



Air Taxi Readiness Index 2024

Assessing the preparedness of 60 territories in the race for the low altitude economy

Aviation 2030 Series



Reader guide

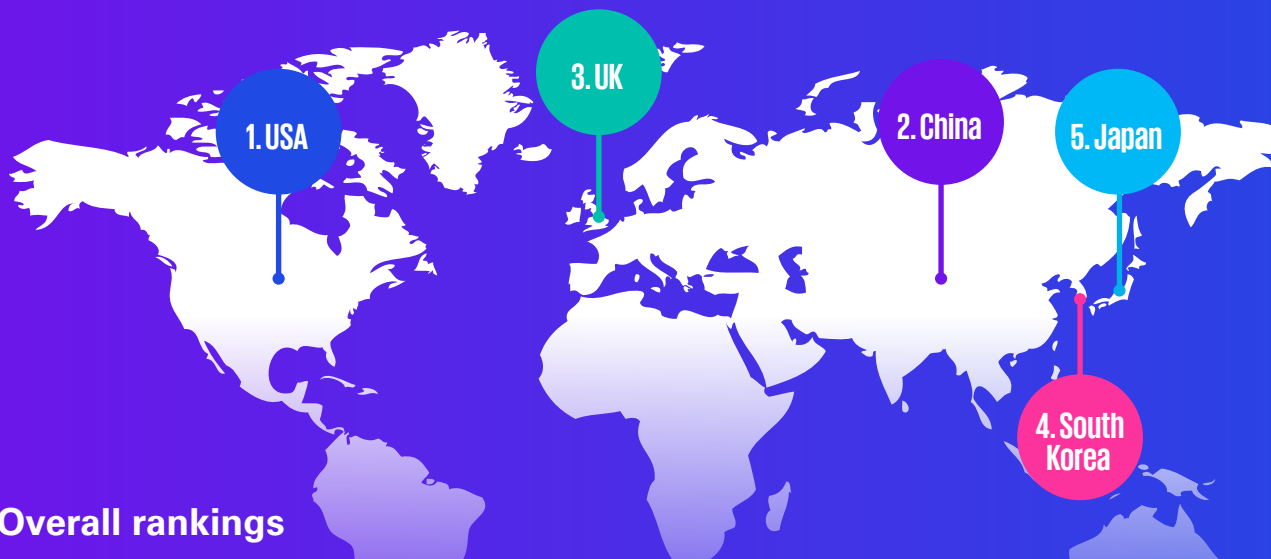
The Air Taxi Readiness Index (ATRI), now in its fourth iteration, is a tool to help measure the level of preparedness for the upcoming generation of passenger- and cargo-carrying Vertical Take-off and Landing (VTOL) vehicles in 60 selected territories. It is a composite index that combines nearly 50 individual, existing metrics from a range of sources into a single score. The metrics are arranged across five pillars: consumer acceptance; infrastructure; policy & legislation; technology & innovation; and business opportunity. Each territory receives a score for each pillar, and these are aggregated into totals at the national level which we then convert to relative rankings among the 60 territories.¹

Scores are based on normalized results from pre-existing KPMG and third-party secondary sources (end noted), with weighting applied to reflect metric relevance as a proxy.

The index is to be used to form comparisons between countries' preparedness levels for regional air mobility adoption and to stimulate thought and debate. It is not meant to be exhaustive or definitive in terms of predicting air taxi or logistics adoption rates. Its intended audience is public and private bodies alike looking to understand the benefits of early adoption of this technology, and the suitability of different territories for relevant pilots and commercial investment. We use short / vertical take-off and landing ('S/VTOL') and 'air taxi' interchangeably throughout, referring to vehicles capable of short-haul airspace passenger or cargo transportation, piloted or unpiloted.

¹ While urban centres will be one driver in air mobility, and we will therefore see intra-national disparities in market development, we think a national lens is most relevant. This reflects the importance of national policies, national aviation authorities and air traffic management, as well as the potential for air mobility to go beyond intra-urban transport and be integrated airside as a regional connection network for traditional domestic and international aviation.

Index Results



Overall rankings

Territory	2024	2023	Change	Territory	2024	2023	Change	Territory	2024	2023	Change
	Rank	Rank			Rank	Rank			Rank	Rank	
US	1	1	0	Switzerland	21	10	-11	Czechia	41	36	-5
China	2	2	0	Finland	22	22	0	Philippines	42	41	-1
UK	3	3	0	Denmark	23	25	+2	Argentina	43	40	-3
South Korea	4	5	1	Poland	24	33	+9	Romania	44	42	-2
Japan	5	4	-1	Belgium	25	29	+4	Peru	45	46	+1
UAE	6	12	+6	Norway	26	15	-11	Vietnam	46	43	-3
Germany	7	7	0	Mexico	27	27	0	Bangladesh	47	52	+5
France	8	6	-2	Austria	28	20	-8	Hungary	48	39	-9
Canada	9	8	-1	Israel	29	24	-5	Kenya	49	50	+1
Brazil	10	11	+1	Turkey	30	26	-4	Bulgaria	50	45	-5
Australia	11	9	-2	Chile	31	35	+4	Morocco	51	47	-4
New Zealand	12	14	+2	Russia	32	28	-4	Ukraine	52	49	-3
Singapore	13	16	+3	Uruguay	33	44	+11	Nigeria	53	55	+2
Spain	14	13	-1	Portugal	34	31	-3	Pakistan	54	51	-3
India	15	23	+8	Luxembourg	35	34	-1	Algeria	55	53	+2
Ireland	16	19	+3	Greece	36	32	-4	Guatemala	56	57	+1
Netherlands	17	17	0	Colombia	37	38	+1	Paraguay	57	56	-1
Italy	18	21	+3	Egypt	38	48	+10	Bolivia	58	58	0
Sweden	19	18	-1	Ecuador	39	54	15	Angola	59	59	-0
Saudi Arabia	20	30	+10	South Africa	40	37	-3	Ethiopia	60	60	-0

Amongst many interesting points, we highlight the following for comment:

- The first three countries (US, China, UK) remain unchanged for the third consecutive year, cementing their status as likely long-term key markets.
- South Korea continues its upward trajectory, climbing to 4th place having jumped from 11th to 5th last year.
- Similarly, the UAE rose again to 6th, having already managed a jump from 21st to 12th last year, demonstrating the country's determination to be an air taxi player, including ambitions to be one of the first locations globally serving regular passenger trips for the premium market.
- India has climbed eight places, from 23 to 15, reflecting significant improvements in consumer sentiment, infrastructure, and policy & legislation.
- Some other drops mask specific, local initiatives or developments. For example, Norway has strong support for the electrification of regional aviation, but much of this won't be in the low altitude or VTOL economy. In another example, Ukraine, Russia and Israel have all dropped in terms of the proxies we use for commercial attractiveness, but have clearly become major users of drones in a military context.

Introduction: the aerial mobility revolution

Players in the next-gen aerial mobility space have moved beyond the peak of the hype cycle to face the long grind of building viable businesses. Inevitably, not all will succeed; the past twelve months have seen a number of prominent names forced to raise additional cash, while signature events such as Volocopter's publicized plans for air taxis over Paris during the Olympics have not materialized as planned, and have even faced significant hostility.^{2,3}

As a consequence, we have witnessed a sectoral shift of focus to the Gulf as operators rush to deploy aircraft to satisfy real-world use cases, and where the funding landscape and end consumer affluence allows. This pivot is reflected in a number of recent developments in the UAE and Saudi Arabia:



- Joby Aviation announced that it is planning to start commercial air taxi flights in Dubai by late 2025.⁴
- Archer Aviation signed a framework agreement with the Abu Dhabi Investment Office, involving in-country manufacturing and the construction of vertiports as well as substantial investments in its air taxi services, which aiming to launch in 2025.⁵
- EHang announced plans to expand its operations to the UAE, having received type certification for its EH216-S air taxi – which it has also trialed for pilotless air taxi services to Mecca in Saudi Arabia.^{6,7}
- Saudia, the national airline of Saudi Arabia, has signed a deal with Lilium to purchase up to 100 electric vertical take-off and landing (eVTOL) jets, to be used to enhance transportation for Hajj and Umrah pilgrims and provide access to sports and entertainment events in Saudi Arabia.⁸
- Volocopter previously announced it had successfully conducted flight tests of its eVTOL aircraft, VoloCity, in Saudi Arabia's NEOM region, in an initiative aiming to develop NEOM as a leading hub for urban air mobility.⁹

