



XIV

Welcome to **WALA XIV**
Manama, Bahrain
May 29-31, 2024

URBAN AIR MOBILITY

Taking legal barriers seriously

Diego R. Gonzalez
Aeropuertos Argentina
May 31, 2024

HOSTED BY:



“With the launch of the new *Journal of Law and Mobility*, the University of Michigan is recognizing the **transformative impact** of new transportation and mobility technologies, from cars, to trucks, to pedestrians, to **drones**”

“The coming transition towards **intelligent, automated, and connected mobility systems will transform** the way people and goods move about, **cities are organized**, machines and people are connectd, and the **public and private spheres are defined**.

Law will be at the center of these transformations, as it always is.

For better or worse, connected and automated mobility **will disrupt legal practices and concepts in a variety of ways** additional to the obvious “regulation of the car.”

The Future of Law and Mobility

Daniel A. Crane

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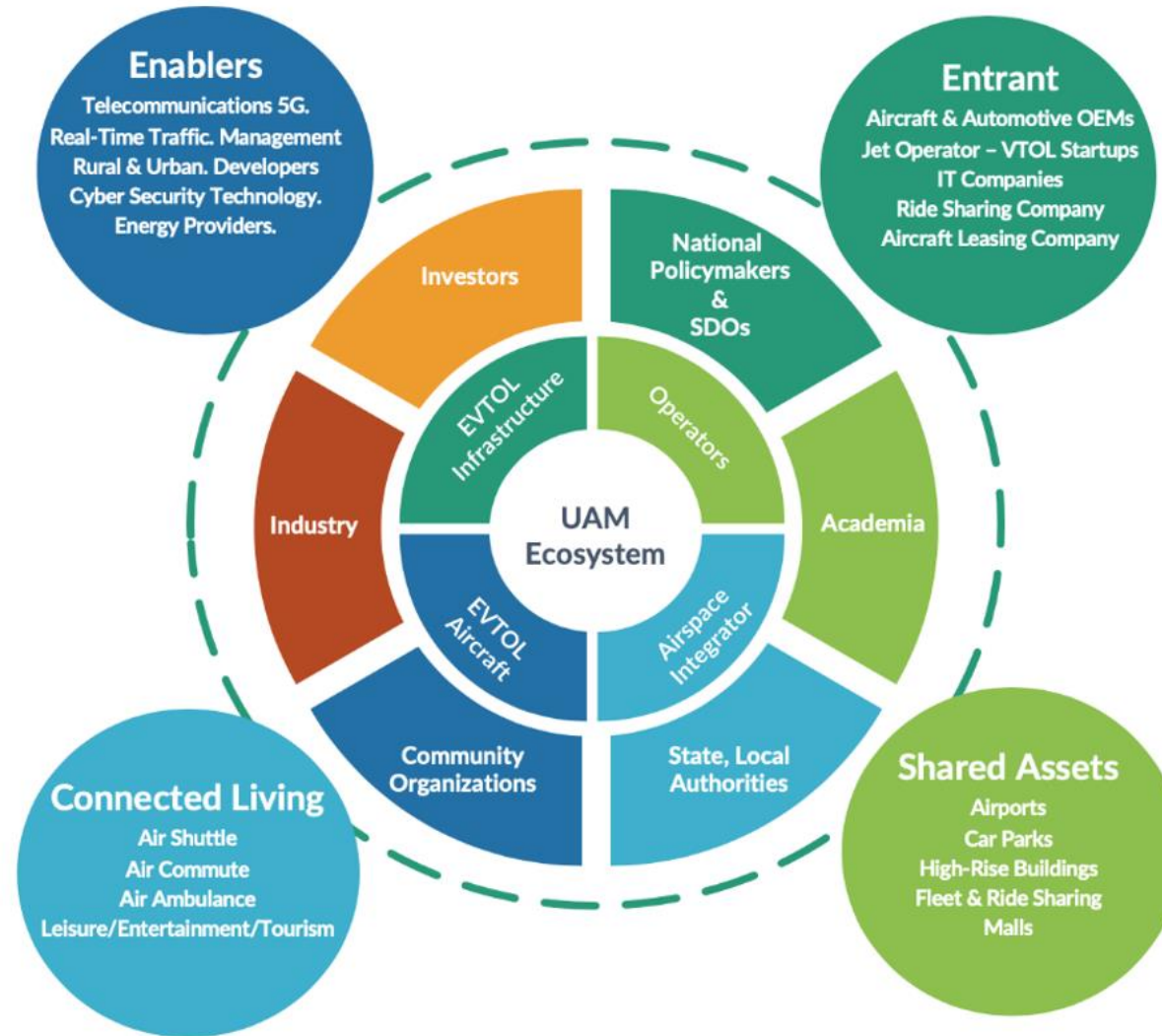
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CATEGORIES

- AAM/UAM route and programme news
- Air taxis and personal transports
- Batteries
- Business Partnerships
- Cargo and logistics
- Cargo and logistics
- Commentary
- Contracts
- Defence
- Emerging regulations
- Experimental craft
- Express delivery
- First responders
- Fixed wing low/zero emissions
- Government contracts
- Government investment
- Hydrogen
- Inspection and surveillance
- Insurance and finance
- Jobs and appointments
- Market analysis
- Medical/pharmaceutical transport
- New city projects
- Public consultation
- Research
- Securing urban airspace
- Security and law enforcement
- Training
- UAM infrastructure
- UTM
- Vertiports



- inner donut shows the prime function players
- outer donut reflects the major stakeholders
- external circles are the second set of the ecosystem members.

