

EHang Holdings (EH US)

First mover in eVTOL set to ride on the momentum of low-altitude economy

EHang is the first manufacturer in China to obtain the three essential licenses for the mass production of electric vertical take-off and landing (eVTOL) aircraft, making it 1-2 years ahead of its competitors. We expect EHang's eVTOL aircraft shipment growth of 100%/50% YoY in 2025E/26E will be well supported by the intent backlog of >1k units. More importantly, the potential approval of operator certificates (OC) for its customers (i.e. eVTOL aircrafts operators), likely this year, will further speed up order intakes. We regard EHang as one of the best proxies to play the low-altitude economy sector, which is currently supported by strong policy momentum. Initiate with **BUY** and TP of US\$30, based on 15x 2025E P/S.

- **eVTOL aircraft is a key component of low-altitude economy.** The low-altitude economy typically refers to an integrated economic model in airspace <3,000 meters, primarily relying on manned and unmanned civil aircrafts. With advantages including high efficiency, zero carbon emissions, easy operation and maintenance, low costs and noise, as well as low reliance on complicated infrastructure, eVTOL aircraft is set to become the core component of the low-altitude economy and a major next-generation travel solution.
- **Strong policy momentum to support low-altitude economy.** According to our check, a total of 7 policy documents have been issued by the Central government authorities since 2022. In 2023-24, a total of 22 policies were issued by different local governments, among which 12 regions will offer subsidies to support low-altitude economy, including eVTOL aircrafts.
- **Explosive sales volume growth.** EHang's eVTOL aircrafts have strong competitive edge due to its (i) compact design and high flexibility, and (ii) low acquisition and operation costs for customers. We forecast EHang's eVTOL's sales volume to double (YoY) to 432 units in 2025E and further grow ~50% YoY to 650 units in 2026E.
- **Reduction of net loss in 2025E and profit generation in 2026E.** We forecast a revenue CAGR of 125% in 2024E-26E, driven by strong volume growth. We expect the gross margin to be >60% in 2025E-26E, as economies of scale will help offset the higher cost of technological upgrade. On the back of sharp reduction of expense ratio helped by operating leverage, we forecast Ehang to reduce net loss in 2025E and achieve net profit in 2026E.

Earnings Summary

(YE 31 Dec)	FY22A	FY23A	FY24E	FY25E	FY26E
Revenue (RMB mn)	44	117	454	899	1,341
YoY growth (%)	(22.0)	165.0	286.4	98.0	49.2
Adjusted net profit (RMB mn)	(329.1)	(303.9)	(204.9)	(64.1)	178.3
EPS (Reported) (RMB cents)	(571.93)	(500.44)	(323.70)	(101.29)	281.74
Consensus EPS (RMB cents)	na	na	(282.05)	(83.12)	156.91
P/S (x)	243.5	91.9	23.8	12.0	8.0
P/E (x)	na	na	na	na	60.5
P/B (x)	79.8	50.5	15.1	16.6	13.0
Yield (%)	0.0	0.0	0.0	0.0	0.1
ROE (%)	(144.2)	(178.9)	(43.8)	(9.3)	23.9
Net gearing (%)	(100.3)	(68.1)	(82.5)	(70.8)	(65.5)

Source: Company data, Bloomberg, CMBIGM estimates

BUY (Initiate)

Target Price US\$30.00
Up/Downside 27.5%
Current Price US\$23.53

China Capital Goods

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Stock Data

Mkt Cap (US\$ mn)	1,489.1
Avg 3 mths t/o (US\$ mn)	35.0
52w High/Low (US\$)	26.45/10.55
Total Issued Shares (mn)	63.3

Source: FactSet

Shareholding Structure

Huazhi Hu	30.7%
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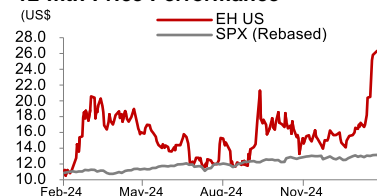
Source: SEC

Share Performance

	Absolute	Relative
1-mth	41.8%	43.9%
3-mth	54.3%	53.6%
6-mth	53.8%	44.1%

Source: FactSet

12-mth Price Performance



Source: FactSet

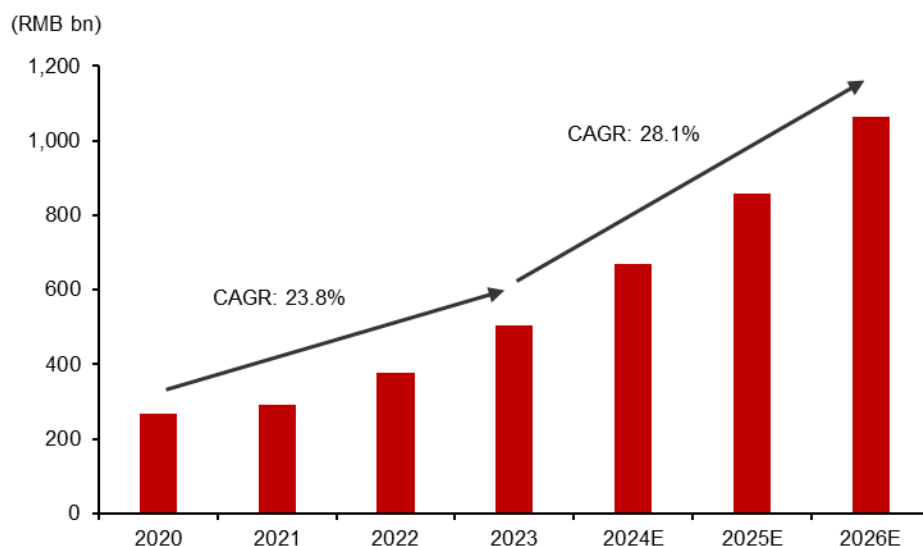
Industry Overview

■ Overview of low-altitude economy market

As the demand for expanding three-dimensional spatial needs, developing innovative industries, and exploring new transportation, logistics, and rescue methods continues to rise, low-altitude airspace is being considered a new transportation space, and its economic value is gaining traction.

The low-altitude economy typically refers to an integrated economic model in airspace below 3,000 meters, primarily relying on manned and unmanned civil aircrafts, and driven by various low-altitude flight activities, including passenger transport, cargo delivery, and other operations, which in turn promote the development of related fields. In the past couple of years, the development of the low-altitude economy in China has received significant attention, with relevant supportive policies being constantly established. According to CCID Consulting, the market size of the low-altitude economy in China increased from RMB266bn in 2020 to RMB506bn in 2023, representing a CAGR of 23.8%. It is expected to reach RMB 1.06tn in 2026, implying an accelerated CAGR of 28.1% between 2023 and 2026, based on the same source.

Figure 1: Market size of low-altitude economy in China



Source: CCID Consulting, CMBIGM

Categorized by value chain, the low-altitude economy can be broadly divided into four segments: (i) equipment, (ii) infrastructure, (iii) support and management, and (iv) application. With the development of the economy, advancement in technology and policy support, the low-altitude economy is gradually establishing a comprehensive industrial ecosystem.