2 <https://fortune.com/europe/2024/08/08/paris-scraps-plans-for-flying-taxis-during-olympics-volocopter-velocity-dirk-hoke/>

3 <https://www.heise.de/en/news/Absurdity-for-the-super-rich-Paris-council-aims-to-block-Volocopter-flights-9798545.html>

4 <https://www.bloomberg.com/news/articles/2024-08-07/joby-aims-to-start-commercial-air-taxi-flights-from-late-2025>

5 <https://investors.archer.com/news/news-details/2024/Archer-Signs-Framework-Agreement-For-Multi-Hundred-Million-Dollars-To-Accelerate-Commercial-Air-Taxi-Operations-Across-UAE/default.aspx>

6 <https://www.scmp.com/tech/tech-trends/article/3261737/chinese-air-taxi-maker-ehang-completes-maiden-flight-abu-dhabi-it-eyes-expansion-middle-east>

7 <https://www.ehang.com/news/1089.html>

8 <https://www.thenationalnews.com/business/aviation/2024/07/18/saudia-group-to-acquire-up-to-100-evtol-jets-from-germanys-lilium/>

9 <https://www.volocopter.com/en/newsroom/volocopter-flies-in-neom>

This shift in emphasis is partly reflected in our rankings, with both the UAE and Saudi registering significant upward moves as they position themselves as air taxi leaders. However, whilst such markets are important to operators under pressure to establish business models, demonstrate concept proofs to investors, and build public confidence in air taxi services, both Saudi and the UAE are still outside the top ten according to our business opportunity pillar. Long term success at scale will require operators to look beyond the high-net-worth individual market and develop mass consumer businesses in the world's major opportunity hubs in Western Europe, China, and the US.

The pressure is intensifying to secure mission-critical regulatory approvals, but the regulatory landscape remains complex and fluid, necessitating close collaboration with aviation authorities to ensure safety and compliance. Operators also have their work cut out to educate and persuade a sceptical public on safety, noise, and sustainability, and to reduce costs sufficiently to serve broad passenger demographics. As a consequence, realistic timeframes for mass deployment remain over five years away, and the huge variety in jurisdictional profiles means that understanding the specific air taxi readiness of particular markets remains critical to all stakeholders.

Given the huge complexity inherent in such a global technological, social and regulatory evolution, understanding the air taxi readiness of particular jurisdictions is of value to all stakeholders. We now outline the 5 pillars used to score territories, and follow this with a number of case studies representing the territories of KPMG's own Future of Flight core community.



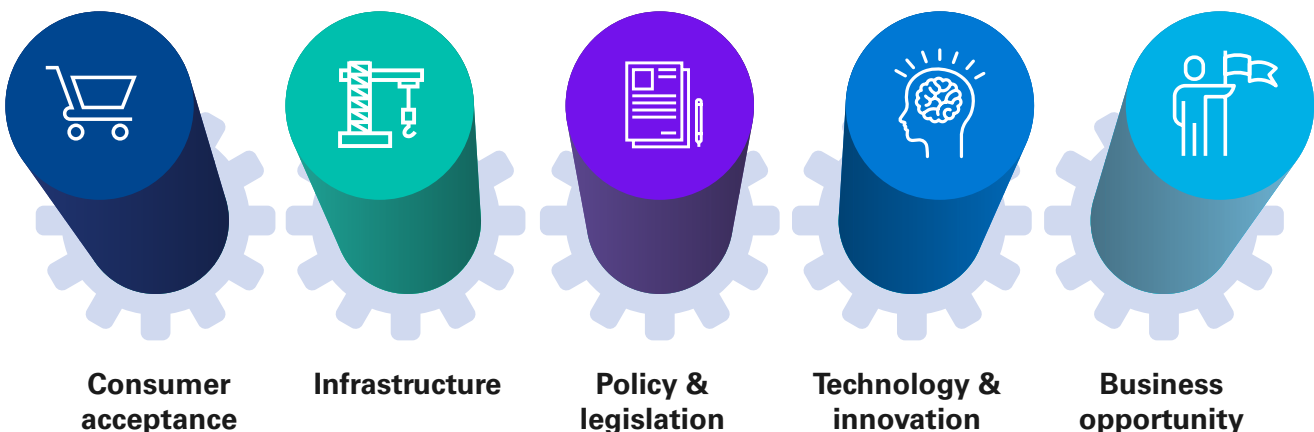
I am thrilled to highlight Dubai's advancements in aerial taxi services. Under the visionary leadership of His Highness Sheikh Mohammed bin Rashid Al Maktoum and the guidance of His Highness Shaikh Ahmed Bin Saeed Al Maktoum, Dubai is globally celebrated for high ease of doing business, where public and private sector entities are working seamlessly to launch commercial air taxi services by 2026. Dubai is working tirelessly to create a pioneering electric air taxi network, featuring vertiports at 4 key locations in Dubai. The aerial taxi network aims to reduce travel time that currently takes 45 minutes to eventually less than 10 minutes.

As the air navigation service provider in Dubai, dans plays a key role in unlocking the possibilities for this ecosystem to thrive. dans is taking many initiatives to enable a safe, efficient and secure airspace where traditional and new generation airspace users can coexist.

With a focus on safety, efficiency, and sustainability, Dubai is poised to become a global leader in advanced air mobility, enhancing connectivity for residents and visitors alike."

Ibrahim Ahli,
Acting CEO,
Dubai Air Navigation Services (DANS)

The 5 pillars

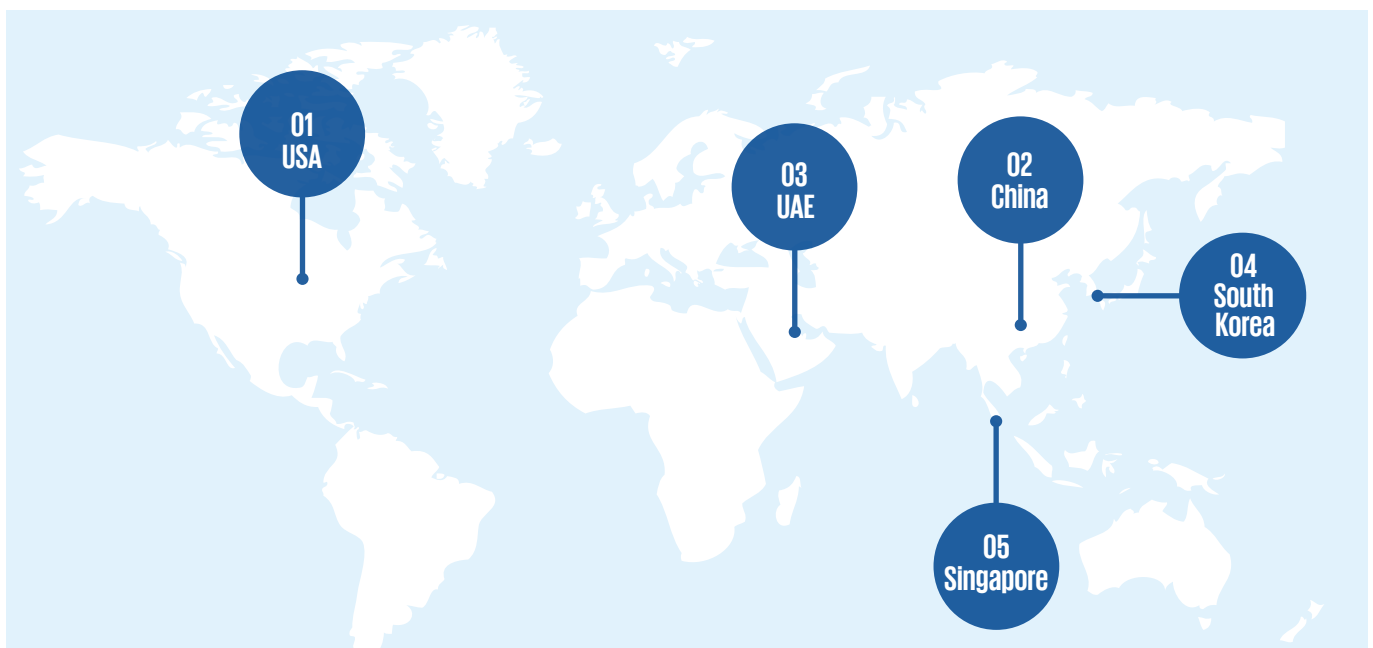


01 Consumer acceptance

Populations differ markedly in their willingness to accept S/VTOL technology. The consumer acceptance pillar aims to measure those differences through readily available proxies, aggregating data across eight internationally available measures for:

- Civil technology use¹⁰
- Individual readiness to use technology¹¹
- Digital skills¹²
- Market size¹³
- AAM launch cities¹⁴
- Consumer ICT adoption rates¹⁵
- Ride hailing & taxi market penetration¹⁶
- Passenger air traffic volumes per capita¹⁷

As in 2023, the US leads this pillar, with China in 2nd place and the UAE 3rd. South Korea moves into 4th from 6th, and Singapore 5th from 7th.