Source: Mo. Ashmawy
<https://www.linkedin.com/pulse/urban-air-mobility-ecosystem-flying-colors-mo-ashmawy/>

Reimagining *human connection*

“Reimagine *how we live and spend time*”

“It is a *lifestyle*”

“Designed for *Daily Life*”



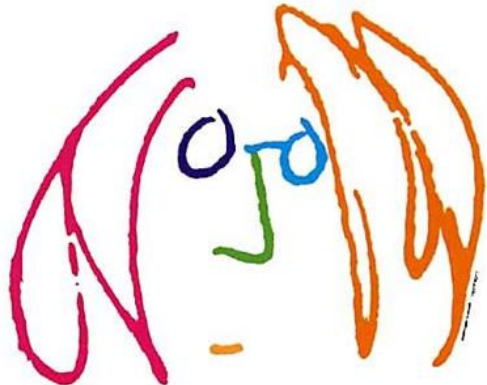


“ ... the first space missions,
it was a *life-changing*...”

“..another *key moment* in
history”

An EVTOL manufacturer
Successfully Obtains Type
Certificate Issued by Civil
Aviation Authority

I M A G I N E
John Lennon



GUANGZHOU, China, Oct. 13, 2023

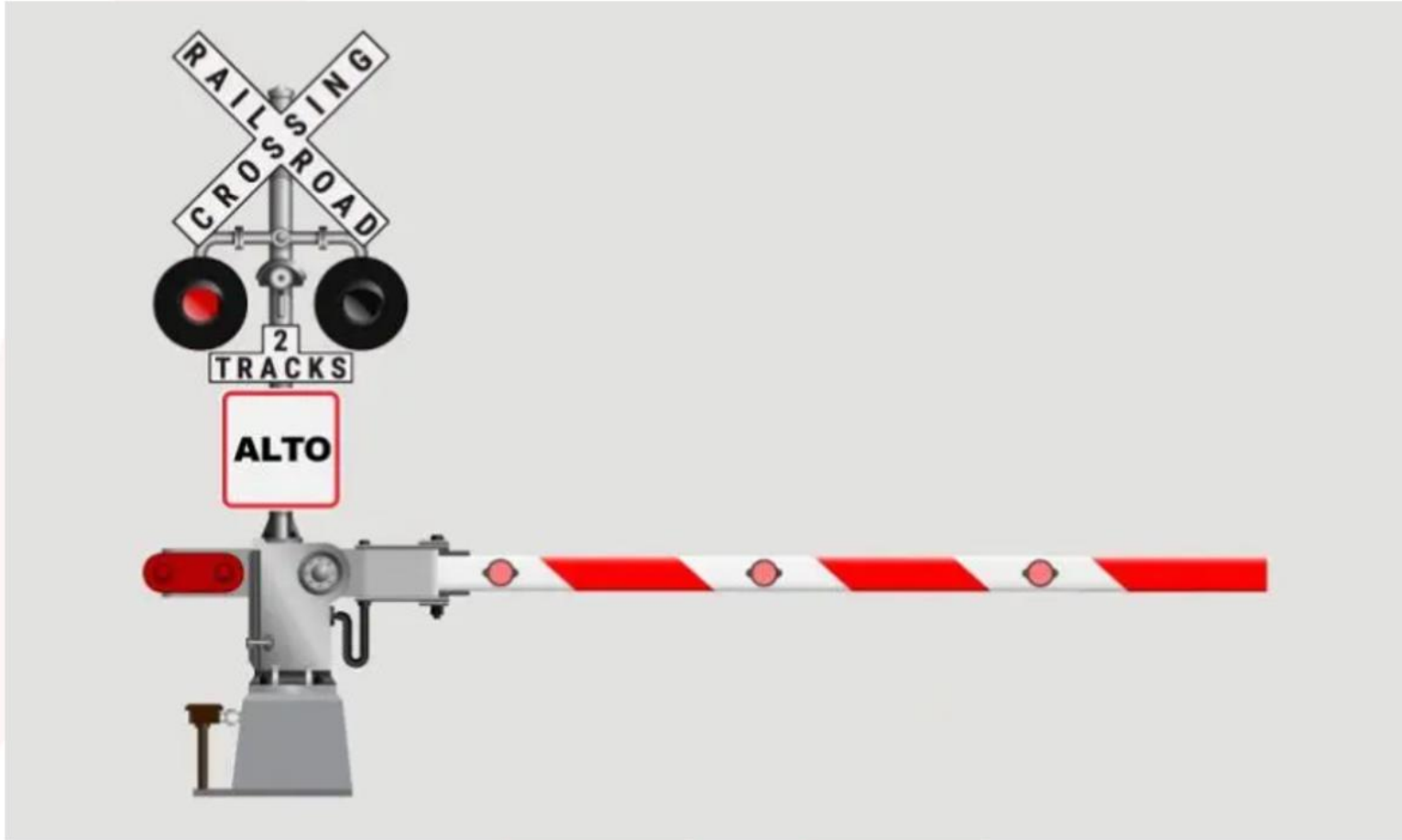
WORLDWIDE AIRPORTS
LAWYERS ASSOCIATION

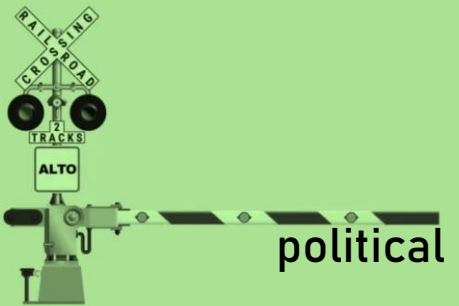
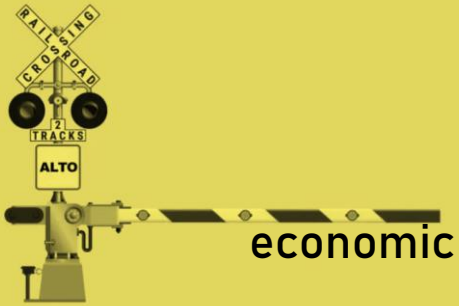
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شركة مطار البحرين
BAHRAIN AIRPORT COMPANY

EH216-S Passenger-Carrying UAV System



BARRIER : *something that blocks the way*





EVTOL have many legal obstacles to overcome



**SOCIAL
ACCEPTANCE**

The Future of Law and Mobility

Daniel A. Crane

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In many ways, the coming mobility revolution will challenge existing legal concepts and practices with implications far beyond the “cool new gadget of driverless cars.”

