



**UIC2**

URBAN AIR MOBILITY INITIATIVE  
CITIES COMMUNITY

WALK.RIDE.DRIVE.FLY



# Cities & Regions Driving The Sustainable & Responsible Transition Of Urban Mobility To The Third Dimension

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AIRBUS, Urban Mobility



**POLIS** | ANNUAL  
CONFERENCE  
**2022**

CITIES AND REGIONS FOR TRANSPORT INNOVATION

Involving cities in shaping UAM

01 December 2022

Brussels



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## City & Region Members

-  Antwerp, Hasselt & Liege (MAHHL)
-  Tartu
-  Oulu, Tampere
-  Aix-Marseille, Albi, Ile de France, Region N. Aquitaine, Region Sud, Toulouse
-  Aachen (MAHHL), Berlin, Hamburg, Ingolstadt, Region Northern Hesse
-  Egaleo, Region of Western Greece, Trikala
-  Bari, Turin
-  Amsterdam, Enschede, Heerlen & Maastricht (MAHHL), Rotterdam
-  Metropolia GZM
-  Porto
-  Ljubljana
-  La Coruna, Madrid, Malaga, Zaragoza
-  Region Örebro County, Norrköping, Stockholm
-  Canton of Geneva
-  Durham, Oxfordshire County



## International City & Region Partners

Mie Prefecture 

Commonwealth of Massachusetts 



## Knowledge Partners



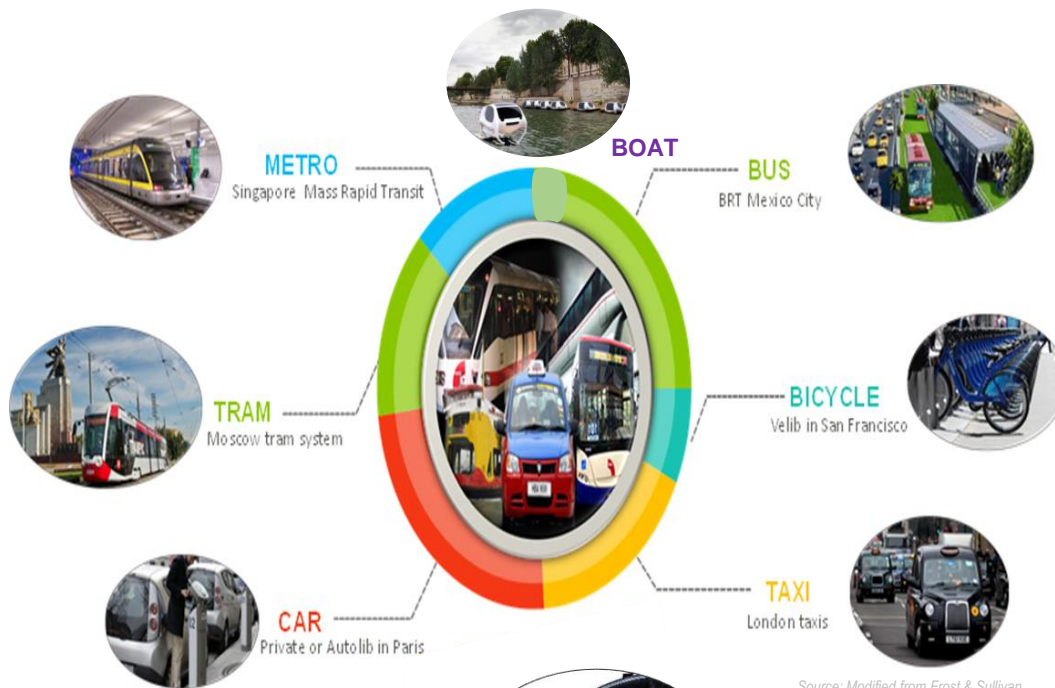
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# Mobility solutions in smart cities

*Motto of UAM initiative:*

Smart mobility in smart cities:

**WALK.**  
**RIDE.**  
**DRIVE.**  
**FLY.**



Source: Modified from Frost & Sullivan

Typical  
multimodal  
mobility solutions  
in smart  
cities/regions  
do not consider  
air mobility

# Urban Air Mobility (UAM)

## A definition by UIC2

Urban? Suburban? Regional? Advanced?....