Rankings

US	1	Sweden	16	Poland	31	Egypt	46
China	2	Canada	17	Turkey	32	Bulgaria	47
UAE	3	France	18	Denmark	33	South Africa	48
South Korea	4	Spain	19	Portugal	34	Bolivia	49
Singapore	5	New Zealand	20	Uruguay	35	Ukraine	50
Brazil	6	Israel	21	Vietnam	36	Algeria	51
Germany	7	Chile	22	Italy	37	Morocco	52
Saudi Arabia	8	Mexico	23	Belgium	38	Philippines	53
UK	9	Japan	24	Argentina	39	Guatemala	54
Ireland	10	Switzerland	25	Hungary	40	Bangladesh	55
India	11	Austria	26	Czechia	41	Kenya	56
Russia	12	Netherlands	27	Romania	42	Nigeria	57
Australia	13	Luxembourg	28	Greece	43	Pakistan	58
Finland	14	Peru	29	Ecuador	44	Angola	59
Norway	15	Colombia	30	Paraguay	45	Ethiopia	60

10 Individuals using the internet, World Bank, 2023

11 Network Readiness Index 2023

12 The Digital Skills Gap Index (DSGI), 2021

13 World Bank, GDP PPP, 2023

14 Count of launch cities, 2024

15 IMD World Digital Competitiveness Ranking, 2023

16 Statista (shared mobility services), 2022

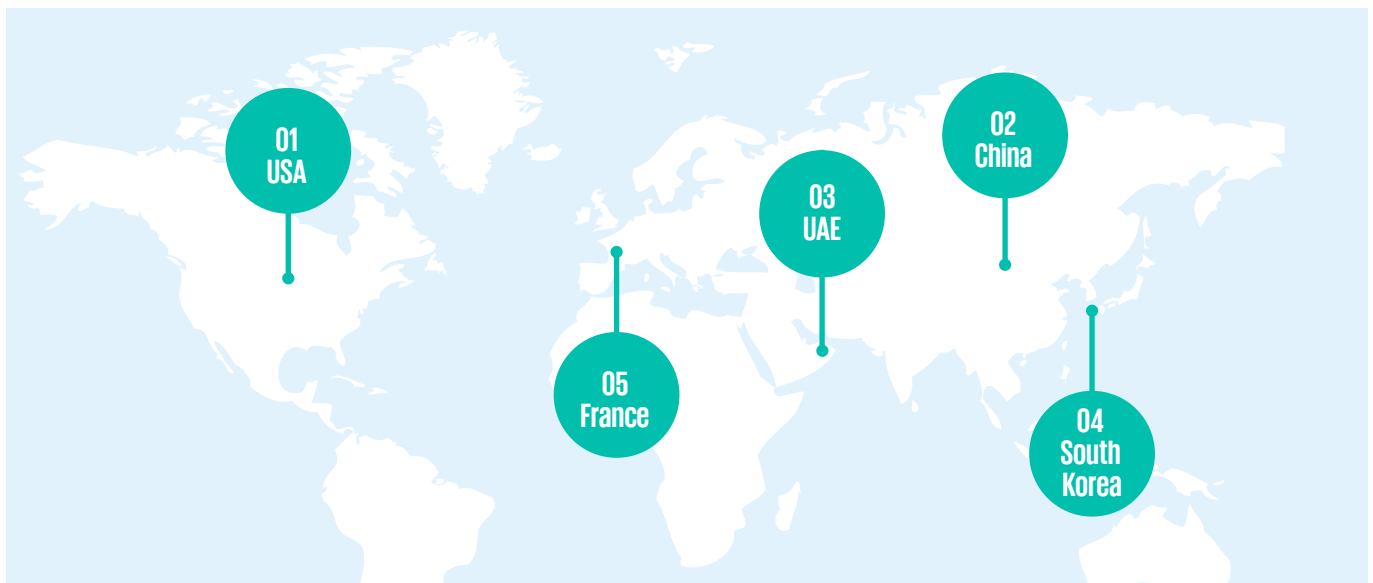
17 World Bank, volume of air traffic / population, 2022

02 Infrastructure

An extensive range of infrastructure is necessary to support widespread use of S/VTOL vehicles in urban environments in particular. The infrastructure pillar incorporates metrics for:

- EV charging stations¹⁸ (as a proxy for ability to roll out charging infra)
- 4G coverage¹⁹
- Quantity of air traffic²⁰
- Technology infrastructure change readiness²¹
- Mobile connection speed²²
- Broadband²³
- Climate suitability²⁴ (with 18-30 degrees Celsius, sunny with low rain and humidity levels considered ideal for VTOL use)
- Ground congestion²⁵
- Skyscraper density²⁶ (as a proxy for downtown landing sites)

The US and China again remain 1st and 2nd in 2024. The UAE retains 3rd position but Japan moves down from 4th to 6th, with South Korea and France occupying 4th and 5th respectively.



Rankings

US	1	Saudi Arabia	16	Romania	31	Vietnam	46
China	2	Turkey	17	Hungary	32	Egypt	47
UAE	3	UK	18	Philippines	33	Kenya	48
South Korea	4	Russia	19	Norway	34	Morocco	49
France	5	Switzerland	20	Peru	35	Ecuador	50
Japan	6	Chile	21	Sweden	36	Guatemala	51
Netherlands	7	Singapore	22	Greece	37	Algeria	52
Brazil	8	Israel	23	Argentina	38	Bolivia	53
India	9	Austria	24	South Africa	39	Paraguay	54
Canada	10	Poland	25	Bulgaria	40	Ukraine	55
Mexico	11	Colombia	26	Finland	41	Pakistan	56
Spain	12	New Zealand	27	Luxembourg	42	Nigeria	57
Ireland	13	Portugal	28	Belgium	43	Bangladesh	58
Australia	14	Denmark	29	Uruguay	44	Ethiopia	59
Germany	15	Italy	30	Czechia	45	Angola	60