Despite the great importance of the coming mobility revolution, **the case for a field of study in “law and mobility” is not obvious.**

is it not obvious?



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“Life-changing” + “Key Moments”

Air Law

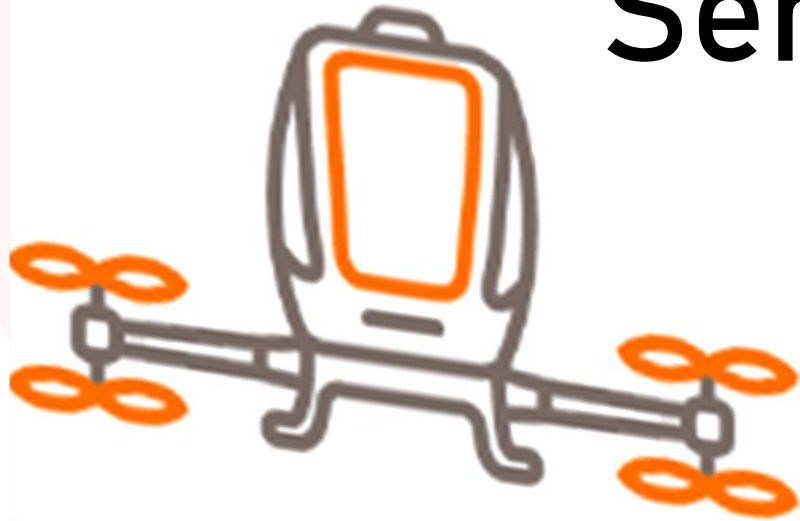


Space law

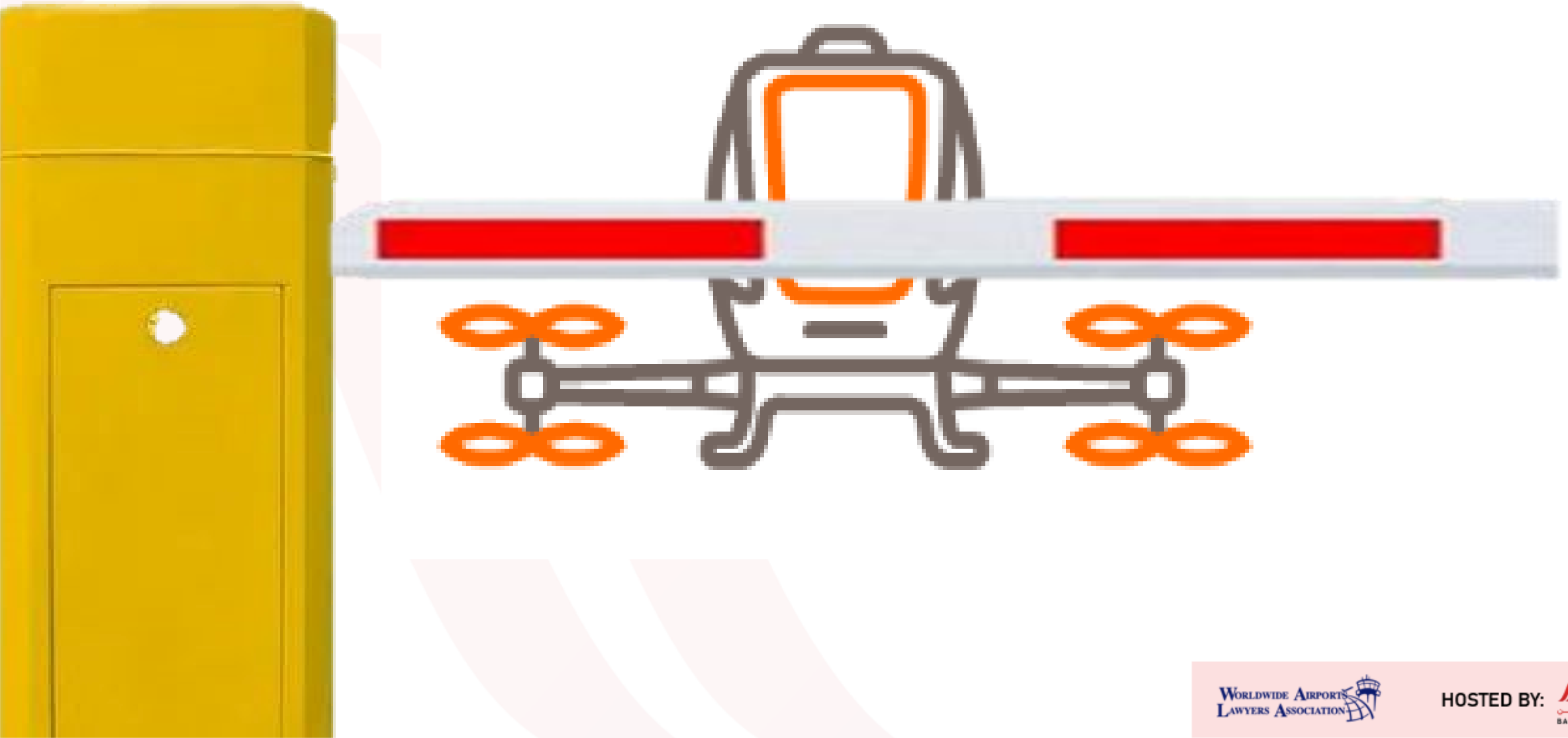


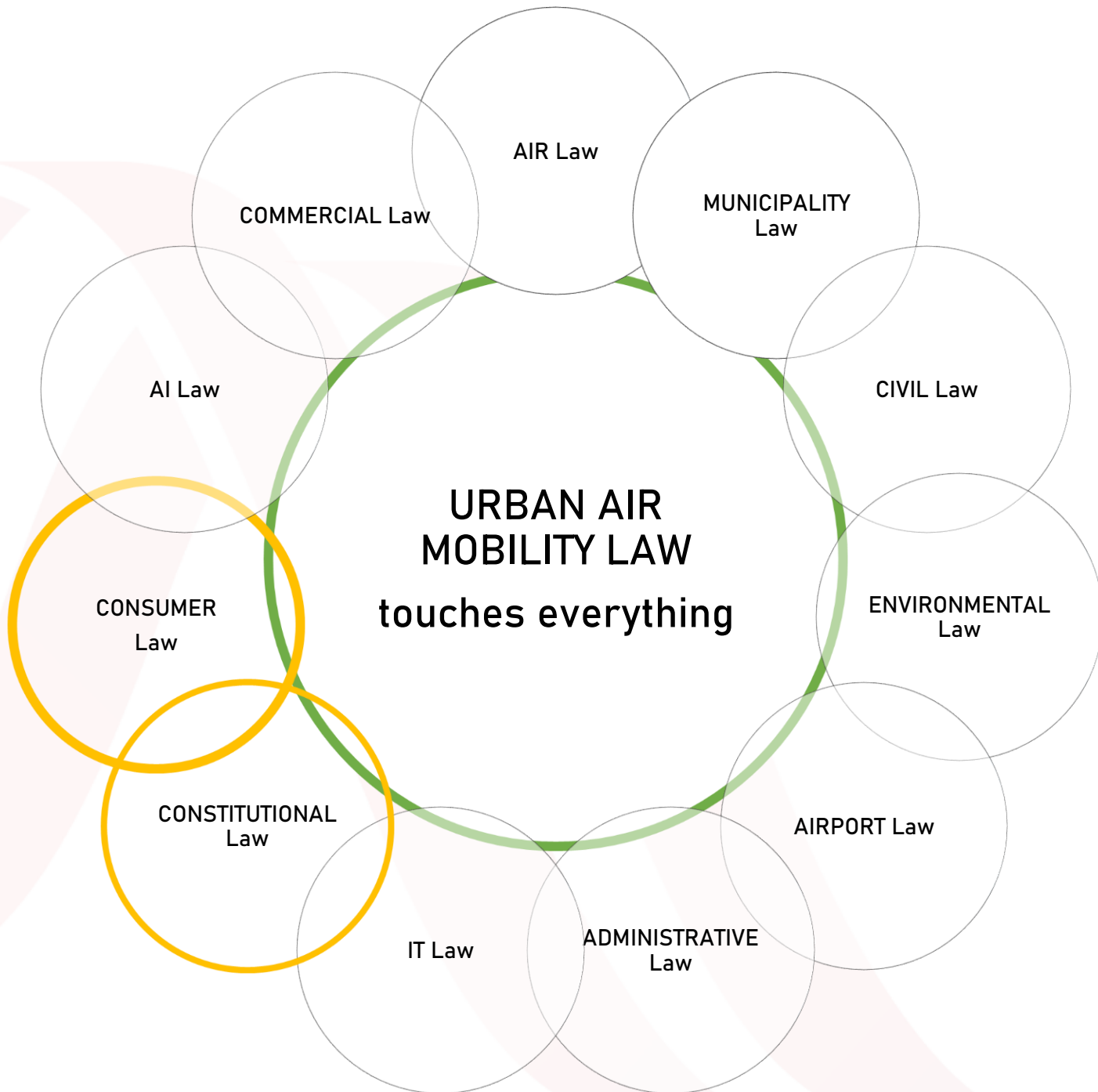


In Century XXI Taking UAM legal barriers
Seriously means...



