

REACHING FOR THE SKY

WRITTEN BY
VASSILIS AGOURIDAS
MANON COYNE

Urban Air Mobility (UAM): could it support sustainable transport in cities, connect rural areas, save investment costs, and why not...save lives?

One way or another, it is time for local authorities to find out and act!

With Urban Air Mobility (UAM) being a somewhat recently introduced term, there is no universally approved definition of it – indeed, it varies according to the perspective of different stakeholders. To offer some guidance, the UAM Initiative Cities Community (UIC2) defines UAM as: ‘Very-low altitude airborne traffic, above populated areas, at scale, that is sustainably integrated with surface mobility systems’.

The definition prompts a number of questions about potential challenges, like:

how safe is it to fly at low altitudes above people and in which way can urban aviation help mobility systems, and, above all, citizens?

As of 2017, several visionary cities and regions across Europe have created a community to reflect on these fundamental questions and put themselves on the frontline. Initially established within the EU’s Smart Cities Marketplace, the UIC2 includes over forty members exploring different policy, mobility, financing, funding, and social aspects that the emerging UAM domain challenges. Integrated with the EU’s CIVITAS Initiative in September 2022, UIC2 strives to elaborate on future challenges and solutions, as well as to safeguard the sustainable and responsible integration of UAM services within their local environments.





Urban Air Mobility Initiative Cities Community

The voice of cities and regions in urban air mobility



DRIVING THE SUSTAINABLE & RESPONSIBLE TRANSITION OF URBAN MOBILITY TO THE 3RD DIMENSION

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Time to act!

According to the EU's U-space Implementation Regulation (EU) 2021/664, and specifically Article 18(f), the competent national authorities (eg civil aviation authorities) shall designate a coordination mechanism for the planning, execution, and review phases of U-space operations by involving public and private entities also at the local level.

The regulation requires establishing a multilevel governance approach to ensure that all relevant stakeholders' perspectives are properly considered.

To this end, local authorities, whether at a regional or municipal level, shall be involved throughout the U-space deployment phases, covering planning, execution, and review. Their role may vary from advising and safeguarding local interests to managing relevant activities assigned to the newly introduced 'U-space coordinator'.

The U-space coordinator oversees, among others:

1. The consideration of all stakeholder perspectives, for example through public consultations.
2. The alignment and coordination of pertinent entities before any drone operations.
3. The provision of informed recommendations to competent authorities for the nature and specific deployment characteristics of a U-space in a given local environment.

In addition to these regulatory responsibilities, there are non-specified challenges that require active efforts of regional and local authorities concerning the sustainable and responsible implementation of UAM. One of these crucial efforts is following a holistic approach to airborne services, which need to be integrated into urban development and ground mobility planning (e.g., Sustainable Urban Mobility Plans - SUMP).

In other words, through SUMP, cities and regions (in coordination with aviation authorities) can ensure that UAM operations are not exclusively treated in an 'aviation silo' and on a total ad-hoc basis from an integrated mobility perspective, which can subsequently damage other systems, but rather seek for strategic synergies and complementarities. In this regard, the EU-funded ASSURED-UAM project published in 2021 a report on UAM Urban Mobility Integration Strategies, and the UIC2 developed the SUMP practitioner briefing on UAM, published in December 2021.

Considering the forthcoming acceleration of this topic, ambitious authorities may aspire to develop the needed competencies to carry out even more operational tasks, by managing certain aspects of U-space, depending on their national jurisdictions (eg, City-States), in the frame of overall metropolitan development, and transport planning activities and responsibilities.

Ruling the sky?

Local authorities must act now, but for that, they first need to discover where to start.

In practical terms, cities and regions could start preparing by putting forward 'city metrics' to evaluate the operational and societal impacts of UAM services. These metrics, which could be part of a SUMP process, could assess, for example, noise emissions, visual pollution, ecological footprint, inclusiveness, and accessibility of UAM services, to inform stakeholders and confirm or refute public assumptions.

Drone transporting medical material

USEPE project

Drone over highway

USEPE project



Indeed, many of these concerns have been identified in the EASA study on UAM social acceptance in 2021, as well as in the recent study of the AiRMOUR project. Based on facts and data, priorities could be defined and measures adopted to mitigate real and most pressing issues related to UAM operations.

The user and social acceptance of this mobility and urban innovation is significantly challenging. While it may vary from one city to another due to their cultural and geographical characteristics, experience within UIC2 has shown that the terms in themselves may prove insufficient to seize the challenges of introducing a totally new mode of mobility in society. UIC2 introduced in 2018 the term 'societal embracement', to underline the wider dimension of the set of stakeholders to be considered, going beyond the concept of customers, and including a broad definition of citizens – both users and non-users.

As the EU-funded projects AiRMOUR, AURORA, FlyingForward2020, and USEPE found out in their 'UAM for all' workshop in Brussels back in May 2022, all residents of urban areas inquired about the purpose of these services. Local authorities have the proper position and also the duty to ensure information, communication, and engagement of their citizens in the definition of UAM services to be introduced in their skies.

Next to anticipating and evaluating impact and engaging citizens, cities and regions can participate in testing and designing future UAM services. The Pan-European UAM Projects & Initiatives Community launched in March 2022 gathers a rich variety of existing cross-sectoral and transdisciplinary projects shaping the future UAM system. This, and other communities focusing on collective work for sustainable and smart mobility such as CIVITAS (UIC2) and POLIS, bring to the front technological advances and, most importantly, the viewpoints of local authorities. As such, these communities serve as catalysts to bridge the operational and mindset gaps among the urban mobility, planning, and aviation communities.



USEPE ends in December 2022

USEPE

'UAM for all' workshops in Brussels

Lisa Vanderheijden, FF2020 Project

UAM Projects & Initiatives Community

FF2020 Project

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*The initiators of this community are the EU-funded projects under the European Commission's H2020 Framework Programme (MG3.6 on Sustainable Urban Air Mobility and the EU call LG1.12 on climate-resilient cities.) and of the UAM Initiative of the EU's Smart Cities Marketplace.

As European authorities and budget owners start to realise the need to act for the well-being of our local skies, investment in research dissemination, community building, and city personnel education and training has already started to pick up.

In addition to the Erasmus+ 'UAM school for cities' funded project, several introduction and informative sessions were included in high-level events in 2021 and 2022. Do you want to enter the scene and have a say in your sky's future? It is never too late to start!