¹⁸ Global EV Outlook, 2023

¹⁹ GSMA (average of 4G and 5G), 2022

²⁰ World Bank, Air Traffic Quantity, 2022

²¹ Government AI Readiness, data and infrastructure pillar, 2024

²² Speedtest Global Index: Global Median Speeds: mobile, 2024

²³ Speedtest Global Index: Global Median Speeds: fixed broadband, 2024

²⁴ STC Climate Index 2021, Global Residence Index, 2023

²⁵ TomTom Global Traffic Index, 2024

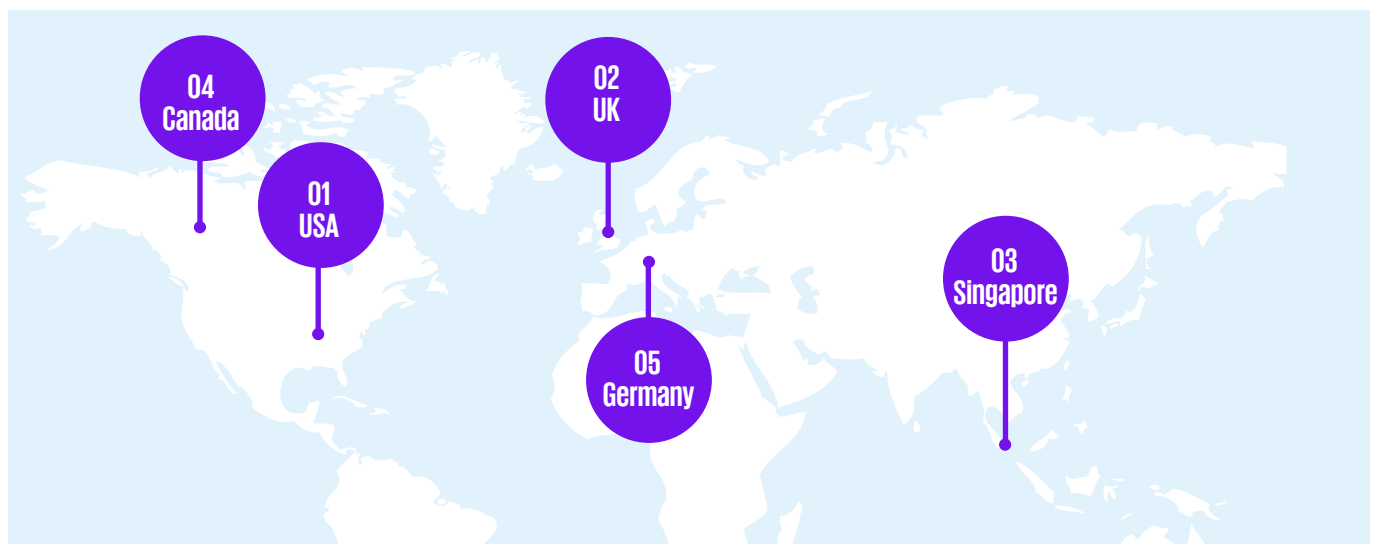
²⁶ Countries by number of 150m+ buildings, Council on Tall Buildings and Urban Habitat, 2024

03 Policy and legislation

The policy and legislation pillar now comprises ten metrics. New for 2024 we have included 'Government support for AAM', which is a composite of the following three sub-metrics: existing AAM policy papers; expected AAM launch in the next 5 or 10 years; identified locations for AAM passenger services to be utilized in the next 5 years.

- Transparency²⁷
- Energy efficiency regulation²⁸
- Government readiness for change²⁹
- Future orientation of government³⁰
- Data sharing environment³¹
- Cybersecurity regulation³²
- Efficiency of legal system³³
- Ease of doing business³⁴
- Startup business environment³⁵
- Government support for AAM³⁶

On this metric again this year, European states perform notably better, accounting for six of the top ten. The UK is however demoted by the US to 2nd, with Germany and Sweden dropping two places to 5th and 6th, and Canada gaining a place to move into 4th. Singapore jumps from 6th last year to 3rd position.



Rankings

US	1	Spain	16	Luxembourg	31	Vietnam	46
UK	2	Italy	17	Austria	32	Morocco	47
Singapore	3	UAE	18	Norway	33	Argentina	48
Canada	4	Belgium	19	Israel	34	Russia	49
Germany	5	Poland	20	Portugal	35	South Africa	50
Sweden	6	China	21	Czechia	36	Peru	51
Netherlands	7	India	22	Chile	37	Paraguay	52
Finland	8	Brazil	23	Mexico	38	Ukraine	53
Australia	9	Uruguay	24	Greece	39	Pakistan	54
France	10	Saudi Arabia	25	Colombia	40	Nigeria	55
Japan	11	Switzerland	26	Bulgaria	41	Algeria	56
New Zealand	12	Ecuador	27	Hungary	42	Guatemala	57
Ireland	13	Egypt	28	Turkey	43	Angola	58
South Korea	14	Bangladesh	29	Philippines	44	Ethiopia	59
Denmark	15	Kenya	30	Romania	45	Bolivia	60

27 'Corruption Perceptions Index', Transparency International, 2023

28 The Network Readiness Index, Affordable and Clean Energy, 2023

29 The Network Readiness Index, Regulation, 2023

30 The Network Readiness Index, Government promotion of investment in emerging technologies, 2023

31 The Network Readiness Index, Publication and use of open data, 2023

32 The Network Readiness Index, Cybersecurity, 2023

33 Rule of Law Index, constraints on government powers, 2023

34 Economic Freedom index, The Heritage Foundation, 2024

35 Global Startup Ecosystem Index, 2023

36 KPMG analysis

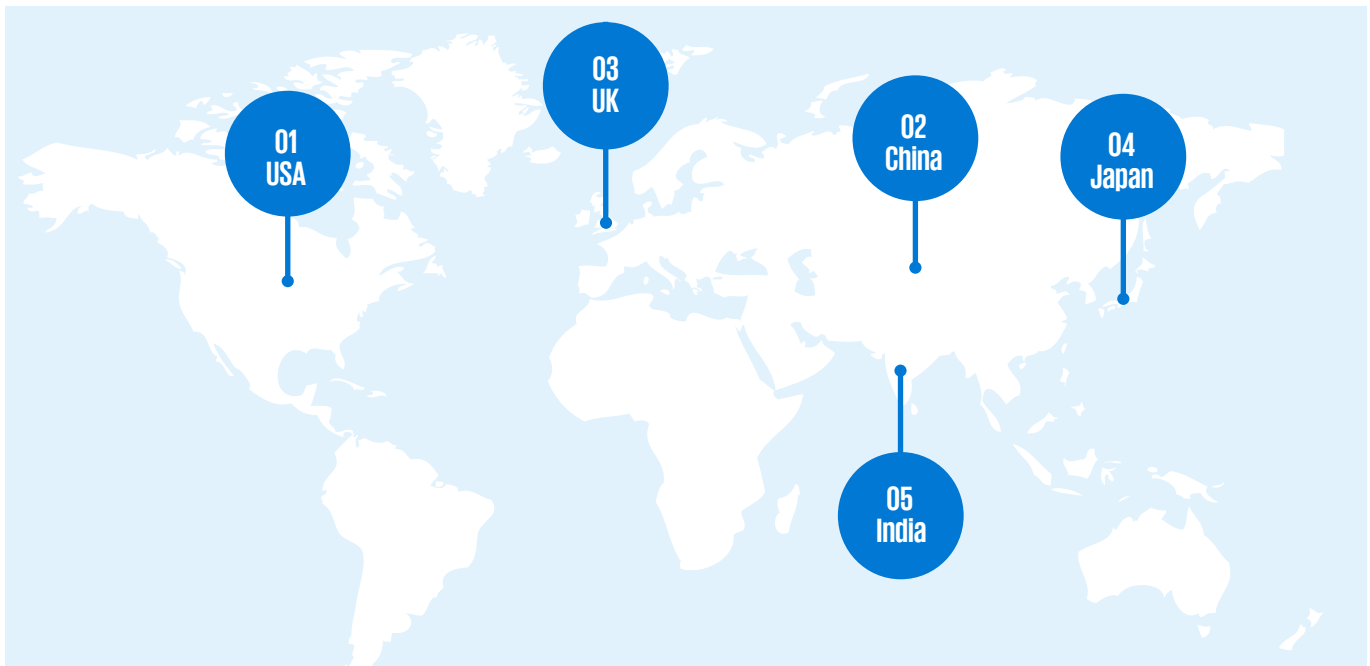


04 Technology and innovation

The technology and innovation pillar comprises ten metrics:

- Availability of latest technology³⁷
- Innovation capability³⁸
- Cybersecurity³⁹
- AV-related patents⁴⁰
- Assessment of cloud computing, AI⁴¹
- Industry investment in drone technology⁴²
- Drone technology firm HQs⁴³
- Drone-related patents⁴⁴
- Drone market share⁴⁵
- AAM orders⁴⁶

The first four positions in the technology and innovation pillar are unchanged, occupied again by the US, China, UK, and Japan. However, Brazil falls to 7th and is replaced by India in 5th.