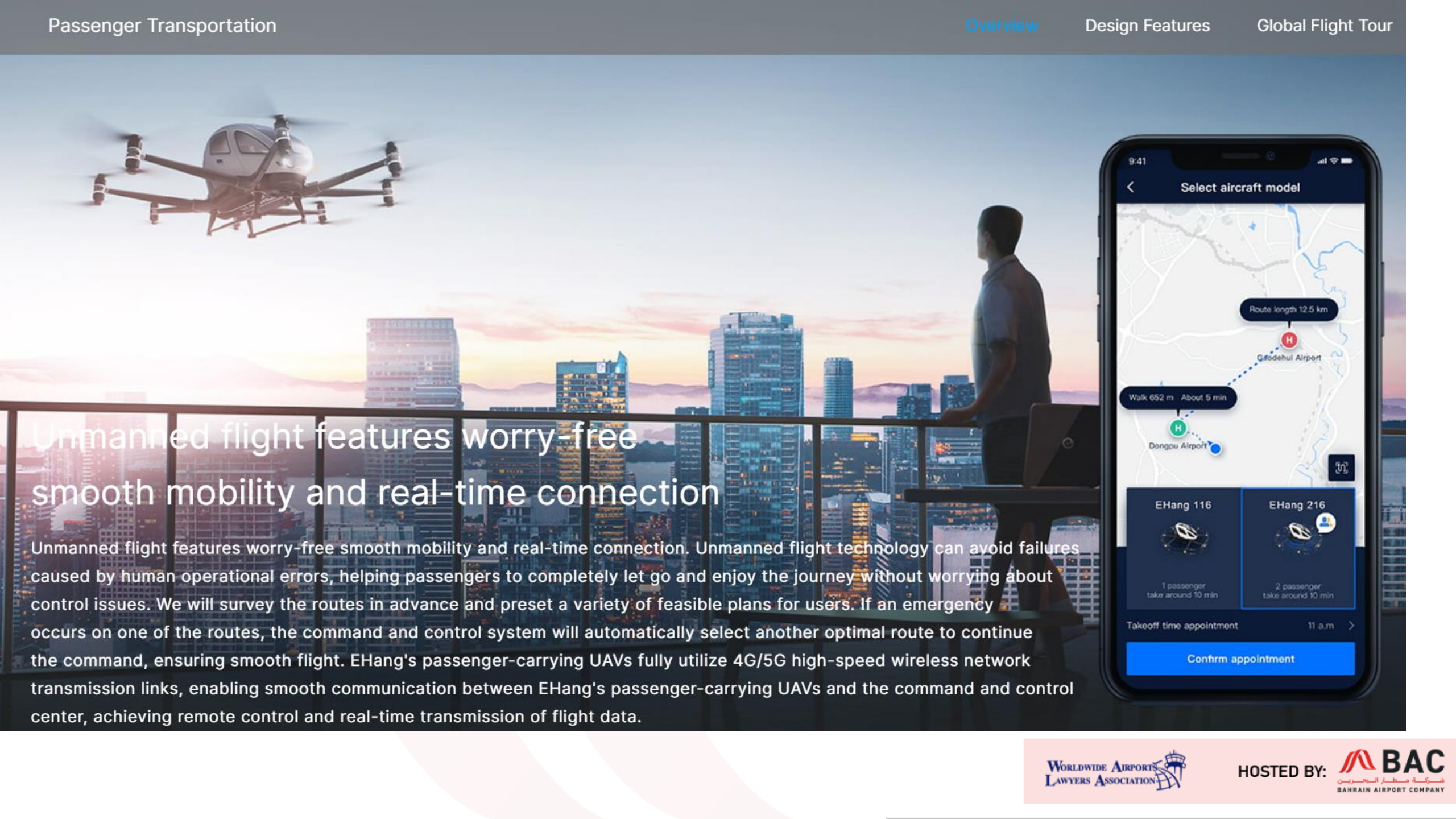
To avoid approach *UAM CHALLENGES* from an **Air Law** perspective *merely*.





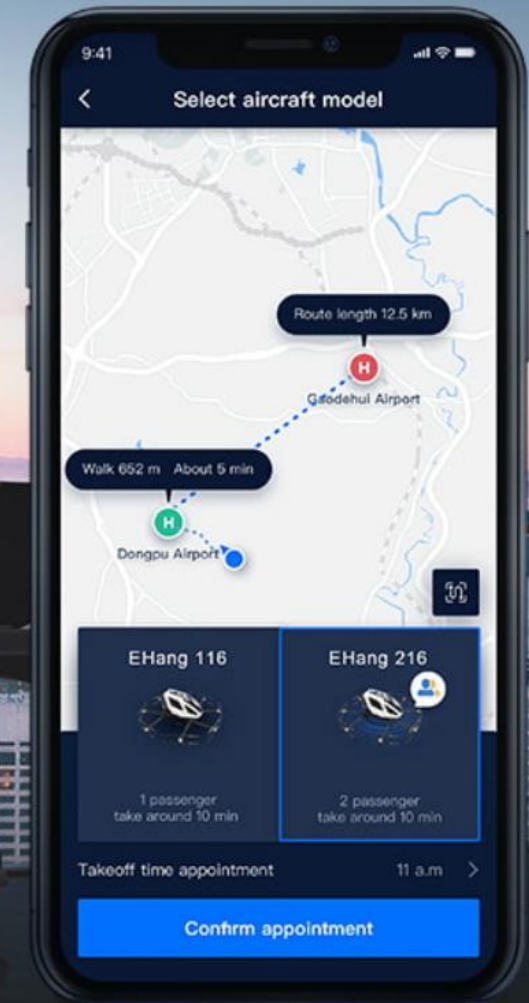
To approach UAM
creating a *new*
branch of law





Unmanned flight features worry-free smooth mobility and real-time connection

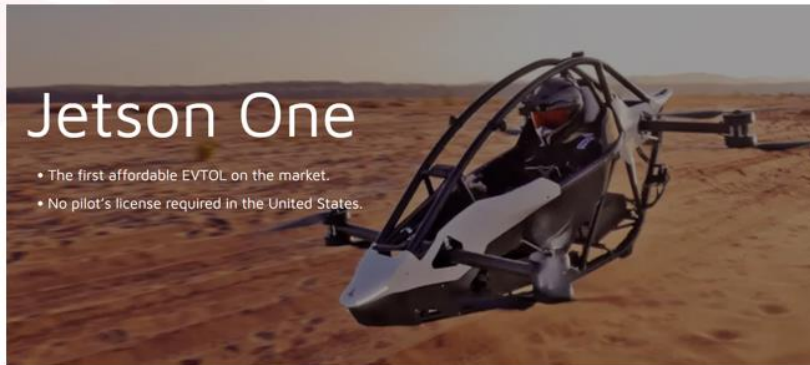
Unmanned flight features worry-free smooth mobility and real-time connection. Unmanned flight technology can avoid failures caused by human operational errors, helping passengers to completely let go and enjoy the journey without worrying about control issues. We will survey the routes in advance and preset a variety of feasible plans for users. If an emergency occurs on one of the routes, the command and control system will automatically select another optimal route to continue the command, ensuring smooth flight. EHang's passenger-carrying UAVs fully utilize 4G/5G high-speed wireless network transmission links, enabling smooth communication between EHang's passenger-carrying UAVs and the command and control center, achieving remote control and real-time transmission of flight data.