Figure 2: Ecosystem of low-altitude economy

Sector	Sub-sector	Application
Low-altitude equipment industry	Complete aircraft manufacturing	Drone, eVTOL, helicopter
	Key systems	1) Power system: engine, battery, motor, fly-by-wire 2) On-board perception system: environment sensor, camera, radar 3) Communication and navigation system: wireless communication, satellite communication, inertial navigation, satellite navigation 4) Flight control system: flight control computer, sensor, control actuator unit 5) Safety system: monitoring system, anti-jamming system
	Raw materials	Carbon fiber composites, metal alloys, raw materials for power batteries, aerospace coatings, auxiliary materials, others
	Components	Chips, structural parts, bearings, radiators, ignitors, relays, black boxes, others
Low-altitude infrastructure industry	Information infrastructure	1) Low-altitude network facilities: communication network, sensing network, navigation network, arithmetic network, meteorological network 2) Low-altitude data facilities: storage platform, analysis platform, sharing platform, security facilities
	Physical infrastructure	Take-off and landing base stations, energy stations, forced landing points, maintenance stations, airports, transit stations, others
Low-altitude support and management industry	Airspace management, airspace application services, space security dense, testing and inspection, flight training, facility maintenance, insurance	
Low-altitude application industry	Consumption	Sightseeing, air races, flight experience, aerial media performance
	Operation	Agricultural monitoring, agriculture and forestry plant protection, geographic mapping, mineral exploration, industrial inspection, communication
	Logistics	Logistics transportation at mountains and remote areas, instant delivery, air taxis, emergency medical care, intra-city flight, private jets
	Security	Firefighting, police security, emergency rescue, traffic enforcement

Source: Precedence Research, CMBIGM

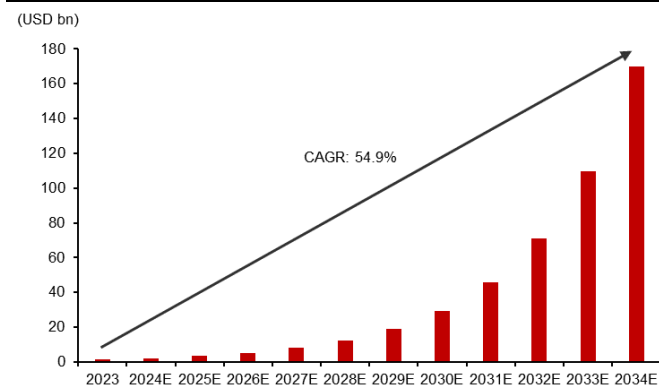
■ Huge potential of eVTOL aircraft market

With advantages including high safety and efficiency, zero carbon emissions, easy operation and maintenance, low costs and noise, as well as minimal reliance on complicated infrastructure, electric vertical take-off and landing (eVTOL) aircraft is set to become one of the core components of the low-altitude economy and a major next-generation travel solution. According to Precedence Research, the global market size of eVTOL aircraft is expected to surge from only US\$1.38bn in 2023 to US\$170bn in 2034, at a CAGR of 54.9%. Geographically, Asia accounted for 36% of the total eVTOL aircraft market in 2023, while Europe and North America accounted for 29% and 25%, respectively.

The Chinese eVTOL aircraft market has developed rapidly over the past several years due to significant advancements in technology, increasing investment, supportive government policies, and a growing demand for innovative urban transportation solutions. According to CCID Consulting, the market size of eVTOL aircraft in China expanded from RMB210mn

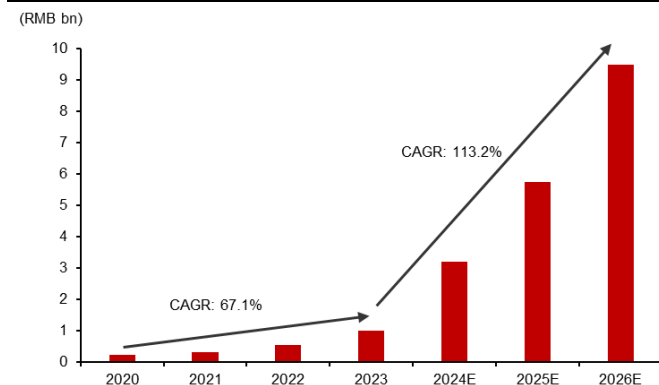
in 2020 to RMB980mn in 2023, representing a CAGR of 67.1%. The market size is expected to surge to RMB9.5bn in 2026, representing an impressive CAGR of 113.2% from 2023 to 2026.

Figure 3: Market size of global eVTOL aircraft from 2023 to 2034



Source: Precedence Research, CMBIGM




Figure 4: Market size of China eVTOL aircraft from 2020 to 2026



Source: CCID Consulting, CMBIGM

eVTOL aircraft can be classified based on various factors, including lift technology, mode of operation, propulsion type, application, and maximum take-off weight. Regarding lift technology, eVTOL aircraft consists of Multirotor eVTOLs, Lift and Cruise eVTOLs, and Vectored Thrust eVTOLs. Among these, the Multirotor eVTOL segment is considered the fastest-growing due to its ease of design, production, and operation. It is mainly used for inter-city air mobility, logistics, aerial photography, surveillance, etc.

Figure 5: Comparison of three typical eVTOLs of different lift technologies

	Multirotor eVTOLs	Lift and Cruise eVTOLs	Vectored Thrust eVTOLs
Characteristics	Multiple rotors (one set) to provide lift and cruise	Independent propellers (two sets) to achieve vertical lift and cruise	Rotatable rotors (one set) to control lift and cruise
Pros	Simplicity, stability, and ease of control	Moderate efficiency, flight range and flexibility; safety; and ease of production and maintenance	Long flight range, fast speed, and large payload
Cons	Low flight speed, limited payload and flight range	Inefficiency of vertical lift propellers during cruise, higher complexity	High safety risks, complex design and manufacture, high maintenance costs
Representative model	EH216-S (by EHang)	Prosperity (by Autoflight)	Joby S4 (by Joby)
Design			
Market access	Earliest	Later	Latest
Safety	High	Very high	Relatively low
Operating method	Automatic	Piloted	Piloted
Propulsion system	16 propeller blades	8 fixed propellers including 2 rear thrusters	6 sets of propellers with 4 sets on the wings and 2 sets at the tail
Noise	Relatively low	65db	65db
# of seats (Passenger+pilot)	2	4+1	4+1
Maximum speed (km/h)	130	200	322
Maximum flight time (min)	21	N.A.	N.A.
Maximum flight range (km)	30	250	241
Maximum takeoff weight (kg)	620	2,200	1,959
Certification progress	TC, PC and AC obtained	TC application accepted	Fourth stage of the certification process (five in total)

Source: Company data, Official website of Autoflight and Joby, CMBIGM

■ Quantifying the potential growth of eVTOL aircraft demand

eVTOL aircraft has huge potential to expand the applications in various passenger transportation scenarios, such as aerial tourism, airport air shuttles, intra-city air taxis, and emergency use, as well as in aerial logistics including logistics transportation in mountainous and remote areas, short-haul intra-city logistics, and long-haul inter-city logistics.

Aerial tourism

In the short term, aerial tourism will be the main commercial application of eVTOLs due to regulatory support and the growing interest in experiential travel.