Rankings

US	1	Ireland	16	Portugal	31	Morocco	46
China	2	Israel	17	Poland	32	Colombia	47
UK	3	Spain	18	Russia	33	Argentina	48
Japan	4	Norway	19	Hungary	34	Peru	49
India	5	Switzerland	20	Greece	35	Kenya	50
South Korea	6	Netherlands	21	Czechia	36	Bangladesh	51
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Sweden	14	Saudi Arabia	29	South Africa	44	Ethiopia	59
UAE	15	Turkey	30	Ukraine	45	Angola	60

37 The Technology And Innovation Report, UNCTAD, 2023

38 Global Innovation Index, World Intellectual Property Organization, 2023

39 GSMA, 2022

40 WIPO, 2024

41 Government AI Readiness Index, 2023

42 PitchBook, 2024

43 PitchBook, 2024

44 WIPO, 2024

45 Statista, market share of drones, 2024

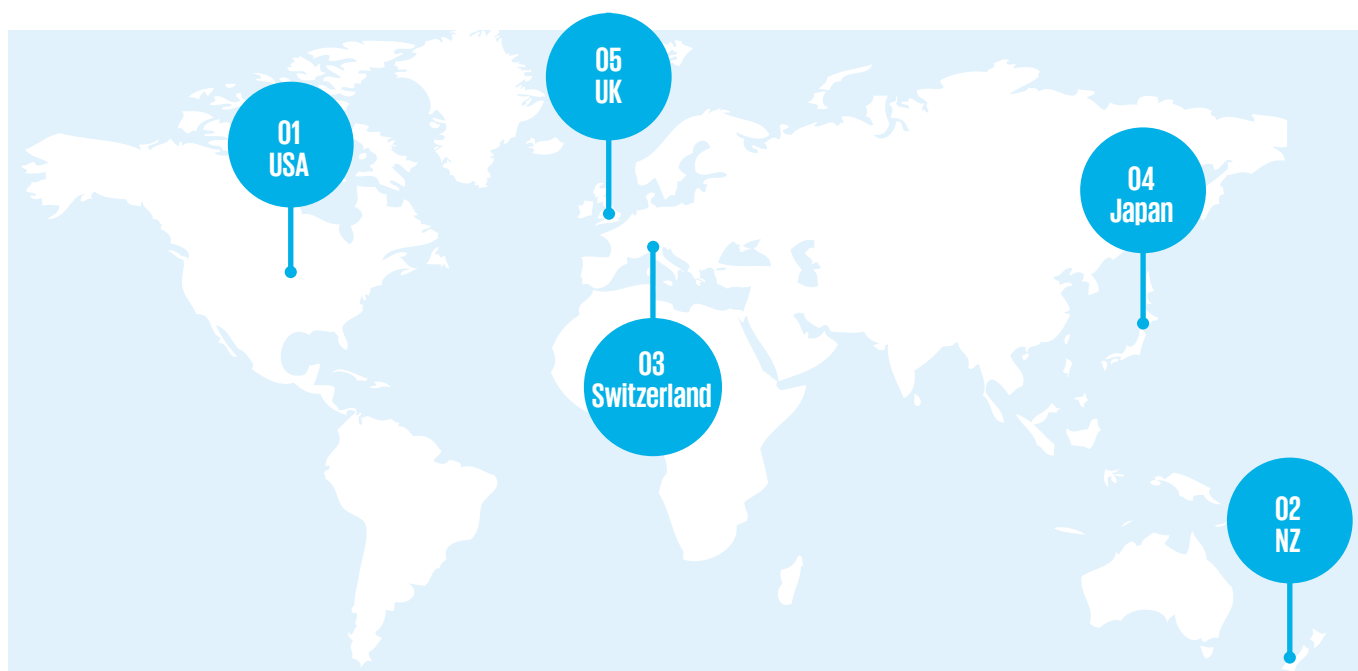
46 AAM reality Index, no. of orders, 2024

05 Business opportunity

The business opportunity pillar comprises the following ten metrics in order to gauge the overall commercial potential of each territory as a S/VTOL marketplace:

- Adj. Net National Income⁴⁷
- Urbanisation⁴⁸
- Tourism⁴⁹
- Helicopter Market Maturity⁵⁰
- Helicopter deal size⁵¹
- Population density⁵²
- LOPA⁵³
- Country's propensity to fly⁵⁴
- Country's propensity to fly - per capita⁵⁵
- Terrain ruggedness⁵⁶

Yet again the US dominates, with New Zealand rising from 5th to 2nd, demoting Switzerland to 3rd. Japan and the UK make up 4th and 5th respectively, while China falls dramatically from 4th to 9th.



Rankings

US	1	Turkey	16	Singapore	31	Romania	46
New Zealand	2	Brazil	17	Israel	32	Peru	47
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Australia	14	Philippines	29	Nigeria	44	Uruguay	59
UAE	15	Russia	30	Ecuador	45	Paraguay	60

47 World Bank, per capita ANNI, 2024

48 World Bank, urban population %, 2022

49 UNWTO, 2023

50 Cirium, 2024. Cirium is a source of aviation analytics. It delivers data and analytics to empower a wide spectrum of industry players. Equipping airlines, airports, travel enterprises, aircraft manufacturers, and financial entities with the intelligence they need to optimize their operations, make informed decisions, and accelerate revenue growth.

51 PitchBook, 2024

52 Demographia World Urban Areas, 2023

53 Fleet Index, 2024

54 Airbus, 2023

55 Airbus, 2023

56 Terrain Ruggedness Index (TRI), 2020, Esri Analytics

Select national profiles

As in previous years, below we profile a handful of top performers in our ranking, alongside a sample of others in the wider index.



View from Lawrence Spinetta, KPMG in the US:

- On May 16, 2024, the President signed into law the Securing Growth and Robust Leadership in American Aviation Act, foundational legislation that, according to former FAA administrator and now board member of both Delta Airlines and Joby Aviation, “sets the stage for U.S. leadership in the next 100 years of aviation.” The legislation continues the US’s embrace of innovative technologies, containing several key provisions and initiatives to drive progress in the unmanned aircraft and advanced air mobility sectors:
 - Importantly, Congress directed the FAA to prioritize the commercialization of Advanced Air Mobility, including measures to expedite rulemaking, policy, type-certification, and Special Federal Aviation Regulations for pilot training and operations of powered-life aircraft, all of which are critical to adopting regular transport of people and cargo using “uncrewed” vehicles.
 - Additionally, the legislation mandates the agency to advance the safe introduction of electric and hydrogen-electric aircraft into the national airspace, dedicating resources to expedite the rollout of novel aircraft and propulsion systems. It contains provisions to modernize and electrify existing aviation infrastructure with the aim of creating next-generation vertiport infrastructure and to encourage the FAA administrator to apply categorical environment exclusions to advance construction.
 - Furthermore, the legislation presses the FAA to develop and adopt within a year a comprehensive plan to fully integrate UAS into the US airspace. This includes moving forward on supporting third-party services that provide unmanned traffic management, particularly in the low altitude regimes.
- Momentum continues in other areas as well. The \$105 billion legislation reserves significant funding for research and development into areas such as directing the FAA to conduct a review of artificial intelligence (AI) and machine learning technologies to improve system-wide efficiency and the National Science and Technology Council to form an interagency working group on AAM and UAS systems to coordinate federal research development, testing, and education activities.
- Cyber security remains a continued concern. Accordingly, a newly created FAA Cybersecurity position has been created. Additionally, the legislation bans federal procurement and use of drones produced by Chinese manufacturers, citing the threat to US industry and national security.
- In August of this year, the FAA approved the first commercial drone flights to fly beyond visual line of sight over the city of Dallas. Zipline International and Wing Aviation will soon start package delivery operations deconflicted by a third-party system to exchange data and flight plans in the shared airspace. This example represents an accelerating trend to expand regulatory permissions and use cases, thereby continuing the United States’ favorable market and leading position to trailblaze forward.