The precise **legal definition** of a EVTOL/PAV is still evolving

Commonly definitions identify two basic classes of vehicles

SINGLE **OCCUPANTS** used as personal vehicles for people without licenses for **DIRECT** operations



SD-XX
Concept model



HOVERBIKE

The variation impact
on legal
implementation

TRANSPORTATION for MULTIPLE **PASSENGERS** for ON-DEMAND operation



On-Demand Aviation: Governance Challenges of Urban Air Mobility (“UAM”)

Timothy M. Ravich*

ABSTRACT

The first generation that has never known a world without smartphones and social media may be close to making the world forget about traditional cars. Investment is pouring into urban air mobility (“UAM”)—the local, on-demand movement of people and goods by air using a range of piloted and semi- and fully autonomous electric aircraft that take off and land vertically. In fact, the innovation of aerial ridesharing at scale—a technology that is still very much associated with the 1960s cartoon series “The Jetsons”—may be at market as soon as 2025, according to some estimates.

UAM—which is also referred to as on-demand mobility (“ODM”)—will revolutionize urban transportation and personal mobility, and impact matters from airspace management to aviation safety and property rights in unknown ways. For example, UAM will compete, supplement, and/or exist alongside traditional air and ground traffic operations, while in other cases, traditional transportation nodes such as airports might be intertwined and become a functional element of UAM systems themselves. To say that airports and the communities surrounding airports need to understand and anticipate the effects and opportunities of the UAM market is an understatement.

This Article addresses the emerging UAM market, including the relevant technologies from a legal and regulatory perspective. In conceptualizing a new world in which UAM is real, this Article will explore the various stages of legal, regulatory, and technological development of UAM. It also addresses practical questions such as how UAM and traditional transportation aviation operations might coexist in shared airspace and if and how communities will respond to environmental concerns such as UAM-generated noise. In all, this Article serves as a primer, presenting the substance and scope of UAM governance as presently configured, and where gaps exist (and many do), explores

*Associate Professor, University of Central Florida, Department of Legal Studies © 2020. Comments invited at timothy.ravich@ucf.edu.



Passenger Air Taxi Services: An Assessment of the Current European Union Rules on Consumer Protection for Passengers

Benjamyn I. Scott¹

Received: 1 November 2023 / Accepted: 11 January 2024
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Abstract

The Paris Olympics and Paralympics are scheduled to take place between 26 July and 8 September 2024, whereby electric vertical take-off and landing aircraft are anticipated to take to the skies to offer a new mobility solution to spectators of the Games. This will allow paying members of the public to move between different points within the Paris region akin to an on-demand taxi service, but through the air; passenger air taxi services (PATS). These passengers, as consumers, will have certain rights and duties under European Union law. To determine the level of protection afforded to these air passengers, a full assessment of Regulation (EC) No 261/2004 is required. As the revision of the Regulation is currently on the European Commission's agenda, it is also important to consider its revision in light of PATS, whereby new technology, emerging business practices, changing customer behaviour and societal expectations for the level of legal protection of PATS users must be considered. This article will, therefore, assess the current version of the Regulation, in light of the interpretation from the European Court, to see whether it applies to PATS and, if so, whether it is suitable or if specific amendments need to be added to the planned revised Regulation.

Keywords Passenger Air Taxi Services (PATS) · Unmanned Aircraft Systems (UAS) · Consumer protection · Electric Vertical Take-Off and Landing (eVTOL)

1 Introduction: The Emergence of Flying Air Taxi Services

The Paris Olympics and Paralympics are set to take place between 26 July and 8 September 2024 in the city of lights. It is predicted by the city's tourism office that up to 15.9 million people will visit the Paris region during these dates.¹ Due to the increased volume of people, it is not surprising that Groupe ADP, the French Civil Aviation Authority (DGAC) and the Paris Region have taken steps to ensure efficient transportation services in, out and within the capital. One of these steps is the

inclusion of Volocopter, a German-based electric vertical take-off and landing (eVTOL) aircraft manufacturer, as a mobility solution provider where it plans to offer passenger air taxi services (PATS) during the global competition. If this materialises, Paris will be the first city in Europe, and even possibly the world, to offer passenger eVTOL services.

Volocopter will use its VoloCity aircraft, which is a multi-copter eVTOL² aircraft that has 18 rotors (vertical and horizontal) and 2 seats,³ capable of transporting one pilot and one paying passenger. It was announced on 20 June 2023 at the Paris Airshow that five aircraft are planned to fly passengers between five vertiport sites with about two flights an hour per aircraft (ca. 80 – 100 flights a day) during the Games.⁴

¹ Graham Dunbar and John Leicester, 'A Guide to How Paris Will Welcome Fans and Stage 32 Sports at the First Post-Pandemic Olympics', AP News, 26 July 2023, <https://apnews.com/article/paris-olympics-tickets-transport-accommodation-climate-b6b9798ea2fc65995cb3e4c6e96462f0#:~:text=pre%2Dpandemic%20levels,-,The%20cit y's%20tourism%20office%20predicts%20that%20up%20to%2015.9%20million,the%20Olympics%20and%20Paralympic%20Games>.

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³ International Institute of Air and Space Law, and eLaw – Center for Law and Digital Technologies, Leiden University, Leiden, Netherlands

² See, below, Section 3.1.

³ Volocopter, 'Built for Megacities Worldwide', <https://www.volocopter.com/solutions/volocity/>. It is anticipated that, as battery technology advances, the configuration can be changed to take more passengers.

⁴ George Downs, 'Will Flying Taxis Get to the 2024 Olympics in Time?', 22 June 2023, Wall Street Journal, <https://www.youtube.com/watch?v=m75Hjv40gsM>. See, Autorité environnementale, 'Avis délibéré de l'Autorité environnementale sur l'aménagement d'un vertiport sur la Seine, quai d'Austerlitz à Paris (75)', n° 2023-46, 7 September 2023.



