



## INNOVATIVE AIR MOBILITY: THE REGULATORY TAKEOFF OF A NEW ERA OF TRANSPORTATION

Air transport is undergoing a profound transformation driven by the development of electric, digital and automated technologies. In this context, Innovative Air Mobility (IAM) is emerging. It is a new ecosystem based on sustainable propulsion systems and the use of state-of-the-art aircrafts –mainly eVTOLs (electric vertical take-off and landing vehicles)<sup>1</sup>– for the transport of passengers and goods in urban and peri-urban environments.

What was perceived, until a few years ago, as a futuristic solution is now beginning to materialise thanks to institutional support and technological advances. This scenario has accelerated the need to establish a clear and harmonised regulatory framework that allows for the safe and progressive deployment of these operations. Issues such as operational safety, integration into airspace, regulation of the so-called 'vertiports', noise impact and social acceptance require a coordinated legal response.

In this newsletter, we will address the origin and evolution of the IAM regulatory framework –at European and national level– the most relevant legal challenges posed by its development, and the regulatory perspectives that will define the future of this new model of air mobility.

### IAM REGULATION IN EUROPE: ORIGINS AND CURRENT REGULATORY FRAMEWORK

The regulatory development of Innovative Air Mobility (IAM) in Europe has been progressive and closely linked to the pace of technological innovation. Although the first eVTOL aircraft prototypes emerged more than a decade ago, regulatory momentum gained momentum in 2020 when the European Union initiated a structured approach to their integration into airspace.

In 2021, the European Aviation Safety Agency (EASA) published its first guidelines on *Urban Air Mobility* (UAM), identifying the main operational, technical and social challenges associated with the electric and vertical take-off aircrafts in urban environments. This document laid the foundations for a more ambitious regulatory agenda.

The turning point came in 2023 with the publication of EASA *Opinion No 03/2023*<sup>2</sup>, which proposed the amendment by the European Commission of the existing European regulations on this matter<sup>3</sup> in order to introduce operational and technical requirements applicable to the so-called VTOL-capable aircrafts (VCA)<sup>4</sup>. These aircrafts are defined, in accordance with the European framework, as motor-powered, heavier-than-air aircrafts, other than aeroplanes and helicopters, with vertical take-off and landing capability using specific lift and thrust units.

In 2024, the European Commission approved the regulatory package that integrates a large part of these proposals into EU legislation. Subsequently, in 2025, EASA published Decision ED 2025/012/R, which establishes the new Acceptable Means of Compliance (AMC) and Guidance Material (GM) necessary to implement the operational and airworthiness requirements for manned VCA aircrafts in practice.

This set of regulations now allows for the development of experimental and pre-commercial operations under a more defined legal framework and provides Member States with a harmonised basis for moving towards authorisations for regular urban operations.

In addition, the amendments introduced in Air OPS (Regulation (EU) 965/2012) and Regulation (EU) 1178/2011 adapt flight procedures, energy planning, vertiport selection and pilot training to the specific characteristics of eVTOLs. Meanwhile, adjustments to SERA (Regulation (EU) 923/2012) and Regulation (EU) 2017/373 allow these flights to be integrated into the European air traffic management system, enabling them to operate in low-altitude urban corridors and ensuring interoperability with U-space<sup>5</sup>.

Finally, in terms of infrastructure, although there is still no specific European regulation on vertiports, EASA has published technical guidelines establishing criteria for design, electrification, accessibility and operational coordination. This framework, which is currently being progressively rolled out, constitutes the first globally uniform regulatory environment for urban air mobility.

<sup>1</sup> For further information, please refer to the June 2024 Newsletter, available on the [PionAirLaw blog](#).

<sup>2</sup> For further information, please refer to Opinion No. 03/2023 Introduction of a regulatory framework for the operation of drones – Enabling innovative air mobility with MVCA, the initial airworthiness of UAS subject to certification, and the continuing airworthiness of those UAS operated in the 'specific' category.

<sup>3</sup> Specifically, Regulation (EU) 965/2012 (Air OPS), Regulation (EU) 1178/2011 (FCL, flight licences), Regulation (EU) 923/2012 (Implementing Rules ATM / Rules of the Air / SERA) and Regulation (EU) 2017/373 (maintenance part).

<sup>4</sup> Commission Implementing Regulation (EU) 2024/1111 of 10 April 2024 amending Regulation (EU) No. 1178/2011, Implementing Regulation (EU) No. 923/2012, Regulation (EU) No. 965/2012 and Implementing Regulation (EU) 2017/373 as regards the establishment of requirements for the operation of manned aircraft with vertical take-off and landing capability.

<sup>5</sup> The so-called 'U-space concept' encompasses a set of specific systems, services and procedures that have been designed to enable safe, efficient and affordable access to airspace for numerous or complex UAS operations, based on technical developments with a high degree of digitalisation and automation.