Scenario analysis on aerial tourism: Based on the number of 15,721 A-level and above scenic spots in China (in 2023), a 5% eVTOL penetration rate, and an estimate of 8 eVTOLs per site, we estimate the demand for eVTOLs in China aerial tourism sector will be ~6,288 units. Assuming the average price of each eVTOL is RMB5mn, the market size of eVTOLs in China's aerial tourism sector will be around RMB31bn.

Air taxi

In the long run, eVTOLs are expected to become a popular mode of transportation and a viable alternative to traditional taxis. Despite facing challenges related to technology, regulations, and public acceptance, they remain a focus for most eVTOL aircraft companies.

Scenario analysis on air taxis: According to the Ministry of Transportation, the number of taxis in China was 1.37mn units, and the number of ride-hailing car driving licenses was 7.48mn units. Assuming a penetration rate of 2%, the demand for air taxis in China will be around 91,800 units.

Figure 6: Estimated demand for eVTOLs in domestic aerial tourism sector

(Units)	Number of A-level and above scenic spots in China: 15,721 ¹		
eVTOL penetration rate	2%	5%	10%
eVTOLs per site	8	8	8
Total demands	2,515	6,288	12,577

Source: Ministry of Culture and Tourism, CMBIGM estimates

Note: As of 31 Dec 2023

Figure 7: Estimated demand for eVTOLs as air taxis in China

(Units)	Taxis		Ride-hailing cars	
Number of Taxis/ride-hailing car driving licenses	1.37mn		7.48mn	
Active rate	100%		43%	
Active taxis/ride hailing cars	1.37mn		3.22mn	
Penetration rate of eVTOLs	1%	2%	1%	2%
Demands for eVTOLs as taxis/ride hailing cars	13,700	27,400	32,200	64,400
Penetration rate	1%		2%	
Total demands	45,900		91,800	

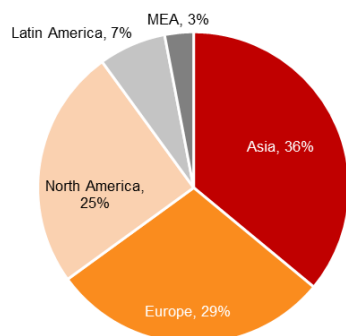
Source: Company data, Ministry of Transportation, CMBIGM

■ The competitive landscape of eVTOL aircraft market

Under the robust trend of the industry, domestic and international companies are actively positioning themselves in the eVTOL sector. Participants in the global eVTOL industry can be categorized into three main groups: (i) companies specializing in eVTOL, such as EHang, Autoflight, Joby Aviation, and Lilium; (ii) automakers including Volkswagen, Toyota, Xpeng, and Geely; and (iii) aerospace companies represented by Embraer, Airbus, and Boeing. Currently, most of these companies are still in the early stages of the certification process.

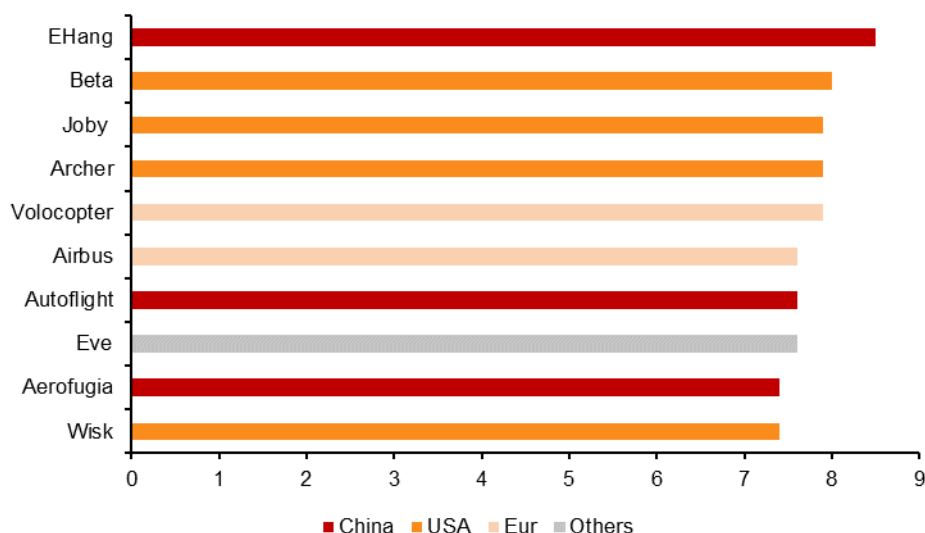
According to the Dec 2024 AAM Reality Index by SMG, which is rated based on funding, the team, technology readiness, certification progress, and production readiness of eVTOL manufacturers, three companies from China, four companies from the USA, two companies from Europe, and one company from another region make up the top ten companies, showcasing their contributions to the evolution of urban air mobility.

Figure 8: Market share of global eVTOL aircraft by region in 2023



Source: Precedence Research, CMBIGM

Figure 9: AAM reality index as of Dec 2024



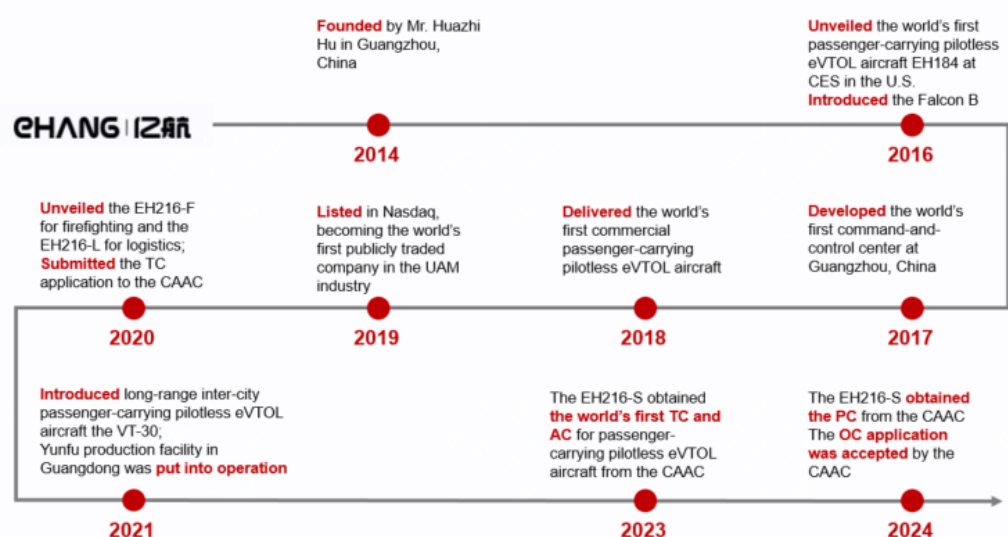
Source: SMG, CMBIGM

Company Overview

Company background

As a leading urban air mobility (“UAM”) technology platform company, EHang was founded in Dec 2014, with headquarters located in Guangzhou. EHang was listed on Nasdaq in 2019, becoming the world’s first publicly traded UAM company. EHang unveiled the world’s first passenger-carrying pilotless eVTOL aircraft in 2016 and obtained three major certificates (the Type Certificate, “TC”; the Airworthiness Certificate, “AC”; and the Production Certificate, “PC”) from the Civil Aviation Administration of China for civil aviation by 2024. This made EHang the world’s first eVTOL leader to hold all three certificates for the design, delivery, and mass production of its representative model, namely the EH216-S. This enabled EHang to maintain the leadership in the low-altitude economy market and drive growth and commercialization.