*'Urban' is simply used as a semantic to indicate...*

**Very-low altitude airborne traffic\*, above populated areas, at scale, that is sustainably integrated with surface mobility systems**

*\* Traffic manifested by various types of suitable airborne vehicles*

*... how safe is it to fly at low altitudes above people?*



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*... in which way can urban aviation help mobility systems?*

# Scope of the UIC2 activities



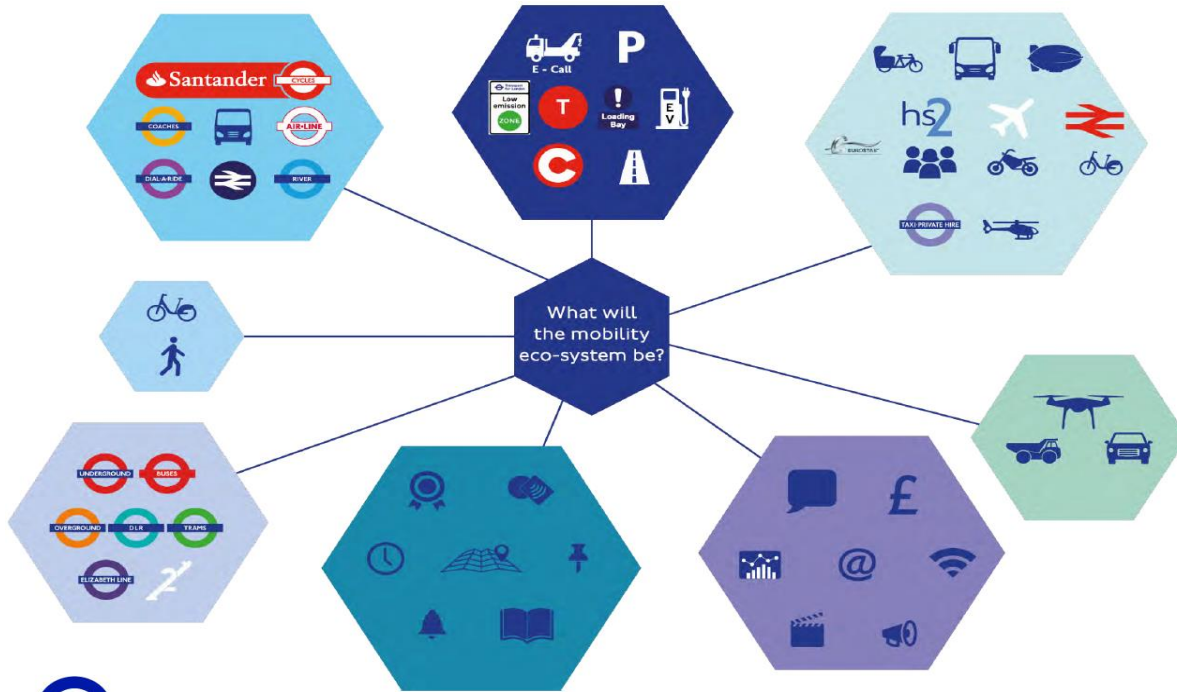
## City-centric & Citizen needs-driven

Sustainable Urban Mobility  
 Policy & Demonstrators  
 focused on UAM by addressing:

1. UAM interfaces with *public transport*\*
2. Mobility as a Service
3. Ground infrastructure for UAM
4. ATM / UTM concepts for UAM in accordance with the U-Space framework

\* Or other interfaces: e.g. logistics platform, emergency services hubs, etc.

# illustration of the urban mobility ecosystem



Urban air traffic is only fractional when compared to the total footprint of urban traffic

....

