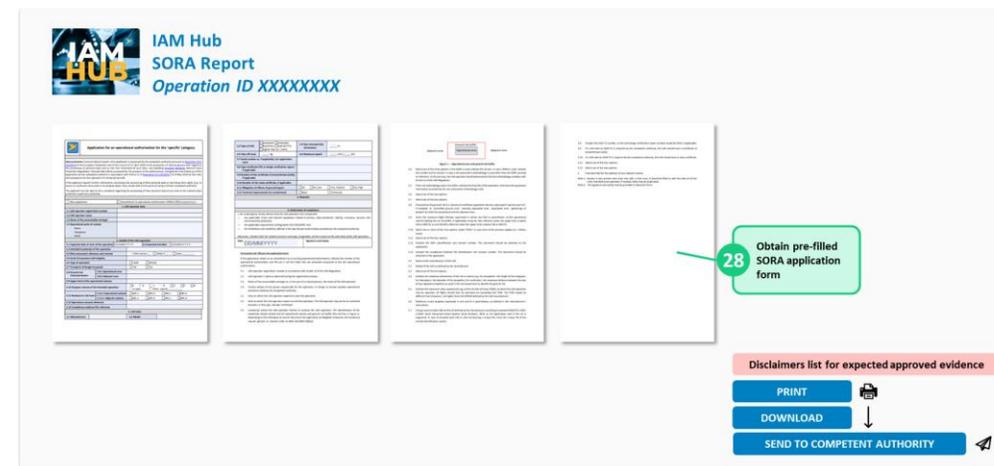


MAP LAYERS

SORA TOOL

1. Doc. of proposed operation
2. Containment
3. Intrinsic Ground Risk
4. Final Ground Risk
5. Initial Air Risk Class
6. Residual Air Risk Class
7. Tactical Mitigation Perfo. Req
8. Spec. Assur & Int. Level
9. Operation Safety Objectives
 - Spec. Assur & Int. Level = IV
 - OSO#01 M
 - OSO#02 H
 - OSO#03 L
 - ... M
 - ... M
 - OSO#24 M
10. Comprehensive portfolio

... calculating the Ground Risk Class ...



IAM Hub SORA Report
Operation ID XXXXXXXX

28 Obtain pre-filled SORA application form

Disclaimers list for expected approved evidence

PRINT

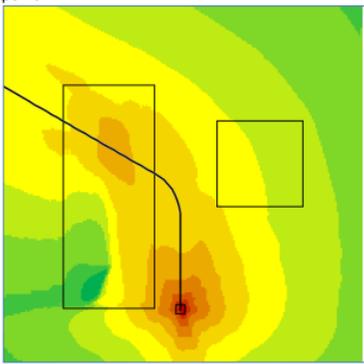
DOWNLOAD

SEND TO COMPETENT AUTHORITY

... allowing integration with NAA and industry systems

Phase II: Addressing citizen concerns about noise and environmental impacts

NORAH



By expanding the understanding of wild life impacts with the support of other EU-funded projects

EFA



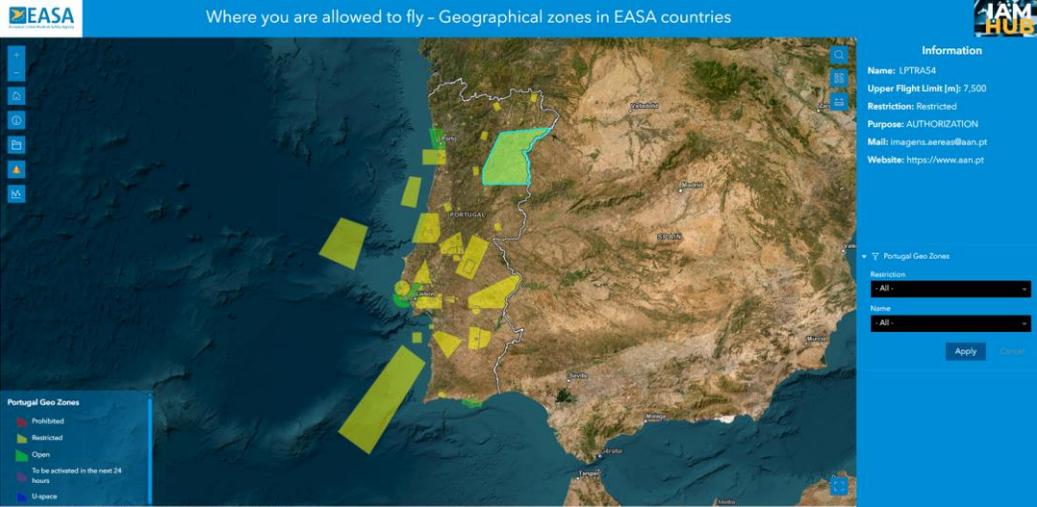
By developing a robust methodology to assess environmental impacts on a life-cycle basis:
[EASA Environmental Footprint Aviation \(EFA\)](#) methodology for Drones/eVTOLs
First public consultation for Delivery Drones ended 5 September 2024.
Second public consultation expected for 2025

By measuring drone/eVTOL noise for noise impact assessment with **EASAs CT4 NORAH** tool and using the EASA drone noise measurement guidelines. 2024 results currently under review.