Figure 10: EHang’s major business development milestones










Source: Company data, CMBIGM

Major products

With the mission of enabling safe, autonomous, and eco-friendly air mobility for everyone, EHang adopts a business model that combines providing services with selling products. Through the development over the past decade, EHang has established a comprehensive product portfolio, including (i) the EH216 series, (ii) the VT series, (iii) the Falcon B, and (iv) the GD series, to support three business lines: (i) air mobility, (ii) smart city management, and (iii) aerial media solutions.

Based on different designs and uses, the main product matrix of the company consists of (1) the EH216 series, which includes (i) the EH216-S for short-to-medium-range intra-city air mobility, (ii) the EH216-F for high-rise firefighting, and (iii) the EH216-L for aerial logistics; (2) the VT series, which includes (i) the VT-30 for long-range inter-city air transportation, (ii) the VT-20, and (iii) the VT-10 for long-range surveillance, power line inspection, air delivery, and other applications; (3) the Falcon B for smart city management; and (4) the GD series, which includes (i) the GD2.0X for aerial surveillance, last-mile delivery, aerial media performance, and other uses, and (ii) the GD3.0 for aerial media performance.

Figure 11: EHang's main product portfolio

	EH216 Series			VT Series		Falcon B	GD series	
	EH216-S	EH216-L	EH216-F	VT-30	VT-20&VT-10		GD2.0X	GD3.0
Design					N.A.			
# of seat	2	\	\	2	\	\	\	\
Usage	Short-to-medium-range low-altitude intra-city air mobility	Cargo transportation	High-rise firefighting	Long-range inter-city air mobility	Long-range surveillance, power line inspection, air delivery, etc.	Smart city management	Aerial surveillance, last-mile delivery, aerial media performance, etc.	Aerial media performance
Key parameters	Maximum speed: 130km/h	Maximum speed: 130km/h	Maximum speed: 130km/h	Maximum speed: 200km/h	N.A.	Maximum speed: 80km/h	Maximum ascending speed: 2.5 m/s Maximum descending speed: 1.5m/s	N.A.
	Maximum flight time: 21min	Maximum flight time: 21min	Maximum flight time: 21min			Maximum flight time: 17min		
	Maximum flight range: 35km		Maximum flight range: 35km	Maximum flight time: 100min				
	Maximum payload: 220kg	Maximum flight range: 35km	Maximum payload: 100L of fire foams					
	Maximum flight height: 3000m (MSL)	Maximum payload: 250kg	Maximum flight height: 600m	Maximum flight range: 300km				
	Maximum takeoff weight: 650kg							
	Charge time: ≤ 120min	Charge time: ≤ 120min	Charge time: ≤ 120min			Maximum payload: 5kg	Maximum hover time: 25min	

Source: Company data, CMBIGM

Figure 12: EH216-S at EHang's headquarters

Source: Company data, CMBIGM

Figure 13: EH216-L at EHang's headquarters

Source: Company data, CMBIGM

Investment positives

First-mover advantage with the first in China having the “three certificates”

Globally, all passenger eVTOLs entering the commercial market must obtain airworthiness certifications from the relevant aviation regulatory authorities. In China, according to the Civil Aviation Law of the People's Republic of China and the Regulations of the People's Republic of China for the Administration of the Airworthiness of Civil Aircraft, any organization or individual wishing to design a passenger eVTOL must apply for and obtain a Type Certificate from the Civil Aviation Administration of China (CAAC). After obtaining the TC, they must also apply for a Production Certificate and an Airworthiness Certificate before being allowed to engage in mass production and commercial operation.

TC is the most critical and challenging to obtain among the three certificates, which typically takes around three years. But once the TC is secured, acquiring PC and AC becomes relatively faster and easier. Additionally, there is a transitional arrangement known as TC-only, which allows manufacturers to engage in small-scale production and delivery based on the TC before obtaining the PC, with comprehensive involvement from the aviation authorities in the entire production process before the PC is finally approved.

As the first and only company globally to obtain all three certificates for its core product, i.e. EH216-S, EHang has fulfilled the necessary conditions and taken the first step toward pilotless passenger eVTOL commercialization. Meanwhile, EHang's domestic competitors are generally at the stage where their TC applications have been accepted by the CAAC. Taking reference of the timeline for EH216-S to obtain its TC, major competitors will likely secure their TCs by 2025 or 2026, and possibly start mass production by 2026 or 2027. EHang is therefore ahead its peers by 1-2 years, enabling it to win orders and kick-start mass production and commercialization faster than any others.

Figure 14: The timeline of obtaining three certificates for EH216-S



Source: Company data, CMBIGM

Figure 15: Three essential certificates for eVTOL aircrafts in China

Certificate type	Subject of the application	Application duration	Meaning of the certificate
Type Certificate (TC)	Designer of the eVTOL	Around 3 years	To approve the eVTOL satisfies airworthiness standards and other requirements by the CAAC
Production certificate (PC)	Manufacturer of the eVTOL	3-6 months	To confirm the applicant has established a satisfactory manufacturing system to ensure the quality and standardization of each eVTOL produced
Airworthiness certificate (AC)	Manufacturer or operator of the eVTOL	Around 1 month	To ensure the eVTOL complies with the approved design and is safe to put into use

Source: CAAC, CMBIGM

Figure 16: Stage of certification for major passenger eVTOL aircrafts in China

	EHang	Autoflight	Aerofugia	XPENG AEROHT	Tcab Tech	Volant
	EH216-S	Prosperity	AE200	X3-F	E20	VE25
Vehicle type	Multirotor	Lift and Cruise	Vectored Thrust	Multirotor	Vectored Thrust	Lift and Cruise
# of seat	2	1+4	1+4	1+1	1+4	1+5
Maximum speed (km/h)	130	200	250	N.A.	320	235
Maximum flight range (km)	30	250	200	N.A.	200	200-400
Operating method	Autonomous	Semi-autonomous	Piloted	Semi-autonomous	Piloted	Piloted
Certification process	TC, PC and AC obtained	TC application accepted	TC application accepted	TC application accepted	TC application accepted	TC application accepted
TC application accepted time	Jan 2021	Apr 2024	Nov 2022	Mar 2024	Oct 2023	Sep 2023
TC obtained time	Oct 2023	TBO	TBO	TBO	TBO	TBO

Source: Company data, official website of Autoflight, Aerofugia, XPENG AEROHT, Tcab Tech, Volant, CMBIGM

Potential approval of operator certificates the upcoming catalyst

Companies have to obtain the Air Operator Certificate (the “AOC” or “OC”) from the CAAC to conduct commercial operations of pilotless passenger-carrying eVTOLs in China, during which the eVTOLs, operating team, infrastructure, and operating systems will be reviewed by the CAAC. Currently, EHang’s subsidiaries and partners are actively applying for the OC in preparation for the commercial operations of the EH216-S. The OC applications submitted by EHang General Aviation (a wholly-owned subsidiary of EHang) and Heyi Aviation (a joint venture company in Hefei), have been accepted for review by the CAAC in July 2024. We expect the approval to happen this year, which will mark a significant step as one of the first industry benchmarks to advance the process of establishing commercialization standards in the industry.