'Innovative Air Mobility' IAM services are argued to provide solutions to people's real needs by reducing travel time, increasing mobility...

As a result, IAM services will involve, *inter alia*, the commercial transportation of passengers by air.

Therefore, it becomes relevant to ask

1. what the **levels of protection** afforded to these consumers are when contracting with passenger air taxi services PATS providers under the **current** legal system and
2. whether it needs to be amended to suitably regulate this future market.



FIX WING



“This definition makes it clear that these eVTOL vehicles are *aircraft*, whether manned or remotely piloted, despite their varying designs. ...**While the vehicles conducting PATS are aircraft, not every vehicle will fall within the scope of the regulation as Article 3(4)** makes it clear that the Regulation only applies to ‘motorised fixed wing aircraft’. This will result in passengers being “treated differently”, which the Court has been proactive in limiting.”

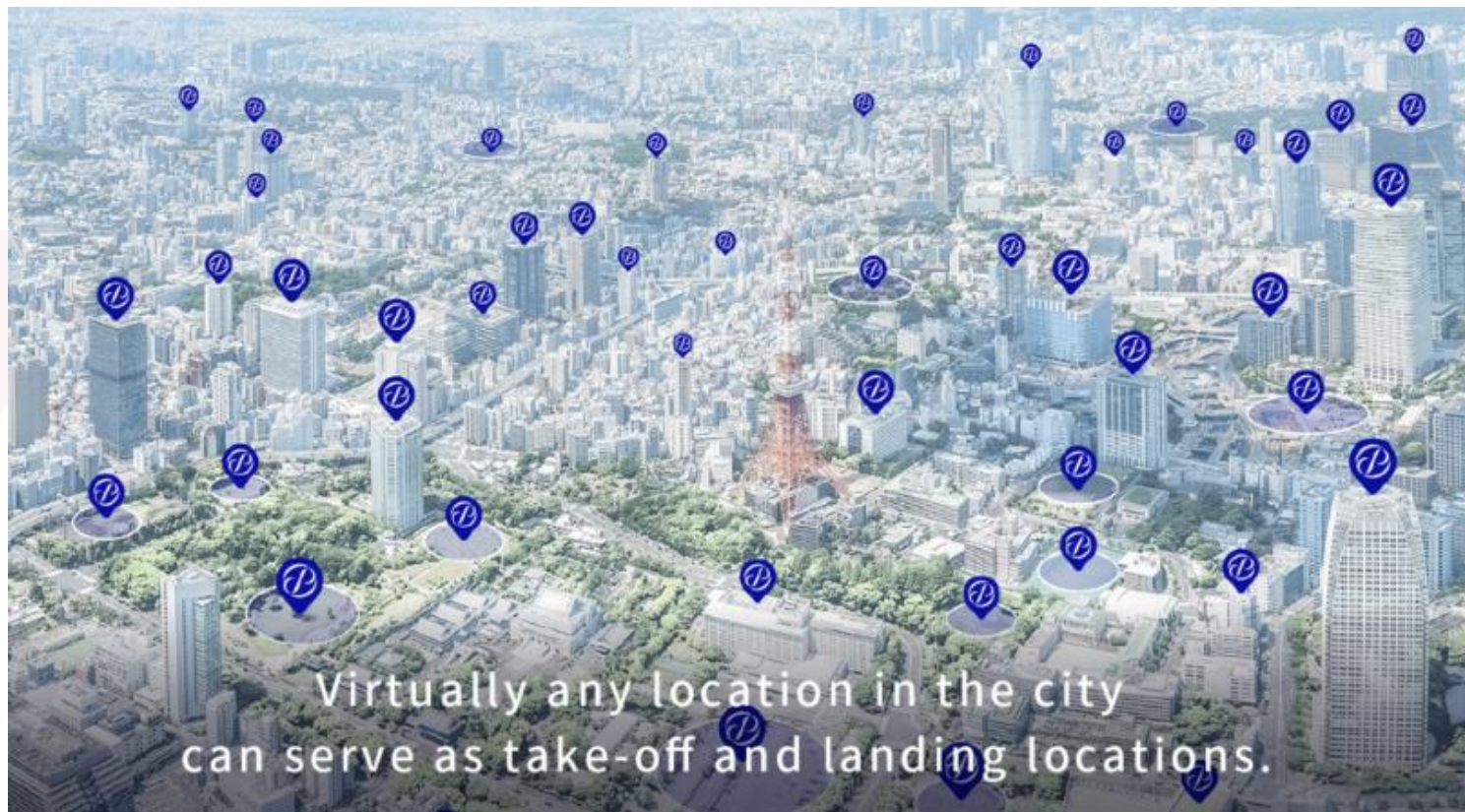
MULTICOPTER



“However, PATS, while providing commercial air transport, will use a variety of aircraft designs. Some designs will be within the scope of Article 3(4) (e.g. AutoFlight, Joby and Lilium) and others will be outside (e.g. Volocopter). **This does not provide a uniform level of consumer protection as the rules will vary depending on which aircraft is being used”**