...nevertheless,

**'Co-Existence'**

**&**

**Integration**

are a prerequisite

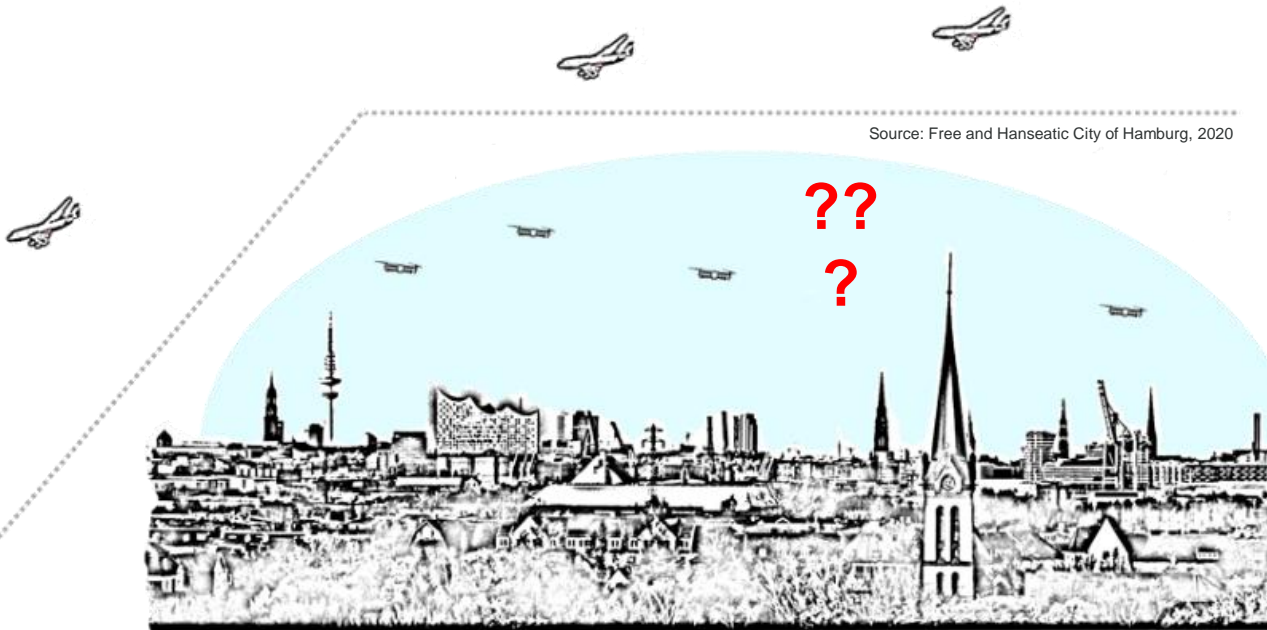
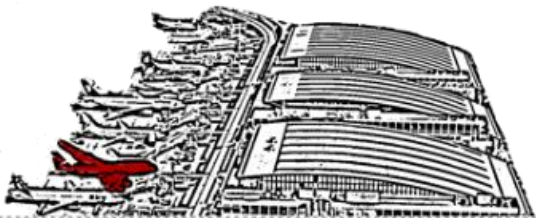


Source: TfL, Transport for London

EVERY JOURNEY MATTERS

# Urban air traffic sets . . .

- ✓ Airspace digitalisation
- ✓ New infrastructure (*aviation + mobility*)
- ✓ New interfaces (*aviation + mobility*)
- ✓ New business / services
- ✓ New mindset for policy and regulatory approaches (*e.g. embracing innovation*)