Strong backlog to support growth in 2025-26

EHang has successfully captured the strong demand for eVTOLs, through closely collaborating with governments and enterprises in both China and overseas. From 3Q23, following its qualification for the TC, to Dec 2024, EHang obtained 160 orders for aircraft and 125 orders were delivered. Besides, Ehang had 1,050 intent orders as of end-2024. EHang is actively expanding into international markets, spreading its footprint in Asia, Europe, and the Americas, and promoting the type certification authentication for the EH216-S abroad.

Figure 17: Post-certification orders and intent orders in domestic market

Major customers	Orders	# of aircrafts		Total orders
		Delivered	Intent orders	
Taiyuan Xishan Tourism	50	50	450	500
Wencheng Transportation Development Group	30	30	270	300
A local customer in Hefei, Anhui	20	20	80	100
Shenzhen Boling Group	10	10	90	100
A local customer in Wuxi, Jiangsu	10	10	90	100
KC Smart Mobility	5	5	25	30
Sunriver	5	-	45	50
Weihai High-Tech Zone Cultural and Tourism Industry Investment	30	-	-	30
Total	160	125	1,050	1,210

Source: Company data, CMBIGM

Note: Between Jul 2023 to Dec 2024

Outperforming in flexibility + affordable pricing

Leveraging its years of experience, technology and innovation capabilities, EHang's eVTOL aircrafts enjoy several advantages, including (i) compact design and high flexibility, (ii) cost advantage in acquisition and operation, and (iii) enhanced safety through advanced technologies.

■ Compact design and high flexibility

Compared to its major competitors, EHang's flagship product, the EH216-S, features a relatively compact design, with an aircraft length of 6.05 meters and a wingspan of 5.73 meters. This compactness allows for more flexible deployment within urban environments, accommodating more passengers per unit area while also having lower requirements for urban infrastructure in terms of complexity level, construction period, and labor costs.

Figure 18: Design parameters and selling prices of major eVTOLs

Company	Model	Vehicle type	# of seats	Operating method	Aircraft length (m)	Wing span (m)	Price (mn USD)
EHang	EH216-S	Multirotor	2	Autonomous	6.05	5.73	~0.41
Autoflight	Prosperity	Lift and Cruise	1+4	Semi-autonomous	11.6	14.5	N.A.
Aerofugia	AE200	Vectored Thrust	1+4	Piloted	9	14.5	N.A.
XPENG AEROHT	X3-F	Multirotor	1+1	Semi-autonomous	5.2	8.5	N.A.
TCab Tech	E20	Vectored Thrust	1+4	Piloted	N.A.	12	0.96~1.09
Volant	VE25	Lift and Cruise	1+5	Piloted	9.5	16	~3.42
Joby	S4	Vectored Thrust	1+4	Piloted	6.4	11.6	~1.3
Volocopter	Volocity	Multirotor	1+1	Piloted	N.A.	11.3	~0.31
Beta	ALIA-250	Lift and Cruise	1+4	Piloted	N.A.	15.24	N.A.
Archer	Midnight	Vectored Thrust	1+4	Piloted	N.A.	14.63	~5
Wisk	Generation 6	Vectored Thrust	4	Autonomous	N.A.	15.24	N.A.
Vertical	VX4	Vectored Thrust	1+4	Piloted	13	15	~4
Lilium	Jet	Vectored Thrust	1+6	Piloted	8.5	13.9	~10
Airbus	CityAirbus NextGen	Lift and Cruise	1+3	Piloted	N.A.	12	~4

Source: Company data, official website of Autoflight, Aerofugia, XPENG AEROHT, TCab Tech, Volant, Joby, Volocopter, Beta, Archer, Wisk, Vertical, Lilium, Airbus, Motorwatt, CMBIGM

■ Affordable pricing and low operating cost

EHang's key product EH216-S has an outstanding cost advantage in terms of both acquiring and operating. As for acquiring, the suggested retail price of EH216-S is RMB2.39mn in China and US\$410k in overseas, one of the lowest prices among major eVOLS. Besides, its pilotless operating method supported by the intelligent command and control center enables customers to save the expensive costs of training and hiring pilots.

■ Secured safety by advanced technology

With the top priority of securing flight safety for customers, EHang utilizes advanced technology to ensure contingency reaction, as well as safety on hardware, system, flight and communication.

Based on prior surveys of routes and pre-set feasible plans, EHang employs unmanned flight technology to minimize human operational errors and allow flexible route changes, ensuring smooth flights.

Additionally, the proprietary intelligent command and control center, equipped with a comprehensive command and control system, provides core functions such as monitoring, dispatching, controlling, early warning, and centralized management. This effectively reduces potential safety risks. For example, the command and control center leverages its monitoring capabilities to capture real-time flight data and the status of EHang AAVs (Autonomous Aerial Vehicles), allowing for timely responses to emergencies. It also uses centralized management to coordinate the deployment of multiple aircraft and routes simultaneously to avoid conflicts.

Moreover, EHang employs a redundancy design for all major flight components, including motors, electronic speed controllers, sensors, and flight control systems. This design effectively prevents single-point failures from causing system-wide accidents, thereby ensuring flight safety.

Collaborating with upstream and downstream partners to build a low-altitude ecosystem

EHang actively collaborates with upstream companies to enhance the functionalities and efficiencies of key components for eVTOLs, as well as with downstream partners to foster the commercialization and application of these aircrafts. In terms of midstream manufacturing, EHang continually plans for capacity expansions to improve production capabilities.

■ Upstream: partnership with the companies to improve efficiencies of electric motor drive systems and batteries

Electric motor drive systems are the heart of eVTOLs, playing a significant role in enhancing their efficiency and feasibility by powering the electric propulsion system and controlling the ailerons, rudders, and elevators to manage the aircraft's heading and attitude. Compact, lightweight, and powerful motor solutions are preferred to avoid unnecessary weight and disruptions to aerodynamic design. By establishing a strategic partnership with **Enpower (300681 CH, NR)**, EHang can leverage Enpower's integrated core technology to develop advanced electric motor drive system solutions that meet both EHang's eVTOL product requirements and civil aviation authorities' standards, as well as to create electric motors and motor controllers with superior performance.

Batteries provide the necessary energy for operations and propulsion. Advancements in batteries—such as higher efficiency, greater capacity, improved energy density, shorter charge times, and longer cycle life—enable eVTOL aircraft to fly longer distances and carry more passengers and cargoes. To further enhance battery performance for EHang's

eVTOL products, the company collaborates with Greater Bay Technology to develop power cells, batteries, packs, charging stations, and energy storage systems that improve charge-discharge rates. EHang also partners with Inx Technology to innovate solid-state lithium metal batteries with higher energy density to extend flight time. These collaborations not only address safety, endurance, and operational efficiency from a battery perspective but also enhance industry standards and promote the construction of the eVTOL ecosystem, facilitating the commercialization process of low-altitude economy operations.