## REGULATORY DEVELOPMENT IN SPAIN: A FIRST TAKE-OFF

In Spain, the regulatory development of Innovative Air Mobility is still in its early stages, although significant progress has already been made. The main milestone is Royal Decree 141/2025 of 25 February<sup>6</sup>, which introduces for the first time references to the certification and maintenance of new-generation aircrafts, laying the foundations for the future integration of VCA operations into national airspace.

At the same time, recent reforms to the Air Navigation Act<sup>7</sup> and the Air Safety Act include explicit references to Urban Air Mobility, provide for the creation of environmental commissions and establish principles for coordinating competences between the State, the Autonomous Communities and local authorities.

In addition, the reform of the LSA is particularly relevant in terms of penalties, as it updates –in Article 45 ter– the penalty system applicable to unmanned aircraft systems (UAS), incorporating specific infringements relating to registration and identification, operating conditions and the training and qualification of remote pilots. This change represents a step towards a more structured control and supervision framework, in line with European operational safety standards. Likewise, Royal Decree 517/2024<sup>8</sup> has defined more precisely the technical and operational conditions for enabling urban air corridors, allowing beyond visual line of sight (BVLOS) operations in densely populated areas, U-space areas and specific-use environments. This regulation provides key legal tools for planning and authorising safe scenarios for delivery, logistics or passenger transport using eVTOL aircraft.

The implementation of IAM will, however, require close coordination across the different levels of government. While the State has exclusive powers over airspace and airworthiness, the Autonomous Communities and local councils must take an active role in issues such as urban planning, the integration of aeronautical infrastructure, the management of public space and environmental supervision. This distribution of powers, already recognised in various sectoral regulations and plans, reinforces the need for structured multi-level governance that articulates both state legislation and local ordinances, facilitating the safe and socially accepted deployment of urban air services.

An illustrative example is Madrid, which in 2024 created the Municipal Commission for Urban Air Mobility with the aim of preparing a specific ordinance on the use of UAS and defining an operational framework for deploying pilot projects, vertiport infrastructure and controlled test environments. Its roadmap envisages progressive implementation between 2026 and 2023, in line with similar initiatives in cities such as Milan, Helsinki and Zurich.

## LEGAL CHALLENGES AND FUTURE PROSPECTS

Despite regulatory progress, the effective implementation of Innovative Air Mobility still poses significant technical and legal challenges. These include the need for a clear framework for the authorisation, design and operation of vertiports, the adaptation of civil liability and insurance regimes to automated and low-altitude flights, and the establishment of effective mechanisms to manage noise impact, privacy and citizen participation.

At the same time, the development of training and qualification programmes for crews will need to evolve towards mixed profiles that combine piloting and supervision of automated systems, with a view to autonomous operations in the future.



The European Commission estimates that the first regular commercial IAM services could begin between 2026 and 2028, once the basic infrastructure has been deployed and national regulatory frameworks have been adapted. In this context, Spain must move forward in a consistent, over-arching manner and in line with European principles to ensure legal certainty and become a competitive player within the IAM ecosystem.

## CONCLUSIONS

Innovative Air Mobility represents a turning point in the evolution of European air transport, but its success will depend both on technological development and the regulatory capacity to integrate this new mode of transport into the urban environment in a safe, sustainable and socially acceptable manner.

Europe has taken clear leadership with the adoption of the 2024 regulatory package and its technical development through the AMCs/GMs published in 2025, creating for the first time a homogeneous framework that provides predictability and legal certainty for operations with VCA aircrafts. Spain, for its part, has begun to take significant steps, but it still needs to consolidate a comprehensive framework that allows for the efficient and safe authorisation, coordination and supervision of urban operations.

The future of UAM will ultimately require a over-arching strategy that combines aviation regulation, urban planning, sustainability and citizen participation. Only through an ambitious and coordinated legal approach will it be possible to ensure an orderly transition to an innovative air mobility ecosystem that is safe, efficient and socially accepted.

*PionAirLaw*

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<sup>6</sup> Royal Decree 141/2025, of 25 February, establishing the essential airworthiness requirements for ultralight motorised aircrafts (ULM) and amending both the Order of 31 May 1982 approving new regulations for the construction of amateur aircrafts and the regulations themselves.

<sup>7</sup> Law 8/2025, of 29 September, amending Law 48/1960, of 21 July, on Air Navigation, and Law 21/2003, of 7 July, on Air Safety.

<sup>8</sup> Royal Decree 517/2024, of 4 June, developing the legal regime for the civil use of unmanned aircraft systems (UAS) and amending various regulations on the control of imports of certain products with regard to applicable product safety standards; civil aerial demonstrations; firefighting and search and rescue, and airworthiness requirements and licences for other aeronautical activities; registration of civil aircrafts; electromagnetic compatibility of electrical and electronic equipment; air regulations and common operational provisions for air navigation services and procedures; and reporting of civil aviation occurrences.