New perspectives for industry

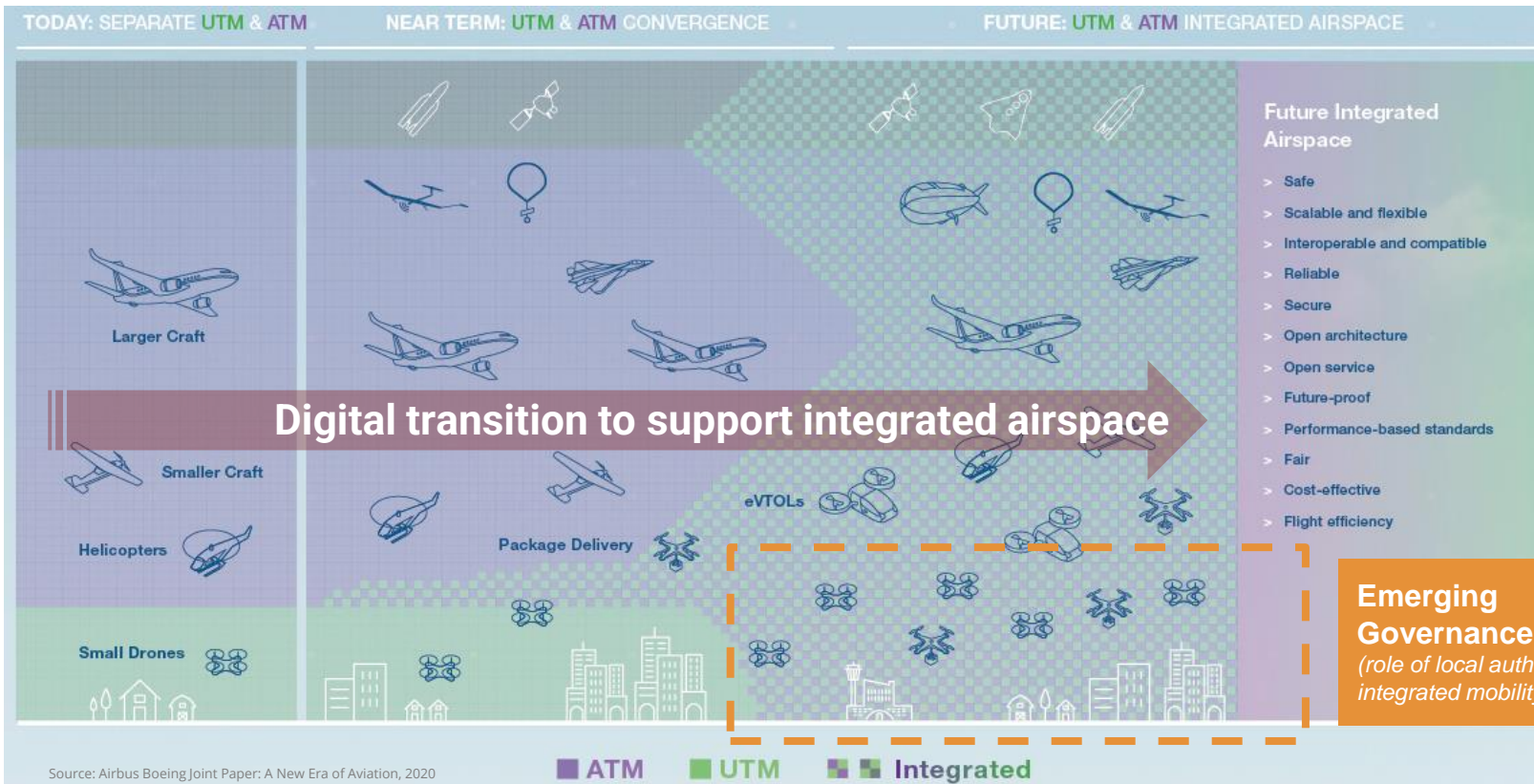
New economic spaces above cities

New perspectives for mobility

*. . . a new 'status quo'*



# Towards Integrated Airspace



# UAM offers cities new opportunities . . .

- ✓ **But** also new tasks and responsibilities for them
- ✓ At the same time, **cities**, as a layer of government closest to citizens, are an essential player in having an **influential / deciding role** in the governance of the urban airspace / U-Space



Source: AIRBUS



# UIC2 Manifesto on the Multilevel Governance of the Urban Sky

**Manifesto on the Multilevel Governance of the Urban Sky**  
by the UIC2 Initiative Cities Community – UIC2

Amsterdam, 01 December 2022

The UIC2 Initiative Cities Community (UIC2) of the EU's Smart Cities Community – formerly known as FP7/SC Urban Air Mobility (UAM) Initiative – is thankful to the European Commission for supporting it through its smart cities marketplace platform since October 2021.

The members of the UIC2 recognise the importance for harmonised and universal U-space regulation of EU level. The UIC2 acknowledges the need for approval of urban flight operations at national level, in alignment with U-space regulations. Moreover, we recognise the need for national and regional competent civil aviation authorities to lead the legal implementation and approval of urban flight operations in accordance with the principles of subsidiarity and proportionality.

The members of the UIC2 also recognise and request that the role of the cities and regions as one of the competent authorities explicitly acknowledged and referenced in the prospective U-space legislative scheme of Member States. This is an imperative in the context of multilevel governance of U-space and requires decentralised policy implementation.