Figure 19: Cooperation with Greater Bay Technology for ultra-fast/eXtreme fast charging batteries and Inx Technology for solid-state lithium metal batteries



Source: Company data, official website of Greater Bay Technology and Inx Technology, CMBIGM

■ **Downstream: collaboration with partners for UAM related infrastructure establishment and personnel education**

To accelerate the commercialization of eVTOL aircraft, EHang engages in proactive partnerships with companies such as China Information and Communication Technologies Group and China Communications Construction Group. These collaborations aim to build digital Urban Air Mobility (UAM) infrastructure and UAM hubs, facilitating the deployment of eVTOL aircraft in urban environments.

Additionally, in October 2024, EHang began cooperating with the Civil Aviation Flight University of China to jointly train operation and maintenance professionals. This initiative addresses the increasing demand for talent in the low-altitude economy.

Figure 20: UAM infrastructure in Luohu, Shenzhen



Source: Company data, CMBIGM

Figure 21: UAM infrastructure in Hefei, Anhui



Source: Company data, CMBIGM

Capacity expansion

EHang's Guangdong Yunfu production facility is located in the Pearl River Delta area. Phase I of the facility commenced production in Jun 2021, with an initial capacity of 300 units of EH216 series model per year. Phase II is expected to run into operation in 2025 with a capacity of >600 units with the similar land area of Phase I due to the improvement of efficiency, supporting the full manufacturing processes from component machining to aircraft assembly and flight testing. Total annual capacity is expected to reach 1,000 units by end-2025.

Going forward, EHang plans to establish multiple manufacturing and assembly delivery centers in Anhui, Shanxi, and Beijing, allowing for an orderly expansion of its production capacity.

Figure 22: Yunfu production base



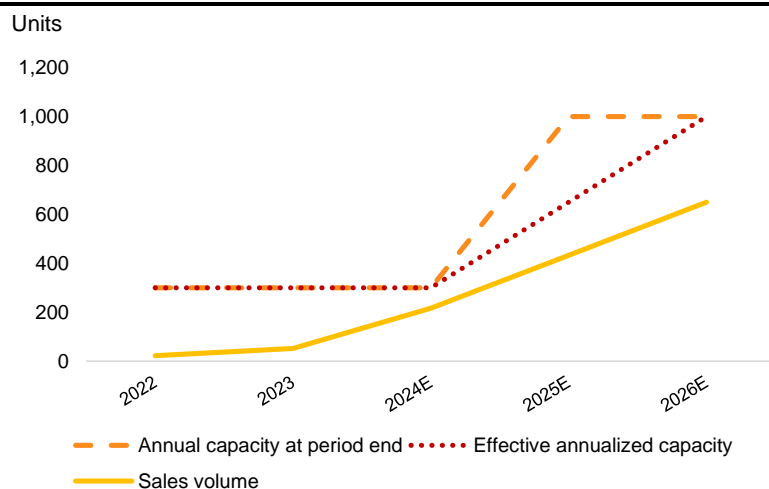
Source: Company data, CMBIGM

Figure 23: Plans for expansion of production capacity

Location	Usage
Hefei, Anhui	▪ Ehang Aerial Vehicle Manufacturing Industrial Park
Taiyuan, Shanxi	▪ A Low-Altitude Economy Industrial Park ▪ A Delivery Center
Fangshan District, Beijing	▪ National headquarters for low-altitude emergency rescue equipment, integrating functions such as R&D, testing, manufacturing, sales, maintenance and training

Source: Company data, CMBIGM

Figure 24: Capacity and sales volume



Source: Company data, CMBIGM estimates

Operating assumptions

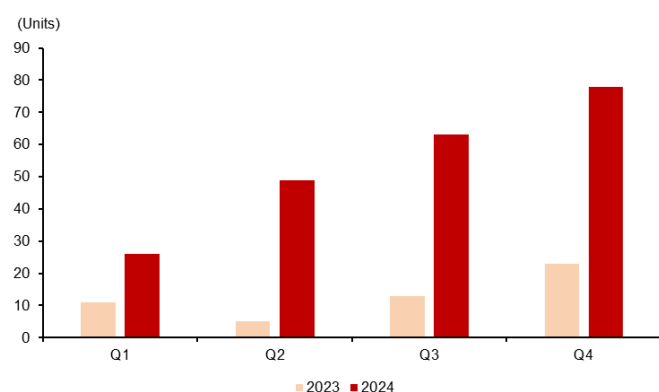
■ Sales volume of eVTOL aircrafts

EHang's major source of revenue comes from the deliveries of the EH216 series products. Between 2018 and 2023, EHang had delivered a total of 237 units of the EH216 series, which included 220 units of the EH216-S, 8 units of the EH216-F, and 9 units of the EH216-L. Since EHang obtained TC for EH216-S in Oct 23, AC in Dec 23 and PC in 2024, EHang delivered 49 / 63 / 78 units of EH216 series products in 2Q/3Q/4Q24, representing substantial increase of 8.8x / 3.9x / 2.4x YoY. Deliveries of the EH216 series surged 3.1x YoY to 216 units for the full year in 2024.

Currently, EH216 aircrafts are sold mainly in China where the customers mainly apply the products for aerial sightseeing and tourism. With ongoing policy improvements and technological advancements, the EH216 series is expected to have broader commercial application prospects in the passenger transportation field, including aerial tourism, airport air shuttles, intra-city air taxis, and emergency use, as well as in the aerial logistics field, encompassing logistics transportation in mountains and remote areas, short-haul intra-city logistics transportation, and long-haul inter-city logistics transportation.

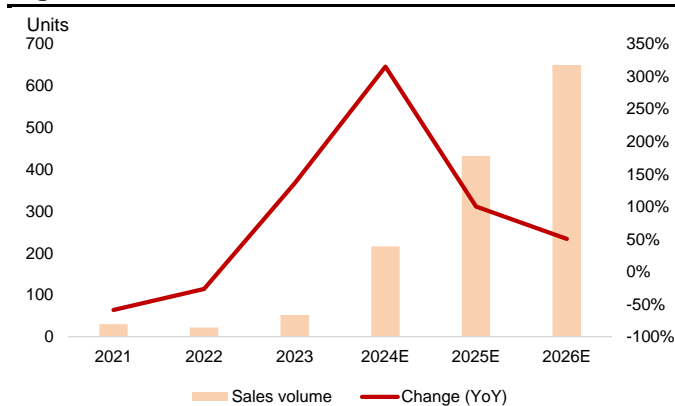
We forecast the sales volume to double (YoY) to 432 units in 2025E and further grow ~50% YoY to 650 units in 2026E.

Figure 25: Quarterly deliveries of EH216 series in 2023-2024



Source: Company data, CMBIGM

Figure 26: Annual deliveries of EH216 series



Source: Company data, CMBIGM estimates

Figure 27: Passenger transportation use cases



Source: Company data, CMBIGM

Figure 28: Aerial logistics use cases



Source: Company data, CMBIGM

■ Revenue breakdown

Among the three major business lines, air mobility accounted for the majority of total revenue (~90% in 2022 / 2023). Smart city management solutions accounted for 5% / 1%, while aerial media solutions accounted for 3% / 9% in 2022 / 23.

1) Air mobility solutions

The revenue of EHang's air mobility solutions reached RMB104.7mn, representing an increase of 1.6x YoY in 2023. On the back of explosive growth of sales volume and resilient ASP, we expect the revenue from air mobility solutions to surge 3.1x / 1x / 50% in 2024E/25E/26E.

