Driving the Sustainable & Responsible Transition of Urban Mobility to the Third (Vertical) Dimension

Dr Vassilis AGOURIDAS
Leader, UAM Initiative
An Initiative of EU Smart Cities

Overview of UIC2
28 February 2022
Urban Air Mobility Initiative Cities Community

Driving the Sustainable & Responsible Transition of Urban Mobility to the 3rd Dimension

City & Region Members

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

International City & Region Partners

Knowledge Partners

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Mobility solutions in smart cities

Motto of UAM initiative:
Smart mobility in smart cities:
WALK. RIDE. DRIVE. FLY.

Typical multimodal mobility solutions in smart cities/regions do not consider air mobility
‘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
Scope of the UAM Initiative

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
Towards Integrated Sustainable Urban Mobility

The imperative for air and ground traffic integration

What is MaaS?

Mobility as a Service

Journey planner
Booking
Ticketing
Real-time information & support
Rental cars
Ride sharing, Car sharing, Bike sharing...

Resulting in optimised use
- of public, private & shared fleets
- transport network capacity

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Towards Integrated Sustainable Urban Mobility

The SUMP-UAM Practitioner Briefing


UIC2 cities and regions, experience, lessons learnt and reflection
Towards Integrated Airspace

Modernizing ATM

From analogue to fully digitalised & integrated airspace

Source: Airbus Boeing Joint Paper: A New Era of Aviation, 2020
Urban traffic goes to the third dimension!

‘Urban’ implies more than increased levels of safety and security
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’

Source: Free and Hanseatic City of Hamburg, 2020
✓ 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
UIC2 Manifesto on the Multilevel Governance of the Urban Sky

www.amsterdamdroneweek.com/manifesto

Organisations / Associations already supporting ...

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

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Article 18(f) of the Regulatory Framework for U-Space

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;

Article 18(f) of the Regulatory Framework for U-Space


A novel approach to build up the coordination mechanism
(based on draft NPA 2021-14 published on Dec. 2021)
Driving a sustainable & responsible transition:  
The UIC2 Task Forces

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)
Towards a worldwide UAM community of cities and regions

World Economic Forum AAM/UAM Cities and Regions Coalition

with support by the UIC2 (European Pillar)

The World Economic Forum’s Advanced & Urban Air Mobility (AAM/UAM) Cities and Regions Coalition will be announced in March 2022 at Amsterdam Drone Week.

The coalition will create a forum for extending the conversations that have taken place within UIC2 in Europe to a worldwide level.

Its goals are to support policy makers in responsibly integrating new aerial platforms into urban and regional transportation networks.

Cities and regions will set the agenda for the groups work and will be supported by industry as needed.

The Forum is seeking to announce a group of high ambition city/region partners as founding members at the March launch.

These cities and regions will have the opportunity to be leaders in the area of AAM/UAM and will help shape its implementation as a service by:

• Undertaking policy development exercises.
• Implementing pilot programs to assess the real-world impacts of policies.
• Sharing their findings with other cities and regions to help identify best practices.
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!

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Dr Vassilis AGOURIDAS

Leader of the UIC2

Head of Public Co-Creation & Ecosystem Outreach
AIRBUS, Urban Mobility

vassilis.agouridas@airbus.com

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Source: AIRBUS

Thank you!