

Urban Air Mobility Takes Off A Guide to the First Planned Services

By Philip Butterworth-Hayes
Unmanned Publications, United Kingdom

The first urban air mobility (UAM) commercial routes in Paris 2024 will be a 21km route from Saint Cyr and Issy-le-Moulineux to the west of the city and a 22 km route between Austerlitz and le Bourget to the west of the city, according to Groupe ADP, participating at the launch of the first European Advanced Air Mobility Testbed at Pontoise-Cormeilles Aerodrome, close to Paris, which was officially opened on November 10, 2022.



Photo: A. van Blijenburgh

The airport group is currently talking with aviation safety regulators on how these routes will be supported by additional landing facilities mid-point in the planned routes. Under the current plans, Volocopter's piloted electric vertical take-off and landing (eVTOL) aircraft VoloCity will fly these routes with a single passenger with hand-luggage and a fast turn-around between flights; during the turn-around, ground staff will replace the nine batteries every flight and the pilot will escort the arriving passenger to the terminal and then pick-up the new passenger and take him/her to the waiting aircraft.






a Letter of Intent (LOI) with the owners of Charm, one of the largest helicopter tour operators on the US East Coast of the USA, to offer sightseeing tours around New York from as early as 2023 in HEXA eVTOL aircraft has effectively set off the starter's pistol for the global urban and advanced air mobility industries. According to the company: "LIFT is launching a new concept in personal aviation - anyone will be able to learn to fly its semi-autonomous eVTOL aircraft in less than an hour, and then solo pilot the single seat, ultralight vehicle - no pilot's license required. Under FAA rules, flights are limited to uncongested flyover areas and uncontrolled airspace - so plans are in the works to develop LIFT vertiports along New York City's many waterfront areas that provide access to the "Class G", Visual Flight Rules (VFR) corridor that extends up to 1,300 feet around Manhattan. Unlike most eVTOL aircraft in development today, HEXA is already approved to fly under the FAA's Part 103 rules, and no pilot's license is required to fly for personal, non-commercial use."



Photo: A. van Blijenburgh

Departures Photo: A. van Blijenburgh

Group	Destination	Status
A	VERTIPORT	BOARDING ● ●
B	VERTIPORT	ON TIME ● ●
C	VERTIPORT	ON TIME ● ●
D	VERTIPORT	ON TIME ● ●
E	VERTIPORT	ON TIME ● ●
F	VERTIPORT	ON TIME ● ●

But it is highly likely that the public will not have to wait until 2024 to fly commercial eVTOL services.

The news in late October 2022 that LIFT Aircraft had signed

Very close observers of this industry will argue that the industry has already taken off. In July this year EHang performed sightseeing flights with passengers in Yantai, a coastal city in East China, as part of the autonomous air vehicle EHang 216 'World Flight Tour', with no pilot.

But LIFT is developing a more complex operation with vertiports and geo-fencing flight management systems to keep the aircraft confined to pre-defined flight areas and corridors – in other words, an entire UAM eco-system.

Sight-seeing is the one of the key drivers of initial UAM services. In 2021 September, EHang reached a cooperation agreement with China Eastern General Aviation, a helicopter service provider and airspace management company, for tourism flights in Malunshan Base, Linhai, Shenzhen. EHang eVTOL tourist services are also scheduled for the Guangdong-Hong Kong-Macao Greater Bay Area. Other early tourist flights planned include the Volocopter scenic circular path within the Marina Bay area (9km) of Singapore

Automatic Passenger Registration



Automatic Passenger Boarding Check



and a 6km hop around Jeju Island in Korea.

Most of the flights could take place in 2024 – depending on the speed of certification and the jury is still out on whether all the regulations and standards will be in place around issues such as pilot training, battery storage and fire protection, maintenance, airspace design and traffic management, to meet the business plans of industry. If they are not, it is possible the initial operations will be undertaken under some kind of exemption process.

While the initial sight-seeing routes are unlikely to be more than 10km in length, the point-to-point commercial services, such as that at Paris, are considerably longer. Leonardo and Aeroporti di Roma (AdR) want to launch the first commercial UAM operations in Italy between Fiumicino Airport and the city of Rome in 2024 – and this is a journey of around 30km. These longer services offer considerably more complex infrastructure planning and regulatory challenges – not the least because of the probable requirements by regulators to identify potential emergency landing sites beneath these routes, to support pioneering commercial operations of more than 10km. The first US commercial eVTOL point-to-point service is planned for 2025, with United Airlines connecting Manhattan and the Newark Liberty International Airport hub with Archer Aviation aircraft.

The world will have to wait until 2025 for fully competitive UAM eco-systems to develop. To coincide with EXPO 2025 EHang, Skydrive and Volocopter have all announced competing networks, linking downtown Osaka with the EXPO sites and other tourist services. The shortest of these is Skydrive's Osaka Universal Studios-Yumeshima island route (5km) and the longest is ANA/Joby's Osaka City Centre-Airport (40km).

For more information on UAM/AAM routes & programmes please visit <https://www.globalairmobilitymarket.com>



Philip Butterworth-Hayes
Unmanned Productions
United Kingdom