2) Smart city management solutions

As the first company to deliver smart city management solutions with integrated and intelligent command-and-control systems, EHang targets public sectors to provide an integrated digital platform along with customized UAVs to capture live videos, images, and data for real-time monitoring and smart city management across various functions and utilities, including traffic management, powerline inspection, environmental monitoring, firefighting, emergency rescue, and aerial mapping. This greatly improves efficiency and achieves cost-effectiveness.

Revenue from the smart city management sector primarily comes from sales of integrated packages that consist of command-and-control centers with appropriate UAV models, along with the necessary training and technical support provided to customers. Additionally, standalone sales of UAVs, which can be controlled through EHang's app, contribute to revenue.

3) Aerial media solutions

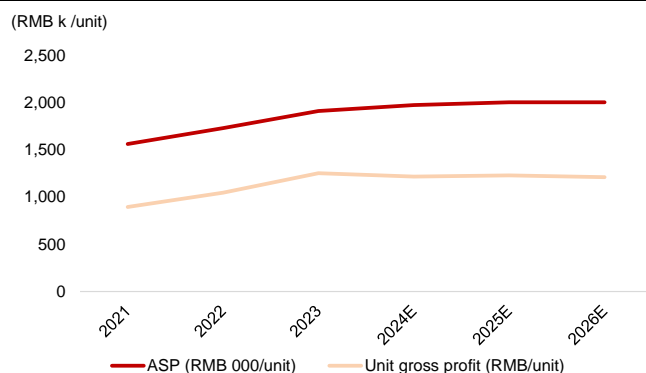
Since launching its aerial media solutions in 2016, EHang has become the leading aerial media solution provider in China and Europe, completing over 200 aerial media performances using proprietary UAVs in collaboration with customers and partners (as of end-2023). By leveraging advanced self-developed navigation technologies, operating systems, and infrastructure, EHang's aerial media solutions can support diverse flight missions and light effects remotely for outdoor events such as celebrations, festivals, and brand campaigns.

EHang generates revenue in this sector from providing large-scale aerial media performance services as well as selling aerial media packages that consist of GD series UAVs and relevant software to customers who design and carry out performances themselves.

■ Reduction of loss in 2025E and profit generation in 2026E

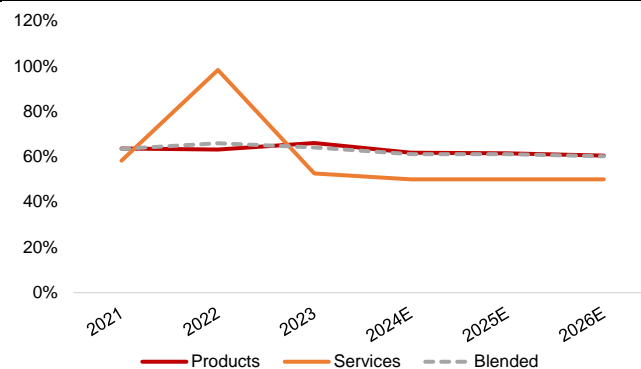
We forecast a revenue CAGR of 125% in 2024E-26E, driven by strong volume growth. We expect the gross margin to be >60% in 2025E-26E, as economies of scale will help offset the higher cost of technological upgrade. On the expense side, we expect strong operating help reduce the SG&A and R&D ratio significantly. We forecast EHang to achieve reduction of net loss in 2025E and generate net profit of ~RMB178mn in 2026E.

Figure 29: eVTOL aircraft ASP and unit gross profit

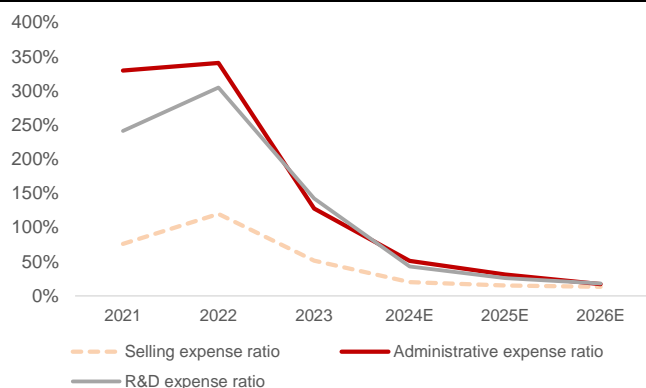


Source: Company data, CMBIGM estimates

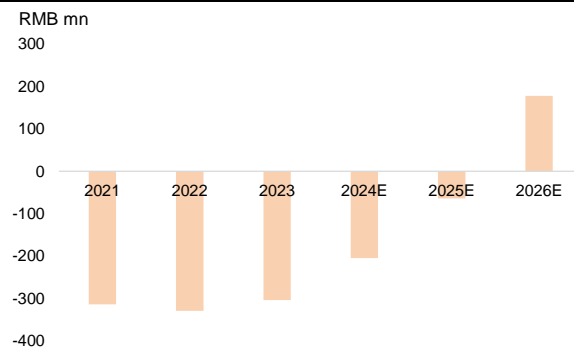
Figure 30: Gross margin trend



Source: Company data, CMBIGM estimates

Figure 31: SG&A expense ratio on a downtrend

Source: Company data, CMBIGM estimates

Figure 32: Net profit trend

Source: Company data, CMBIGM estimates

Valuation

The eVTOL sector across the globe has yet to reach the commercialization stage. We believe market will focus on the upcoming commercialization and application, instead of short-term profitability. We apply P/S as our valuation methodology in order to capture the sales growth potential.

Major listed peers, mainly in the US, are trading at high P/S ratios due to the early stage of product delivery. Our TP of US\$30 for Ehang is based on 15x 2025E P/S, which we believe is not too aggressive given the revenue CAGR of 72% in 2025E-26E.

Figure 33: Peers comp table

Ticker	Company	Rating	Price (local currency)	Market cap (US\$ mn)	PE (x)		PB (x)		PS (x)	
					FY24E	FY25E	FY24E	FY25E	FY24E	FY25E
EH US Equity	EHANG HOLDINGS	BUY	23.53	1,494	n/a	n/a	14.9	16.4	23.5	11.9
JOBY US Equity	JOBY AVIATION INC	-	6.76	5,172	n/a	n/a	5.2	5.2	12462.6	226.5
ACHR US Equity	ARCHER AVIATION	-	8.35	3,803	n/a	n/a	6.1	15.5	1901.3	108.8
EVEX US Equity	EVE HOLDING INC	-	4.14	1,232	n/a	n/a	7.5	22.4	n/a	176.0