View from Juhi Verma, KPMG in the UK:

- As of 2024, the UK continues to hold its 3rd place position in the global rankings for the development and deployment of autonomous systems, including aerial taxis, reflecting its strong performances across key areas like policy and legislation, technology and innovation and business opportunity. The UK government remains committed to establishing itself as a world leader in this sector, backed by significant investment and robust regulatory framework.
- The UK maintains its top position in policy and legislation (2nd rank), underlining the country's mature regulatory environment and government support. The UK's Civil Aviation Authority decision to adopt the European Aviation Safety Agency's certification standards for next-generation eVTOL aircraft (SC-VTOL) remains a crucial development, ensuring the UK aligns with leading global standards.
- The UK government's Future of Flight action plan, published in March 2024, aims to revolutionize the country's skies with flying taxis, drones, and electric aircraft. By 2026, piloted flying taxis are expected to take flight, with regular services commencing by 2028. The plan is projected to boost the UK economy by £45 billion by the end of the decade, creating new jobs, attracting investment, and establishing the UK as a leader in these emerging technologies.
- However, the UK's ranking in infrastructure has seen a decline, dropping four places to 18th. This represents a critical area for improvement, as the country works towards establishing the necessary physical and digital infrastructure to support widespread deployment aerial taxis. Trade association body, ADS, set out recommendations in 2023 highlighting the urgent need for the UK to establish clear guidelines for vertiport design and operation, as well as the development of comprehensive planning policies. Ongoing attention is required to meet the sector's evolving needs.
- Consumer acceptance has also seen a decline, with the UK slipping from 9th to 18th place. This marks the second consecutive year of decline, indicating that while technological and regulatory advancements are strong, public engagement and acceptance lag behind. Efforts to showcase the benefits of eVTOL and AAM technologies to the public are crucial in reversing this trend.
- The UK continues to excel in technology and innovation, holding its 3rd place ranking. The ongoing advancements in electrification, autonomy, and data driven aviation showcase the UK's commitment to pushing the boundaries of what is possible in the sector.
- Business opportunities in the UK also remain strong, reflected in the 5th place ranking. The Future Flight Challenge and investments by the Aerospace Technology Institute provide a fertile ground for SMEs and large enterprises alike to innovate and scale their operations in the industry.
- Challenges remain around safety concerns, regulatory hurdles, and public acceptance but the government and industry are collaborating to overcome these obstacles and pave the way for a future where flying taxis, drones, and electric aircraft seamlessly integrate into the UK's transportation landscape.



“It’s encouraging to see the UK consistently among the stronger scoring countries, given our collective push to enable routine drone and AAM operations. NATS Services alongside innovative industry partners, is helping to provide the evidence needed by the regulator to develop an enduring, integrated airspace, that will accommodate all airspace users. Whilst safety remains our core focus, it is understood that this approach will take time to deploy. NATS Services is developing new data driven technology solutions and operational concepts to deliver safety and assurance for lower airspace operations, that enable this new ecosystem in the UK and Internationally, unlocking societal benefits and generating new commercial opportunities for ANSPs, operators and other stakeholders.”

Richard Ellis
New Airspace Users Director,
NATS Services



“Northern Ireland is an attractive destination for advanced air mobility aircraft manufacturers, thanks to our world-renowned aerospace sector, skilled workforce, and business-friendly environment. The region is investing in cutting-edge research facilities and benefits from a supportive government that promotes innovation through incentives and strong industry partnerships. With its strategic location, Northern Ireland also offers excellent access to both European and global markets, positioning it as an attractive hub for the development and production of next-generation air mobility solutions.”

Kelly Murphy,
AME & Space Sector Development Manager,
Advanced Manufacturing & Engineering,
Invest Northern Ireland



View from Morsi Berguiga, KPMG in Dubai:

- UAE's consistently improving rank in the air taxi readiness index is a testament to its strong commitment in becoming a global autonomous air mobility leader. With strongest performance indicators across policy and legislation, consumer acceptance and business opportunity, UAE aims to integrate air taxis into the existing transport network and transform urban mobility.
- The Roads and Transport Authority (RTA) in Dubai has laid out an ambitious roadmap to introduce air taxi services by 2026. This initiative is part of a broader vision to achieve zero emissions in public transport by 2050, demonstrating Dubai's commitment to sustainable and innovative transportation solutions. The planned air taxis will utilize electric vertical take-off and landing (eVTOL) technology, which aligns with global trends toward greener urban mobility. Abu Dhabi also has planned for a roll-out of commercial aerial taxi services by 2026. Abu Dhabi Investment Office, in collaboration with the UAE's General Civil Aviation Authority has unveiled UAE's first operational vertiport for vertical take-off and landing aircraft in 2024.
- In terms of technology and innovation, UAE is collaborating with international firms to develop cutting-edge eVTOL aircrafts and vertiports. Companies like Joby Aviation, Skyports, Archer Aviation and Falcon aviation are at the forefront of this development, with plans to launch inter-city as well as intra-city air taxi services. These air taxi services can cut travel time between Dubai and Abu Dhabi to just 30 minutes (currently at 75-90 minutes) and key places within Dubai to less than 10 mins (currently at 45 minutes). This technological advancement is crucial for establishing Dubai as a pioneer in the air mobility sector.
- The business opportunity for air taxis in UAE is significant, given the country's strategic location and status as a global investment, tourism and business hub. The integration of air taxis into the transportation network is expected to create new revenue streams and stimulate economic growth. Moreover, the focus on sustainability positions UAE as an attractive market for investments in air mobility solutions.
- As KPMG Lower Gulf, we have been actively supporting key aerial taxi entities and stakeholders in UAE on their journey for commercial operations of aerial taxis by 2026. We have been extensively working with aerial taxi operators, investors, air navigation service providers and regulators in UAE on aspects related to policy, investments and strategy.
- Overall, UAE's air taxi readiness is characterized by strong policy support, ongoing infrastructure development, high consumer acceptance, and a commitment to technological innovation. As UAE moves forward with its plans, it is well-positioned to lead the way in autonomous air mobility, setting a benchmark for other countries worldwide.

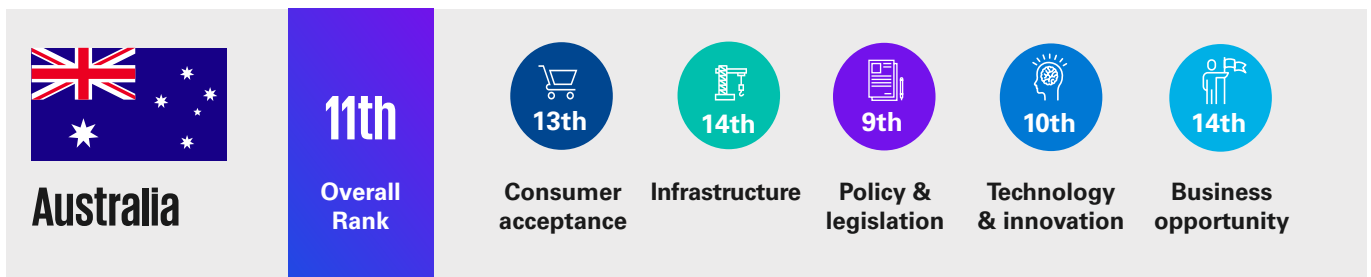


The Roads and Transport Authority (RTA) in Dubai has laid out an ambitious roadmap to introduce air taxi services by 2026



View from Camila Andersen, KPMG in Brazil:

- Back to the Top 10 ranking, Brazil has the potential to become a pioneer in VTOL operations in the upcoming years due to several key factors. These include the presence of a local OEM (EVE Air Mobility), a relevant regulatory agency (ANAC) with internal projects dedicated to enabling AAM in Brazil, the opening of a regulatory sandbox process by ANAC, cities with infrastructure and regulations that can accelerate operations beginning, especially São Paulo and Rio de Janeiro, and a traffic control agency that has large experience in low-altitude airspace control.
- São Paulo has more than 410 helicopters and 260 helipads, with about 2,200 take-offs and landings taking place every day, putting the city among the world's largest helicopter fleets. The DECEA (Airspace Control Department) and FAB (Brazilian Air Force) have created the HELICONTOL system, unique in the world, to manage and control this specific high-complexity air movement, which is operated in the control tower of Congonhas airport, the second busiest in Brazil, ensuring safe coexistence of planes and helicopters in the airport's approach.
- This engagement of the air traffic control agency indicates that there is greater ease of adoption of technology to ensure superconfidence in urban flights, which, together with the launch of Vector, in a partnership between Atech and Eve, indicates that Brazil will have ease of bringing the confidence that currently exists in air corridors to AAM. This can also serve as a benchmark for other countries currently facing challenges related to this topic in EVTOL operation certification and operation.
- The country is also advancing in the certification of the operation of three EVTOL brands: EVE Air Mobility, Lilium Air Mobility, and Vertical Aerospace. ANAC is well known as a strong certifier, with reliability comparable to EASA and FAA, and evaluating the certification of a reduced number of aircraft for local operation facilitates quality assurance and agility in the certification process which may indicate that the country will probably be ready to receive EVTOLs launches by 2026.
- Additionally, ANAC launched a regulatory sandbox, in April 2024, to allow companies and organizations to test innovative models and technologies in aviation for a limited time within a controlled and monitored environment. This move should accelerate players' understanding of the possibilities of aircraft operation and the ecosystem's infrastructure. The agency is also working on creating new pilot licenses, including the VCA (VTOL Capable Aircraft), highlighting their collaborative efforts to ensure a robust regulatory framework and industry advancement.
- The fact that we have an OEM installed in the country (Eve Air Mobility) has also spurred interest in developing the support and infrastructure ecosystem for EVTOL operation in Brazil, with several players already building or refining business plans to operate aircraft, vertiports, charging stations, etc.
- The Eve-100 has already accumulated nearly 3,000 orders with letters of intent in several countries and is expected to start operations in 2026. In addition to EVE, Vertical Aerospace and Lilium already have letters of intent for operators in Brazil, totalling more than 800 vehicles. Notably, Avantto has purchase intention for 100 EVTOLs, Helisul 50, Ohi (Revo) 50, Flybis 40, Flapper 25, Voar 70, and the two largest airlines have placed orders for 250 (Gol) and 220 (Azul) EVTOLs.
- The composition of operators with orders for EVTOLs points to a potentially well-differentiated market in terms of target audience, with companies focusing on operations for B2C, B2B2C, and B2B. In addition, there is regionalization beyond São Paulo, with at least 9 other cities expected to be relevant for the use of EVTOLs: Rio de Janeiro, Curitiba, Belo Horizonte, Porto Alegre, Brasília, Fortaleza, Recife, Natal, and Manaus.