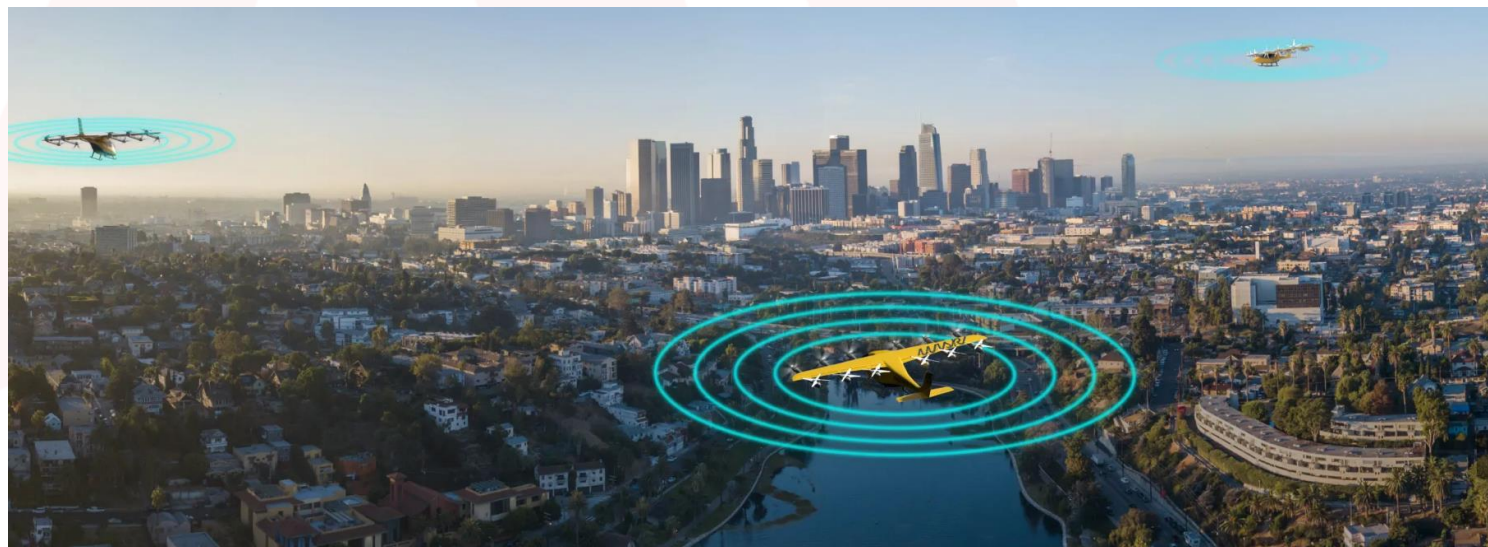
Passenger Air Taxi Services: An Assessment of the Current European Union Rules on Consumer Protection for Passengers

Benjamyn I. Scott¹



On-Demand Aviation: Governance Challenges of Urban Air Mobility (“UAM”)

Timothy M. Ravich*



controlled airspace (class A, B, C, D and E)
uncontrolled Class G above ground level (AGL)

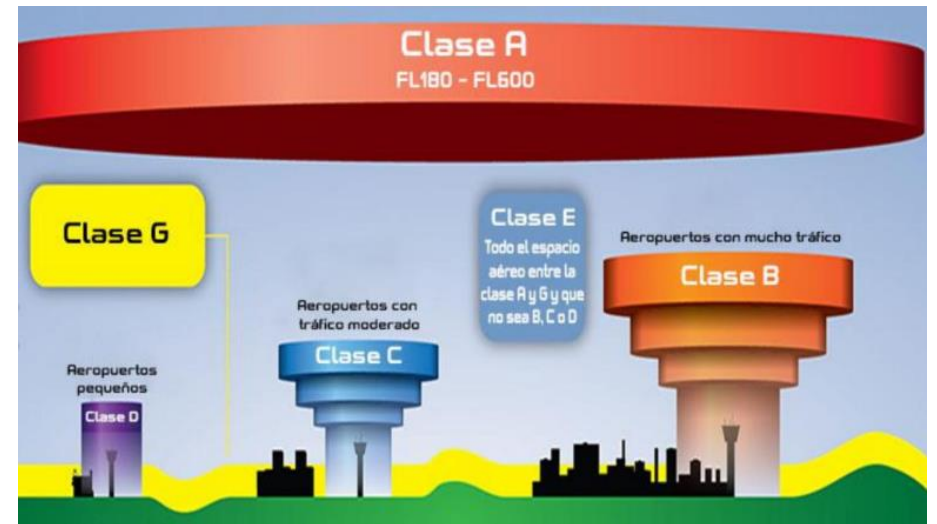
AIR LAW

Clase G

UAM LAW

URBAN / VERY LOW ALTITUDE

jurisdiction of **uncontrolled Class G** airspace has been subject to controversy



“Law and regulation will be at the center of the coming mobility revolution”.

“Many of the patterns we will observe at the intersection of law and the new technologies will be familiar and general principles will be sufficient to answer many of the rising questions.

“At the same time, **there is a benefit to considering the field of law and mobility comprehensively** with an eye to understanding the often subtle interactions between discrete technological and legal decisions.

The Future of Law and Mobility

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MOBILITIES, MOBILITY JUSTICE AND SOCIAL JUSTICE

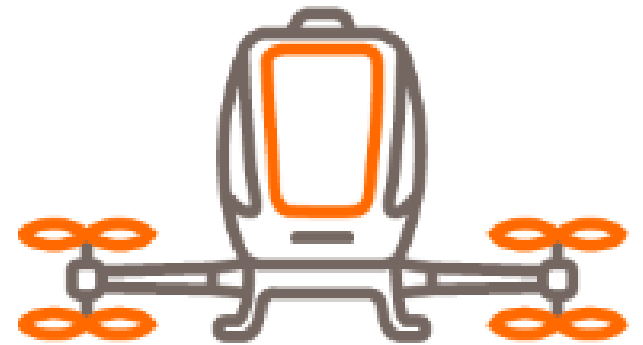
Edited by
Nancy Cook and David Butz

Nowadays, UAM technologies are advancing rapidly and the UAM activities flourishing vigorously.

IN YOUR COUNTRY...

- where the UAM law is heading for?
- what the status of the UAM law holds in the law system?
- what are the objectives and orientations of the UAM law?

UAM LAW



HIDDEN FIGURES



- To look **beyond ... around ... through** the law and rules
- To answer the questions we **don't even know** how to ask
- To think about laws **that do not yet exist**



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Thank you!

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Organization

Email

Position