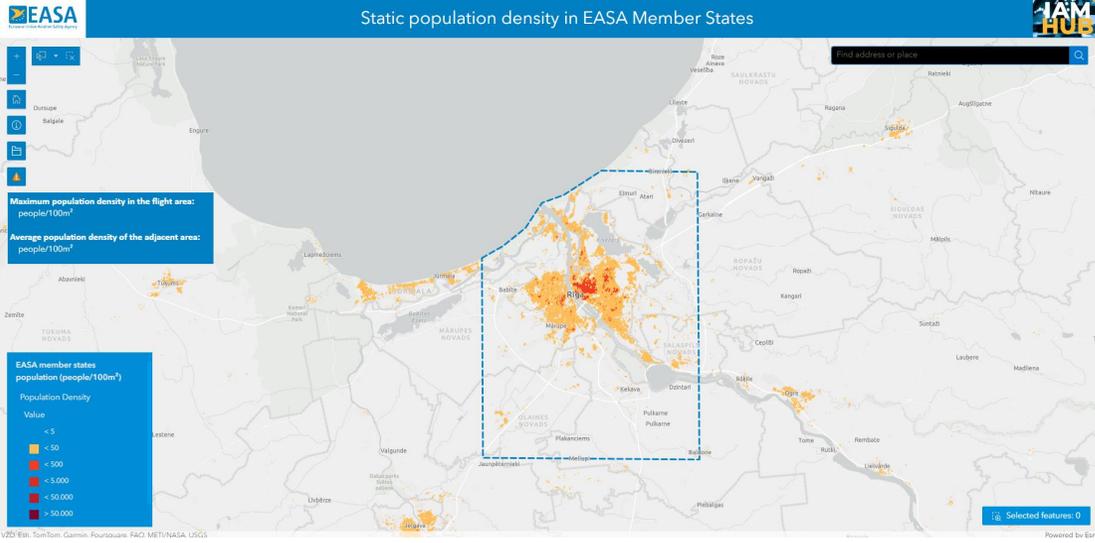
[Environmental Research - Rotorcraft Noise | EASA](#)
[EASA finalises guidelines on noise measurements for drones below 600 kg | EASA](#)

Phase II: Expanding the functionalities on population density and geo zones

More countries



More cities



Cities perspective: issues in cities and for citizens?

Presentation by the City of Helsinki

- Addressing citizens needs: health care & logistics
- Experience from the authorization process

What you can do

(Encourage) Drone OEMs to register their drones with the IAM Hub

Business Account Creation

Thank you for visiting the EASA's Business Account Creation portal. Please note that this portal is designed specifically for commercial organisations.

If you are a natural person or a regulatory entity, we kindly request that you visit our homepage at www.easa.europa.eu for more information.

Organisation

Use existing Request new creation

Legal name *

Type three characters...

Account administrator

Request the creation of an administrator user for this organisation.

The Account Administrator is a person within the organisation responsible for:

- creating and deactivating user accounts
- granting and revoking permissions for accessing resources

Email address *

Type the characters you see in the picture below

7eaw5a

Enter CAPTCHA

Register

1. Register your company on the IAM Hub [Drones & eVTOL Designs | EASA](#)
2. Register your drone type
3. Every Monday the public list of drones will be updated ([Drones Design Database | EASA \(europa.eu\)](#))

Provide co-ordinated input for Phase II

Innovative Air Mobility Hub
The platform for sustainable Drone and Air Mobility in Europe

MEMBER STATES
CITIZENS
LOCAL & REGIONAL AUTHORITIES
EASA & EUROPEAN COMMISSION
OEMs & OPERATORS

Guidance for cities

Rules, Guidance and knowledge for the drone community

Robust data – digitally transferred from the Member Area

Robust information on noise and sustainability

Drones & Air Mobility | EASA

[Drones & Air Mobility | EASA](#) [Innovative Air Mobility Hub](#)

1. What needs to be improved?
2. What new functionalities would you need
3. What priority do you see

[Provide your feedback](#) here.



EASA
Innovative Air Mobility
Implementation Forum

In cooperation
with:



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