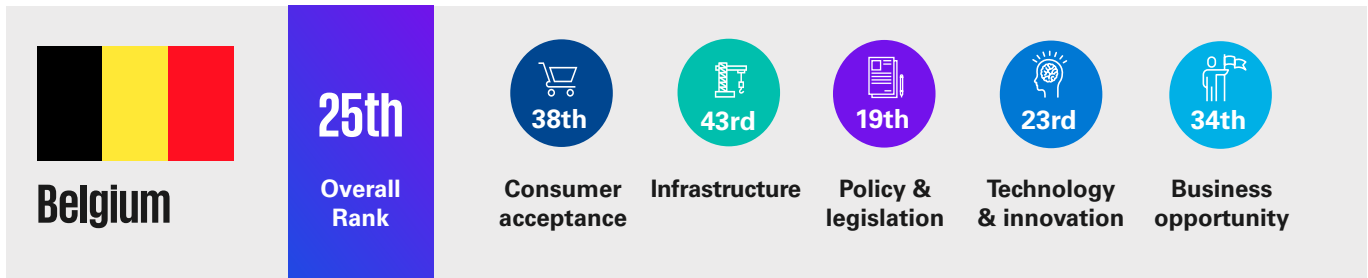
View from Elisha Edwin, KPMG in Australia:

- Australia falls to 11th position this year primarily to weaker scores in the AAM infrastructure and business opportunity pillars for 2024.
- Wisk Aero and Skyports announced plans to develop an entry into service vertiport network in Queensland, Australia. This partnership aims to produce thorough business cases to support the development of necessary vertiport infrastructure.
- Australian eVTOL company AMSL Aero received its first aircraft order from Aviation Logistics, a holding company that maintains a stake in regional airline, aeromedical and aviation charter companies.
- Airservices Australia's Uncrewed Services Advisory Network (USAN) commenced an EOJ period for Working Groups to connect with industry representatives on Uncrewed aviation topics and issues.
- Frequentis has been selected by Airservices Australia to produce a new Flight Information Management System which will underpin Australia's Uncrewed Aircraft System Traffic Management (UTM) capability.
- The state of Victoria released an Advanced Air Mobility Action Plan that included proposed actions and associated timings for the planned transition to AAM.
- Australia's civil aviation safety regulator, Civil Air Service Authority (CASA), continues to build their workforce and capacity for AAM matters including the provision of regulatory guidance and input for AAM operations.



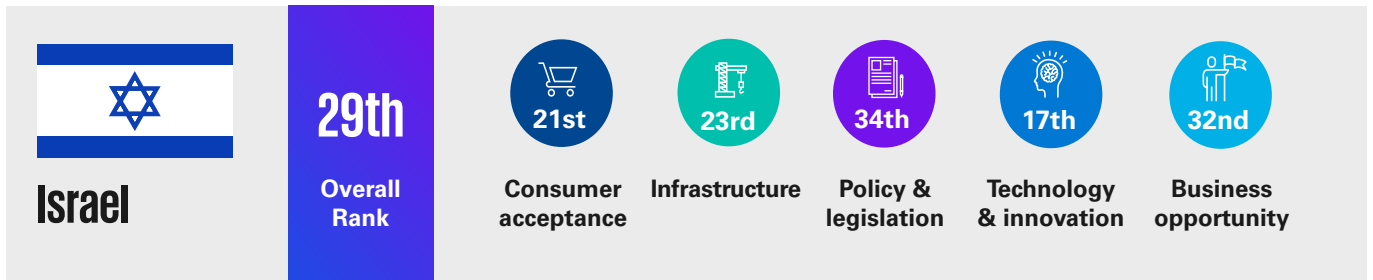
View from Chris Brown, KPMG in Ireland:

- Ireland climbs three places to 16th, continuing its upwards trend. Consumer acceptance is its strongest pillar and only top ten showing. Business opportunity has improved by two places, but remains a drag on Ireland's overall score, a consequence of low population and helicopter market maturity scores.
- The Future Mobility Campus Ireland (currently developing an operational vertiport and unmanned flight ecosystem) is holding to its prediction that air taxis will be operational in Ireland by 2027. In May, Dublin City Council released its first Drone and Urban Air Mobility Strategy 2024-2029, while we know several other councils on the island, north and south, are in keen watching mode – seeing the opportunities for better rural connectivity but cautious of stepping ahead of national frameworks.
- Home-grown drone delivery operator Manna launched in the US in November 2023, taking the company another step closer to mass deployment.
- April saw Ireland host TRA2024, a major European conference on transport and mobility that brought together global experts to discuss the future of transportation, including the integration of air taxis. This conference positioned Ireland as a key player in the European urban air mobility landscape, highlighting the country's commitment to advancing the technology.
- Despite its small size and market opportunity, Ireland's outsize position in the European aviation ecosystem and its home grown AAM talent bodes well for its prospects as an air taxi innovator and adopter. But long term, Ireland's outsized contribution to the sector will likely be in the form of hosting emerging business model IP and the required aviation finance backing.



View from Öztürk Taspınar, KPMG in Belgium:

- Belgium climbs four places to 25th, driven by initial improvements in policy & legislation and more important by improvements in technology & innovation. However, Belgium lost position to competitors across consumer acceptance, infrastructure, and business opportunity. Policy and legislation plays a significant role in boosting the other pillars, Consumer acceptance and infrastructure remains its biggest challenges, typically requiring central Government's persistence in centralized strategy and funding.
- Belgium continues to enjoy sound fundamentals as well as factors not captured by the ATRI, including its rich entrepreneurial ecosystem in Aviation, federated governance system, and unique position as host of the EU's legislative HQ. The continuing absence of a centralized and funded national air taxi readiness strategy is a brake on progress.
- In April 2024, the European Commission introduced new measures aimed at harmonizing air mobility approaches across the EU, including new airworthiness certification requirements and procedures for manned and unmanned VTOL, as well as air taxi pilot license requirements and rules on integration into airspace and safety. These measures build on previous proposals from the EU's Aviation Safety Agency (EASA), and provide a framework for Belgium and other EU members to adopt.
- Belgian operator SkeyDrone continued to deploy its drone detection system as a service (ex: at major music festivals and other events such as 20km de Brussels, increasing safety and continuing a trend that promises to grow consumer awareness and acceptance of drone technologies).
- In February, Belgian UTM provider, Unifly, announced its role in the €12 million.
- EUREKA SESAR3 Fast Track project initiated by SESAR Joint Undertaking, which aims to integrate air mobility into urban landscapes by 2026. Unifly will function as a key knowledge partner, leveraging its expertise to integrate vertiports into such solutions for safe airspace use.
- In August this year, a drone successfully completed a 4km journey between a care center in Bellegem, and a hospital in Kortrijk, as part of the TETRA Medical Drone Supplies (MEDROS) project, led by VIVES University of Applied Sciences in West Flanders. The project marks another milestone on the journey towards the use of drone technology to transport medical goods within the healthcare sector. Adding to the initiatives Helicus have been working on in healthcare in the past years.
- In June, testing and certification company SGS announced the official launch of its drone transport service for petrochemical analysis samples in the Port of Antwerp, delivered in collaboration with drone logistics operator Aerial Drone Logistics Company (ADLC). This marks the first time the transport of petrochemical analysis samples by an autonomous drone has ever been executed in Europe.
- In June, ADLC also participated in and won the Offshore Drone Challenge organized by the German Aerospace Center (DLR) and EnBW Energie Baden-Württemberg AG at the Nationales Erprobungszentrum für Unbemannte Luftfahrtsysteme in Cochstedt. The competition was designed to establish the suitability of drones for supplying materials to offshore wind farms.
- Some developments in "Automated ground handling of cargo drones" is a promising missing link in drone logistics that might boost consumer awareness and acceptance in Belgium. The uptake of the Helicus Drone Cargo Port is something to monitor going forward.