1. Cities/Regions have a deciding role for allowing the operation of UAM services of public interest (e.g. future public transport, parcel deliveries, emergency services) in alignment with the needs and preferences of their citizens.
2. Cities/Regions have a deciding role in establishing to what extent UAM/U-space operations can be conducted in their territories.
3. Cities/Regions have a deciding role when UAM/U-space flight operations are permitted within their territories (e.g. geofencing, day / night-time restrictions, noise and small obstructions).
4. Cities/Regions have a deciding role where take-off and landing sites are to be built.
5. Provision of subgrants of the public use of the urban airspace over a city/region remains a local task.

The members of the UIC2 trust that the above requests will be treated with consideration and attention in all the framework of Transport, Innovation Committee for multilevel governance of U-space, and to the legislative process of U-space Regulation by Member States.

**Background**

The UIC2 Initiative of the Smart Cities Marketplace has enabled cities and regions to become UAM role models and to discuss their opinions and concerns directly with European and State Member authorities and policy-making bodies, including the EC, EASA, Eurocontrol and SESAR EU. For example, the German UIC2 members are building a partnership, since 2020, that is supported by the BMD (Federal Ministry of Transport and Digital Infrastructure) to focus on open exchange and collaboration as well as standard-setting for more future urban cities and regions.

The efforts and engagement of UIC2 alongside with the European Commission's support have resulted in fruitful interactions and concrete actions towards sustainable and integrated urban mobility, some of which are highlighted below.

- The invitation to UIC2 to become member of U-space Network of Demonstrators in October 2018. This has helped us to be in contact and discuss with ANSPs (Air Navigation Service Providers), industry actors and national authorities regularly.
- The invitation to UIC2 Task Force (representatives including Mayor/Vice-Mayors) to meet with the former Commissioner of Transport, Innovation and Digital Policy in May 2019. This has allowed us to share the progress of the country's work as well as the specific challenges faced by the authorities in sustainably nurturing and fully advancing the UAM ecosystem.
- The invitation to UIC2 to participate in U-space regulation drafting workshops at EASA headquarters in May 2020. This allowed UIC2 to further emphasize the

importance of the role of cities and regions in the governance of urban airspace.

The preparation of an EU European Investment Bank Advisory bank management for UAM since 2020, and its launch in February 2022, both support UIC2 members towards the development of their business models and carry out an early market assessment of the UAM sector.

The development of UIC2 UAM dedicated calls for funding in the context of sustainable urban mobility under the Horizon Research (2019-2020), notably, the UIC2 UAM Research and Innovation Action, which is part of the UIC2 UAM Coordination and Support Action (UIC2 UAM-CSA), has led to calls. These enabled UIC2 members and their industrial and academic partners to participate in projects and to be awarded research funding for their projects starting in Q3 2021.

The invitation and assignment to the UIC2, in December 2021, of the task to develop the Progression Briefing on UAM in the context of the Sustainable Urban Mobility Plan project (SUAMP), has provided UIC2 members with first-hand knowledge of the UIC2 UAM ecosystem. This has allowed UIC2 members to share their experiences, lessons learnt and initial recommendations to effectively integrate UAM aspects in the UAM processes of cities and regions across Europe.

UIC2 highly acknowledges and appreciates the European Commission's support and dedication towards the community that has led to its recognition as the leading first-hand region-driven community on UAM.



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[www.amsterdamdroneweek.com/manifesto](http://www.amsterdamdroneweek.com/manifesto)

## European Cities and Regions already supporting ...

... as of 15 Sep 2022



## Organisations / Associations already supporting ...

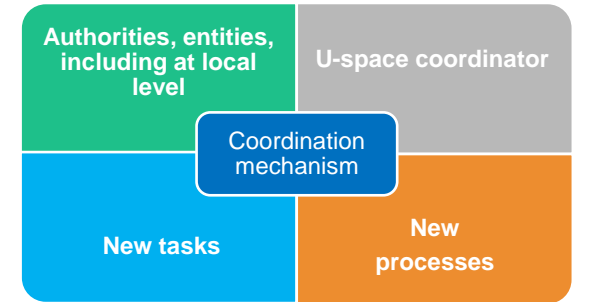
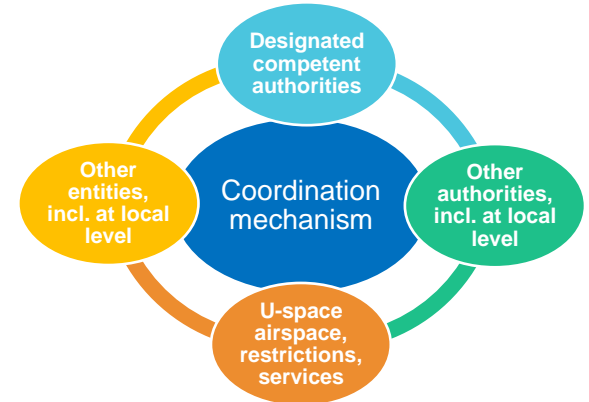


