



Will air taxis really take off?

While China, Europe and the US compete for the short- to medium-haul aircraft market, there's a parallel rivalry playing out in the shifting sands of the Middle East, says *Paul Sillers*

The race is on for the Middle East's potentially lucrative advanced air mobility (AAM) sector. It's a scramble for market share between the world's prevailing makers of eVTOLs (electric vertical take-off and landing vehicles, or air taxis) between China's EHang, the US's Archer Aviation and Joby Aviation, and Germany's Volocopter and Lilium.

The business landscape of the region is uniquely conducive to the propagation of AAM, with favourable government regulations and relatively uncongested skies. However, the key

driver is the ambition among Gulf nations to establish sustainable "smart cities" and the AAM sector is a vital part of this. In the UAE alone, according to BlueWeave Consulting's assessment, the air taxi market is set to expand at a compound annual growth rate of 5.02 per cent to £184 million by 2030, with a market potential for 1,650 eVTOL units.

RISE OF THE VERTIPORTS

The infrastructure for eVTOL is already shaping up in the Middle East, with investments in "vertiports" – mini airports tailored specifically

for eVTOL charging, take-off and landing. A memorandum of understanding (MoU) this May between the UAE's Ras Al Khaimah Transport Authority, in collaboration with the city's Tourism Development Authority (RAKTDA) and UK-based vertiport developer Skypoints Infrastructure, maps out a design and operations blueprint for Ras Al Khaimah's first vertiport network. This will connect key attractions, in alignment with the city's Transportation Master Plan 2023 to 2030.

Inaugural commercial flights are slated for 2027, linking Al Marjan Island, Al Hamra and

PHOTOGRAPHY: ARCHER AVIATION; LILIUM; VOLOCOPTER

<<
Midnight, US company Archer Aviation's eVTOL, could launch as early as March 2025

>>
NEOM, Saudi Arabia's new smart city, has invested £134 million in Germany's Volocopter

V
Volocopter's VoloCity eVTOLs use electricity generated by solar and wind energy



Air taxis slice up to 70 per cent off journey times, and the broader goal is to integrate with other air taxi networks across the UAE

Jebel Jais with Ras Al Khaimah International Airport, while providing scenic travel experiences for visitors. Air taxis slice up to 70 per cent off journey times, and the broader goal is to integrate with other air taxi networks across the UAE. "By introducing electric air mobility, we not only enhance accessibility to Ras Al Khaimah's attractions but also significantly reduce our carbon footprint," says Raki Phillips, CEO of RAKTDA.

THE LOW-ALTITUDE ECONOMY

In a similar vein, NEOM – the smart and sustainable regional development in Saudi Arabia – and German eVTOL pioneer Volocopter completed a successful series of eVTOL test flights in June 2023 under the auspices of the General Authority of Civil Aviation. These trials build on NEOM's £134 million investment in Volocopter, whose VoloCity eVTOLs can use electricity generated by solar and wind energy.

"The successful test flight of a Volocopter eVTOL is a tangible example of NEOM as a global accelerator and incubator of solutions to the world's most pressing challenges," says Nadhmi Al-Nasr, CEO of NEOM.

US eVTOL makers Archer Aviation and Joby Aviation are also already embedded in the Middle East's evolving air taxi ecosystems. In March,



Germany's Lilium air taxi



Joby Aviation has signed an MoU with Saudi aircraft operator Mukamalah, paving the way for its air taxi launch

Saleh Al-Jasser, Saudi Arabia's minister of transport and logistics services, at EHang's eVTOL debut flight

Archer and Falcon Aviation, a prominent aviation services operator in the UAE, worked together to develop a vertiport network across Dubai and Abu Dhabi, linking heliports at Atlantis, the Palm in Dubai and the Marina Mall heliport in Abu Dhabi's Corniche. Operations using Archer's Midnight eVTOL could launch as early as 2025.

"Training a fleet of pilots to operate our aircraft is a critically important part of our efforts to establish a thriving urban air mobility network in Abu Dhabi and the rest of the UAE," Archer's CCO Nikhil Goel says. Archer has teamed up with Etihad Aviation Training for eVTOL pilot training, an initiative coordinated with Abu Dhabi Investment Office (ADIO), Falcon Aviation and Air Chateau.

Meanwhile, California-based eVTOL manufacturer Joby Aviation signed an MoU with Saudi Aramco subsidiary and corporate aircraft operator Mukamalah Aviation, paving the way for a full air taxi ecosystem. This would include training, infrastructure development and flight operations, with the possibility of manufacturing eVTOLs in Abu Dhabi.

The MoU was signed at DRIFTx, the international exhibition and platform in Abu



Dhabi dedicated to advancing the future of smart, autonomous and sustainable mobility across air, land and sea. The initiative is backed by ADIO and the Smart and Autonomous Vehicle Industries cluster. "The MoU aligns seamlessly with our Tourism Strategy 2030, which underscores our steadfast commitment to fostering sustainable growth and strategic development in the travel and tourism sector," according to Mohamed Khalifa Al Mubarak, chairman of the Department of Culture and Tourism for Abu Dhabi.

Joby's Midnight can whisk passengers from Abu Dhabi to Dubai in 30 minutes, shaving 90 minutes off the car journey.

To underscore the MENA (Middle East and North Africa) region's commitment to flying taxis, in mid-July Lilium and Saudia Group entered into a sales agreement, with a confirmed order for 50 Lilium jets, with an option for an additional 50.

AUTONOMY WINS

The most disruptive protagonist in the mix, though, is China's EHang, which offers a

In April EHang showcased a series of autonomous demo flights with its EH216-S in Abu Dhabi at DRIFTx in the presence of Emirati royalty

significant point of differentiation: autonomy – eVTOLs that are capable of flying passengers without a human pilot on board. This contrasts with EHang's rivals' eVTOLs, which are not configured for crewless flight. EHang's self-piloted EH216 eVTOL comes in three variants: the EH216-S for intra-city transportation and aerial sightseeing (retail price \$410,000 as of April 2024); the EH216-L for heavy-duty aerial logistics operations; and the EH216-F, for firefighting.

Having no pilot frees up space and weight for another fare-paying passenger – doubling revenue in the two-seater EH216. It also means the operator need not employ pilots, invest in specialised eVTOL pilot training or manage the headache of rostering pilots across different locations. Autonomous flight also pre-empts aviation's looming pilot shortage.

In April, EHang showcased a series of autonomous demo flights with its EH216-S in Abu Dhabi at DRIFTx in the presence of Emirati royalty, civil aviation authorities and government officials. The Chinese eVTOL maker also cemented a strategic collaboration with ADIO and fintech Multi Level Group, as well as a tie-up with Wings Logistics Hub, the tech arm of Ethmar International Holding, to expedite local certification and operations.

LEAP OF FAITH

However, while eVTOL manufacturers and authorities talk optimistically about operations only a year or two away, there are hurdles to overcome. The regulatory rulebook for eVTOLs is still being drafted and there are questions of integration with city infrastructure operations and air traffic management, such as how do eVTOLs share airspace with helicopters and private jets? There are also public acceptance and safety technicalities to resolve, such as how a vertiport would handle a fire from lithium batteries. And specifically in the case of China's eVTOL, at some point passengers will have to muster the confidence to lift off in a flying machine without the reassuring presence of a human pilot on board. ■



Guests watch the EH216-S's pilotless flight in Saudi Arabia; EHang has developed three versions of its innovative eVTOL

PHOTOGRAPHY: EHang; COURTESY OF JOB AVIATION, ICI, JOB AVIATION, ICI, JOB AVIATION, ICI