View from Erez Henig, KPMG in Israel:

- Israel's score has gone down 5 places in relation to last year's score. This is due largely to a 14 place drop in policy and legislation. However, at the same time, Israel's technology and innovation score has jumped 15 places up.
- Israel has a developed unmanned aircraft and drone industry with a large number of companies manufacturing advanced technologies and products in numerous segments of the advanced air mobility ecosystem. This includes UTM, autonomous capabilities, advanced sensors, control software, air-to-ground communications, as well as a number of small aircraft eVTOL manufacturers. This is indeed showing itself in the technology and innovation score.
- However, despite large efforts on behalf of the Government to provide the necessary legislative and regulatory environment for the employment of advanced air mobility and urban air mobility, the pace of change is not satisfactory.
- One of the reasons for this is the geopolitical situation that Israel has entered on October 7th, 2023 with a conflict erupting with Iran, Hezbollah, Hamas, and the Houthis in Yemen. This conflict has drawn resources and attention from the government, the Civil Aviation Authority of Israel (CAAI), and of course the military away from urban air mobility (UAM), and slowing the progress in implementing UAM in the country.
- The government's main initiative – the Israel National Drone Initiative (INDI) – is a joint project of the Israel Innovation Authority, government owned "Ayalon Highways"; CAAI, Israel Ministry of Transportation, and the Israel Center for the Fourth Industrial Revolution (C4IR) with the support of the World Economic Forum.
- INDI launched in 2021 and progressed well until late 2023, scaling up the Israeli civil and commercial UAV industry from no operation at all to 6,400 sorties. The initiative managed to work together, remove regulatory barriers and allow the delivery of blood, medical applications, commercial goods and food via air with drones in the densest area of the country.
- In 2023, the INDI initiative saw the use of manned drones (Ehang's 216 AAV) with the goal of achieving countrywide deployment of drone activity, connecting drone operations to the national supervisory and control infrastructures, and opening the skies to regular managed and automatic commercial activity throughout the entire country.

Concluding thoughts

Air taxi readiness is of course not perfectly measurable by this or any other attempt, nor can readiness alone determine a market's ultimate importance to any individual operator or investor strategy. Right now, air taxi operators face a formidable range of challenges to deploy assets in working markets and demonstrate commercial viability before exhausting investor patience. In the last year, we have witnessed a sectoral pivot towards the Middle East with this objective in mind, and the world is moving closer to seeing the first working models flying paying customers. However, the sector will need to be able to serve broader customer demographics if it is to realize its full potential, which will entail the hard work of building public trust, overcoming safety concerns, and establishing pricing models that make air taxi services accessible.

As always, it is important to note that readiness for air taxi deployment is a complex and dynamic characteristic, which can only be imperfectly captured by this or any other attempt. We have focused on common readiness factors that apply broadly across the sector, but the specific salience of individual metrics will differ according to local circumstances. To conclude, we consider some implications by stakeholder type.



OEMs & supply chain

- Whilst generic readiness metrics will play a key part in any assessment of target markets, it will also be critical to understand unique business intelligence factors beyond these, e.g. the presence of assembly and after-sales sites as well as your mix of local suppliers.
- The Gulf's proactive regulatory environment, significant investment in infrastructure, and strong governmental support highlight the importance of choosing markets that are conducive to the early adoption of new technologies in the near term.
- Success in the Gulf offers OEMs an opportunity to establish themselves as pioneers in the sector, with the region serving as a model for expansion into other regions, providing valuable operational insights and a proven track record to attract further investment and market interest.

Investors & lessors

- The air taxi market remains characterized by high risks and high potential rewards, with the potential to redefine urban and intra-urban travel. The Middle East looks increasingly likely to be the first region to see air taxis carrying paying passengers, but its business opportunity is necessarily limited, which might limit ROI.
- The air taxi market requires innovative leasing models tailored to eVTOL aircraft, which differ from traditional aircraft due to their shorter range and specialized infrastructure needs.
- Lessors will require expertise in evaluating the residual value of eVTOLs and managing fleet utilisation in urban environments, as well as new maintenance and service protocols tailored to eVTOL technology, requiring investment in training and infrastructure.
- Investment opportunities are not limited to air taxi manufacturers, but exist in a wide range of support industries including infrastructure, air traffic management, mobility as a service software, insurance, and compliance.

Operators & Mobility as a Service providers

- The sectoral focus on the Middle East and high-net-worth individual markets, whilst strategically sensible in the short term, carries a risk of alienating broader audiences at a time when the sector is seeking widespread acceptance. It is critical that air taxis are seen as broadly accessible, rather than luxury-only options, if they are to fully realize their commercial potential.
- AAM will require the creation of a new ecosystem of supporting software, for the management of flight schedules, the monitoring and management of a fleet's batteries, predictive maintenance, demand forecasting, meteorological forecasting, etc., creating multiple opportunities for app and software providers.



National policy makers

- Huge infrastructure investments are required to make mass air taxi adoption a reality, including in bespoke vertiports and other inner-city VTOL sites, grid capacity, and integration with existing transport networks. Public-private partnerships are one obvious route to address this in jurisdictions that are eager to progress the air taxi agenda.
- Despite widespread enthusiasm from many quarters including the French national government, hostility from the Paris city council towards Volocopter's Olympics plans demonstrates the significant public relations challenge faced by air taxi operators in some jurisdictions. Governments that want to realize the mobility gains on offer will need to actively support the industry as it brings this unfamiliar product to market, as well as promote public acceptance.
- Policy makers hoping to see their countries participate in the air taxi market need to understand the lengthy lead times for building or implementing key readiness pillars, such as airspace changes, regulatory frameworks, and upgrades to physical infrastructure.
- Saudi and the UAE are not the only states whose policymakers are making significant regulatory progress towards air taxi adoption. The last year has seen a number of others, including Canada and Singapore, take bold steps to prepare their regulatory environment for air taxis, with Transport Canada launching a comprehensive three-year Air Taxi Safety Campaign aiming to address specific safety concerns related to air taxi operations. Singapore has meanwhile convened the first meeting of Asia-Pacific regulators to collaborate on air taxi regulation, with a view to developing adoptable and adaptable regulatory reference materials by 2025.

Air Navigation Service Providers (ANSPs) & regulators

- ANSPs continue to face enormous technical challenges over the safe integration of air taxis into congested urban airspaces, including investment in next-gen communications technology, developing fit-for-purpose regulation and certification regimes, integration of novel infrastructure such as vertiports, addressing cybersecurity and other public concerns. It is critical that ANSPs and regulators continue to align on standards through regional initiatives such as those being pursued by the EU, US, and Asia-Pacific countries.
- With many operators now engaged in test flights, regulation rather than technology maturity is likely to be the biggest barrier to widespread air taxi adoption in many jurisdictions, especially for unmanned flight. Regulators have a mammoth task ahead to develop a workable ATM framework for eVTOL aircraft in the urban environment; the need for regulators to engage is urgent.
- Gulf states, especially Saudi Arabia and the UAE, have thrown down the gauntlet to regulators worldwide with their ambitious schedules for AAM implementation within their airspaces. Their progress will be closely watched by regulators in other jurisdictions for clues as to what will and won't work in integrating air taxis into their low-level airspace, and we are now likely to see clear blue water opening up between those jurisdictions that are aggressively pursuing air taxi readiness and those adopting a conservative approach.

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Produced by: KPMG's Creative Services.
Publication Date: October 2024. (10686)