



Aviation Week Doubles eVTOL Forecast To 2,000 Deliveries By 2030

Aviation Week Fleet Data Team July 26, 2024



Certification of Beta's Alia CTOL is expected to cause a spike in cargo eVTOL deliveries beginning in 2025.

Credit: Beta Technologies

A new forecast from Aviation Week's fleet data team projects that 2,000 commercial electric vertical-takeoff-and-landing vehicles will be delivered by 2030, double the 1,000 predicted in last year's study.

By 2040, Aviation Week forecasts deliveries of nearly 12,000 electric vertical-takeoff-and-landing (eVTOL) vehicles worldwide, marking a 20% increase from the 2023 forecast of 10,000. The team also sees 33,000 eVTOL deliveries by 2050, up 10% from the 30,000 predicted last year.

Despite doubling its 2030 estimate to 2,000 aircraft, the fleet data team still describes the forecast as "pragmatic," reflecting industry headwinds ranging from shortcomings with batteries to timeline delays, as well as a punishing financing environment that appears unlikely to change soon.

- Up to 33,000 eVTOL deliveries are anticipated by 2050

- EHang EH216-S certification led to doubling of 2030 estimate

The increase over last year’s estimate largely boils down to EHang’s EH216-S type certification and start of deliveries late last year. The forecast front-loads the projections with more vehicles delivered earlier in the period. Many EHang customers are local governments in China, presenting a relatively artificial market environment that will not be replicable in other regions, such as Europe or the U.S.

Retirement assumptions in the new forecast were modified to reflect an average lifespan of nine years, leading to a projected eVTOL in-service fleet (ISF) of roughly 25,000 aircraft by 2050, compared with a 2023 estimate of 19,000.

Projected eVTOL Deliveries and Fleet Growth, 2030-50

	2030		2040		2050	
	Deliveries	In-Service Fleet	Deliveries	In-Service Fleet	Deliveries	In-Service Fleet
eVTOL	~2,000	~2,000	~12,000	~9,000	~33,000	~19,500
eCTOL/eSTOL	~500	~500	~2,500	~2,500	~8,000	~5,500
Total	~2,500	~2,500	~14,500	~11,500	~41,000	~25,000

Source: Aviation Week Network Data Team



The new forecast also predicts a combined 500 new-build electric conventional-takeoff-and-landing (e-CTOL) and short-takeoff-and-landing (e-STOL) aircraft in the 4-9-seat class by 2030, rising to 2,500 deliveries by 2040 and 8,000—or an ISF of 5,000 aircraft—by 2050. The forecast does not consider conversions or retrofits of existing aircraft.

In the new forecast, the market is split into three primary use cases, excluding military: passenger, cargo and “other” (including emergency services and agriculture use). The use cases encompass three size classes: 1-4-passenger eVTOL, 5-9-passenger eVTOL and 4-9-passenger eCTOL/eSTOL vehicles.

The forecast period begins exclusively with passenger operations but quickly moves on to cargo. Use cases in the “other” category, by comparison, expand more slowly as range and loitering capabilities likely limit eVTOL usage in emergency services, while agricultural applications are expected to be dominated by drones—not considered in this forecast. By 2050, the fleet data team projects a relatively stable balance of 57% passenger/32% cargo/11% “other.”

As for size class, Aviation Week sees the 5-9-passenger eVTOL class eventually overtaking the 1-4-passenger class in deliveries across all three use cases, although later for passenger operations and earlier for the cargo and “other” use cases, which depend on larger capacities and maximum takeoff weights to fulfill their missions.

For eCTOL/eSTOL, the 4-9-passenger class grows steadily for passenger and “other” categories, with an initial spike in cargo operations owing to the expected 2025 introduction of Beta Technologies’ Alia CTOL. Across the forecast, eCTOL/eSTOL estimates are generally lower than eVTOL in both size classes considered.

The assumptions underpinning Aviation Week’s forecast are the same as last year, with the figures contemplating no black swan events or major advanced air mobility-related crash incidents. Certification progress is predicted to continue at the current rate, anticipating no unforeseen issues related to public acceptance of eVTOLs.

Aviation Week’s fleet data team says manufacturing rates of advanced air mobility aircraft will resemble traditional aviation rather than automobiles. That said, these figures are still high compared with helicopter production rates. Other issues beyond certification and production that may affect the market include pilot availability, delays to commercial autonomy and market consolidation. Lastly, ground infrastructure installation is forecast to expand at a similar rate to advanced air mobility vehicle production and therefore should not seriously hinder the industry’s growth.