## International (outside the EU) Cities and Regions already supporting ...



# EU's Regulatory Framework for U-Space: Article 18(f)

A novel approach to build up the coordination mechanism\*



\*based on draft NPA 2021-14 published on Dec. 2021

Extract from the Commission Implementing Regulation (EU) 2021/664 of 22 April 2021 on a regulatory framework for the U-space.  
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0664>

### Article 18

#### Tasks of the competent authorities

The designated competent authorities shall:

- (a) establish, maintain and make available a registration system for certified U-space service providers and single common information service providers;
  - (b) determine what traffic data, whether live or recorded, U-space service providers, single common information service providers and air traffic service providers are to make available to authorised natural and legal persons, including the required frequency and the quality level of data, without prejudice to personal data protection regulations;
  - (c) determine the level of access to the information for different users of the common information, and ensure it is made available in accordance with Annex II;
  - (d) ensure that data exchanges between air traffic service providers and U-space service providers are made in accordance with Annex V;
  - (e) define the manner for natural and legal persons to apply for a U-space service provider or single common information service provider certificate in accordance with Chapter V;
  - (f) establish a mechanism to coordinate with other authorities and entities, including at local level, the designation of U-space airspace, the establishment of airspace restrictions for UAS within that U-space airspace and the determination of the U-space services to be provided in the U-space airspace;**
  - (g) establish a certification and continuous risk-based oversight programme, including the monitoring of the operational and financial performance, commensurate with the risk associated with the services being provided by the U-space service providers and single common information service providers under their oversight responsibility;
- require the providers of common information and U-space service providers to make available all necessary information to ensure that the provision of U-space services contribute to safe operations of aircraft;



## What is MaaS?



Rental cars

Ride sharing,  
Car sharing  
Bike sharing  
...

Journey planner

Booking

Ticketing

Real-time information & support

## Mobility as a Service

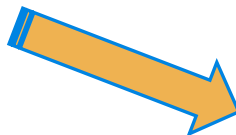
Resulting in optimised use

- of public, private & shared fleets
- transport network capacity

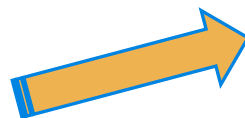
The imperative for  
*air and ground*  
traffic  
integration



- Plan for **sustainable mobility** in the "functional city"
- Cooperate** across institutional boundaries
- Involve citizens and **stakeholders**
- Assess current and future **performance**
- Define a long-term vision **and** a clear **implementation plan**
- Develop all transport **modes** in an **integrated** manner
- Arrange for monitoring and **evaluation**
- Assure quality**

