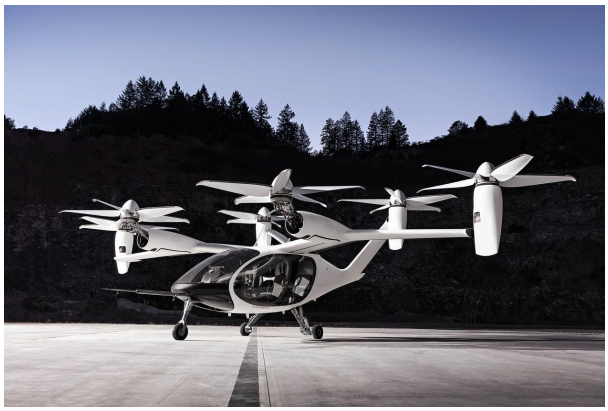
TECH

U.S. Air Force Gives Lift to Flying Taxis

Military endorsement could bring novel electric vehicles closer to reality



The Joby Aviation vehicle, with six electric-powered tilt rotors above an egg-shaped body sized for four passengers, is lighter, cheaper and quieter than conventional helicopters.
PHOTO: JOBY AVIATION

By Andy Pasztor and Andrew Tangel
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Flying taxis, which one day may whisk passengers around town without pilots, are getting a boost from the U.S. military.

The Air Force has issued a first-of-its-kind safety endorsement of an electric-powered vehicle similar to a helicopter, opening the door to using such commercially developed equipment for military missions. This initial stamp of approval is meant to lay the groundwork for eventual civilian certification of the technology and even approval of autonomous flights crossing American cities, industry and military officials said. The current version does require a pilot.

For now, the impact of the Air Force's decision, expected to be announced as soon as Thursday, is limited. It means Joby Aviation, a Northern California startup, will become the first maker of novel vertical-takeoff-and-landing craft providing transportation for the U.S. armed services.

The Air Force will help accelerate safety analyses by conducting flight tests, pledging to pay for contracts seeking to verify vehicle reliability and generally vetting the capabilities of vehicles through direct and indirect funding of the company.

The Air Force intends to help jump-start the budding industry to enhance American competitiveness. The process is expected to take years, but the race to develop air taxis already has attracted significant investments from companies including Boeing Co. , Toyota Motor Corp. , Hyundai Motor Group of South Korea and Airbus SE.

“We’re really competing with other nations to bring this technology to bear,” Will Roper, head of Air Force acquisitions, said in a recent interview. “Not just for military missions, but for all missions, including commercial ones.”

Based on the positive safety assessment, Joby’s vehicle will be contracted to carry cargo and people, as well as provide emergency rescue and other services, initially between military facilities in the U.S. and later around the globe. Ferrying freight among domestic locations connected by military airspace could begin as soon as early next year, according to Mr. Roper and others inside the Air Force.

The novel design features six tilt rotors above an egg-shaped body sized for four passengers, producing a vehicle that is lighter, cheaper and quieter than conventional helicopters.

In the future, it could be used for missions from slipping commandos into hostile territory to picking up injured pilots on the battlefield to carrying high-priority cargo to remote outposts, according to the Air Force. Other military services also will have a chance to assess the craft’s capabilities.

The Air Force endorsement, stemming from a year-old initiative called Agility Prime, also signals a potentially new chapter for Pentagon procurement, by harnessing for military missions equipment initially developed just for commercial markets.

“This is about retooling our system to be commercially focused, commercially agile,” Mr. Roper said. He told an industry conference during the summer that the Air Force needs to be involved “wherever innovation is happening in aviation.”

Joby said it is “excited to partner with the U.S. government to accelerate testing, development and certification,” adding that the military’s safety and performance evaluation had determined the vehicle “meets Air Force standards for flight.”

At this point, the company won’t be authorized to fly in civilian airspace or offer broad commercial services, both of which require full-fledged safety certification by the Federal Aviation Administration. But industry experts, along with military and civilian government officials, see the Pentagon’s endorsement as an important step toward that goal.

Referring to the collaboration between military and civilian safety experts, FAA chief Steve Dickson told an air-mobility conference this week, “It’s really gratifying to see how our interests align.” He didn’t discuss specific companies. Joby has said it anticipates formal FAA safety certification by 2023.

Separately, earlier this week Joby said it intends to acquire the Uber Elevate unit of Uber Technologies Inc., as part of an expanded partnership between the two companies. The latest agreement also increases Uber's investment in Joby to $125 million as the two companies pursue plans to integrate future ground and air travel options. On Wednesday, Joby said the Air Force and Uber developments seek to accelerate its timeline for offering services to customers.

The Pentagon plans to spend roughly $100 million annually to support flight tests and pay for actual transportation as part of the overall effort to assess Joby, which is funded partly by Toyota, and other companies working on novel airborne vehicles.

The long-term goal, according to Air Force Col. Nathan Diller, who will oversee testing and evaluation, is for the military to collaborate with industry and the FAA to ensure U.S. manufacturers snare a major share of the emerging air-taxi market. Pointing to China's dominance in commercial drones, he said, "We can't afford to do what we did with the small-drone industry."

Several other companies are looking for similar endorsements, formally called airworthiness evaluations, in coming months. They include Vermont-based Beta Technologies and Texas-based Lift Aircraft Inc.

The Vertical Flight Society, a nonprofit group in Fairfax, Va., that promotes urban air taxis, says roughly $5 billion has been invested in the segment since 2014. National and local governments from Europe to Singapore are devising pilot projects to promote the technology. At least $5 billion more is likely to be spent on new-vehicle development in the next few years, according to Michael J. Dyment, managing partner of Nexa Capital Partners, which funds novel aircraft development.

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