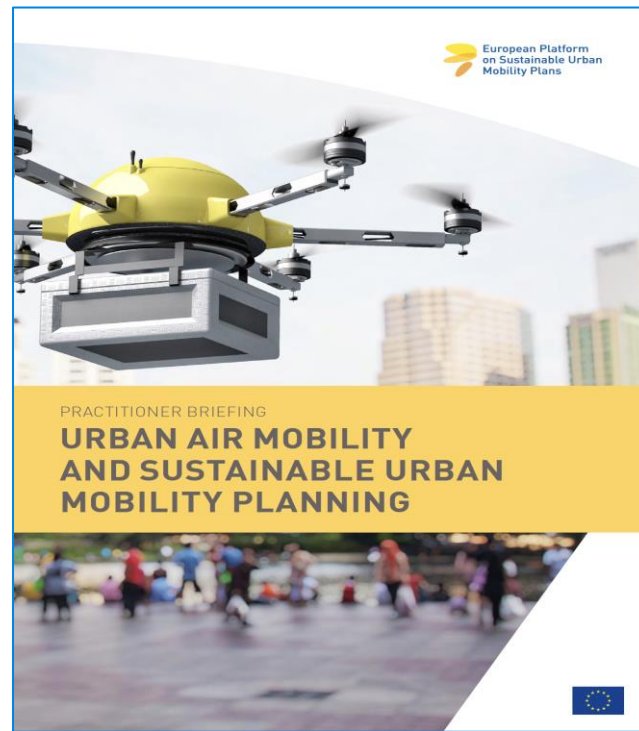


UIC2 cities and regions, experience, lessons learnt and reflection



## The SUMP-UAM Practitioner Briefing

<https://www.eltis.org/in-brief/news/new-sump-practitioner-briefing-urban-air-mobility>



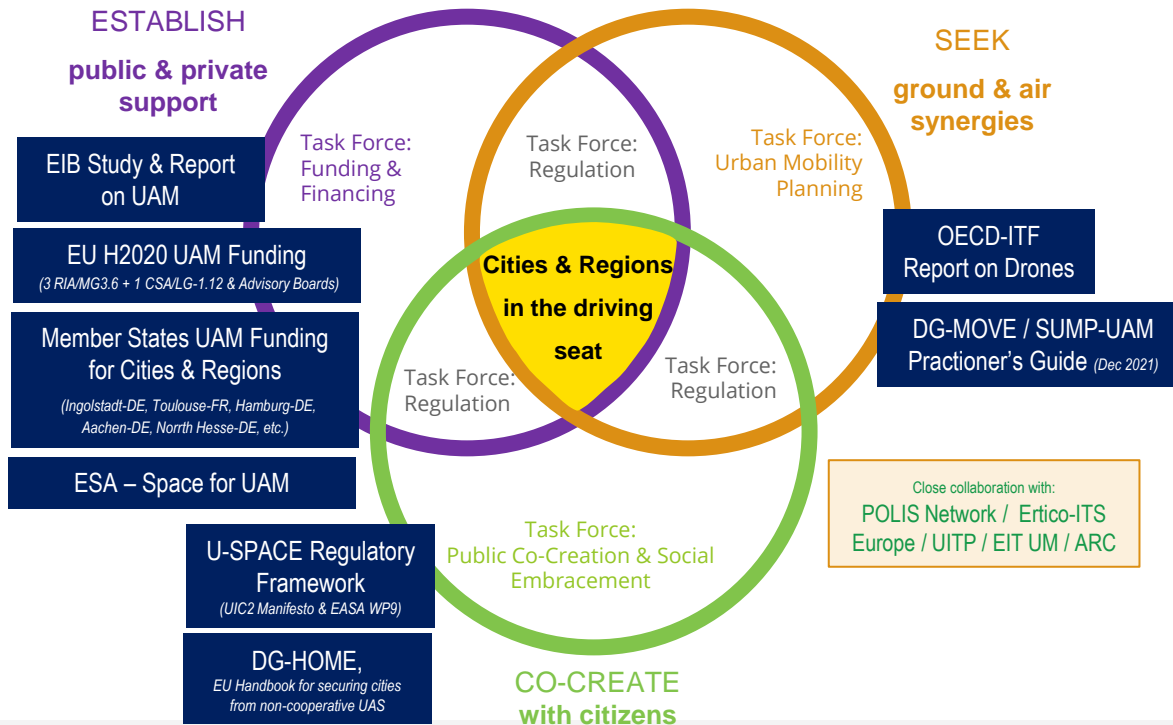
# Driving a sustainable & responsible transition

## Towards a sustainable & responsible transition to UAM

*A three-fold approach is required*

**Reminder of Prerequisites**

- ✓ **integrated sustainable urban mobility solutions**
- ✓ **demonstrable benefits to citizens**
- ✓ **socially & environmentally acceptable solutions**



**UIC2 serves as a city-centric platform to:**

- ✓ Ensure a **holistic** approach to urban mobility
- ✓ **Proactively** engage with citizens
- ✓ **Co-create** with public and private actors (incl. citizens)

# It is all about a Social Business Ecosystem

*i.e. it's not about what technology can do for us but what we want technology to do for us!*



## Thank you!

**Dr Vassilis AGOURIDAS**

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Source: AIRBUS