Source: Bloomberg, Company data, CMBIGM estimates

Key supporting policies on low-latitude economy

Figure 34: Central government policies

Date	Authority	Policy	Summary
Jun 2022	Civil Aviation Administration of China (CAAC)	14th Five-Year Plan (2021-2025) General Aviation Industry Developmental Plan	Encourage the development of new aircraft such as unmanned aircraft for carrying passengers to drive the rapid development of urban air transportation. Promote the development of low-altitude tourism, support local governments in developing "general aviation + tourism", encourage the enrichment of low-altitude tourism through sightseeing tours, theme tours, experiential tours and other forms, and support poverty-stricken areas to develop general aviation-specific leisure agriculture and boutique tourism.
Aug 2022	Civil Aviation Administration of China (CAAC)	Civil Unmanned Aircraft Development Road V1.0 (Consultation stage)	To establish an unmanned air transportation system for carrying passengers to achieve efficient and wide-area transportation range and flexible network layout by 2035
Jun 2023	State Council of China, Central Military Commission (CMC)	Interim Provisions on UAV Flight Management	To promote healthy and orderly development of the unmanned aerial vehicle (UAV) industry and ensure aviation safety, public safety, and national security, regulations will be implemented starting January 1, 2024. These regulations apply to all UAV flights and related activities within China. UAVs are defined as pilotless aircraft, categorized by size from micro to large. Management principles emphasize party leadership, safety first, service development, classified management, and collaborative oversight. The national air traffic management authority will oversee nationwide governance, while departments and local governments will handle specific management tasks. The regulations encourage research and innovation in UAV technology, require industry associations to strengthen self-regulation, and establish qualifications and training standards for operators, with some small UAVs exempt from licensing. Flight activities must be applied for and adhere to airspace divisions and operational standards, with strict safety protocols and rules for avoiding manned aircraft. Violations of these regulations may result in penalties, including fines and business suspensions.
Oct 2023	Ministry of Industry and Information Technology (MIIT), Ministry of Science and Technology (MOST), Ministry of Finance (MOF), Civil Aviation Administration of China (CAAC)	Green Aviation Manufacturing Development Outline (2023-2035)	2025: Electric general aviation aircraft will be put into commercial use, and eVTOL will be in the pilot stage for flights 2035: A green aviation manufacturing system with integrity, advancement, and safety will be established. New energy aircraft will become the mainstream of development. New general aviation equipment with the technical characteristics of unmanned, electrified, and intelligent will be commercialized and applied on a large scale. "
Dec 2023	Communist Party of China Central Committee	The Central Economic Work Conference 2023	Promote new industrialization, accelerate the promotion of several strategic emerging industries such as commercial aerospace and low-altitude economy, and accelerate the transformation and upgrading of traditional industries.
Dec 2023	Civil Aviation Administration of China (CAAC)	National Airspace Classification Measure	Standardize airspace designation, management and use
Mar 2024	Communist Party of China Central Committee	Second Session of the 14th National People's Congress of the People's Republic of China, 《Report on the Work of the Government》	Actively create new growth drivers such as commercial aerospace and low-altitude economy
Dec 2024	Ministry of Industry and Information Technology (MIIT)	Production and Management Regulations on Civil Unmanned Aircraft	Regulate the production activities of civil unmanned aircraft, promote the healthy and orderly development of the industry, and maintain aviation and public safety. Regulations apply to civil unmanned aircraft sold and used in China
Dec 2024	Ministry of Industry and Information Technology (MIIT)	National Industrial and Information Technology Conference	Constructing low-altitude information infrastructure according to local conditions

Source: CAAC, MIIT, CMC, CMBIGM

Figure 35: Local government policies (a)

Date	Region	Authority	Policy	Subsidy?	Policy Summary
Dec 2023	Shenzhen	Government of Shenzhen City	20 measures to support high-quality development of low-altitude economy	Yes	<p>Aims to attract low-altitude economic enterprises by offering incentives for newly settled businesses in eVTOL and large-to-medium unmanned aircraft R&D and manufacturing. These enterprises must have a paid-in registered capital exceeding RMB20mn. After signing a cooperation agreement with the municipal government, they must ensure their operating income in the second year is no less than RMB40mn. Upon meeting this commitment, they will receive a settlement reward of up to RMB20mn, equivalent to 5% of their capital.</p> <p>To support capital growth and production expansion, major industrial investment projects >RMB500mn will also be eligible for subsidies. This applies to both new low-altitude economic projects and local industrial projects of listed companies. A subsidy of up to RMB50mn will be provided, based on no more than 20% of the total fixed asset investment costs incurred by the project.</p>
Apr 2024	Anhui	Government of Anhui Province	Measures and Implementation Plan for the Development of Low-altitude Economy (2024-2027)	Yes	<p>Support for low-altitude infrastructure construction and operation includes subsidies of up to RMB1mn from provincial finances for Class A general airports achieving 1,000 annual flight operations (with each takeoff and landing counting as one) for a maximum of three years.</p> <p>For low-altitude flight service support, projects will receive subsidies of up to 20% of the approved contract amount, and operational losses can be subsidized up to RMB6mn annually for four consecutive years.</p> <p>To promote the development of a low-altitude standards system, companies that lead in establishing international or national standards will receive one-time awards of RMB1mn and RMB0.5mn per standard. Additionally, counties, cities, or development zones that demonstrate significant achievements in low-altitude infrastructure, aircraft manufacturing, and operational services can be recognized as provincial low-altitude economic development demonstration zones, receiving a one-time subsidy of RMB5mn.</p>
Apr 2024	Changsha	Government of Changsha City	Changsha Economic Development Zone Three-year Action Plan for Low-altitude Economic Development (2024-2026)	Not Mentioned	By the end of 2026, the county's low-altitude economic ecosystem will be initially established. Technological innovation capabilities will be significantly enhanced. The basic low-altitude flight support system will be basically improved. Flight services will become more extensive. The number of related companies will >500, including >20 leading companies. The low-altitude economy-related output value will reach RMB50bn.
Apr 2024	Wuxi	Government of Wuxi City	Three-Year Action Plan for High-Quality Development of Low-altitude Economy (2024-2026)	Not Mentioned	By 2026, the city will form an industrial spatial layout supported by pilot areas such as Yixing Dingshu Low-altitude Economic Industrial Park and Liangxi Science and Technology City, focusing on traditional general aviation and unmanned aviation, and to build a "four-in-one" low-altitude economic coordinated development system integrating R&D and manufacturing, commercial applications, infrastructure, and service support. The output value of the low-altitude economic industry will >RMB30bn, becoming a new growth driver for Wuxi's social and economic development.
Apr 2024	Suzhou	Government of Suzhou City	Measures to Support High-quality Development of Low-altitude Economy (Trial)	Yes	<p>New high-quality projects or large expansion made by existing enterprises in Suzhou can receive rewards of up to RMB30mn based on their development impact.</p> <p>Key enterprises recognized as high-tech companies, national manufacturing champions / specialized small and medium-sized enterprises are eligible for rewards of up to RMB3mn / RMB1mn, respectively. Suzhou headquarters enterprises can receive settling and office subsidies, with rewards capped at RMB20mn based on their previous year's performance.</p> <p>Low-altitude economic enterprises that establish their headquarters or R&D and production bases in Suzhou can earn one-time rewards of up to RMB10mn upon obtaining relevant certifications. Each enterprise can receive a maximum annual reward of RMB30mn, with each aircraft model eligible for a single reward.</p>

Source: Local governments, CMBIGM

Figure 36: Local government policies (b)

Date	Region	Authority	Policy	Subsidy?	Policy Summary
May 2024	Shanxi Province	Government of Shanxi Province	Measures for the development of low-altitude economy and general aviation industry	Yes	<p>Construction and Upgrade of Aviation Facilities: New and expanded aviation facilities, including general airports and flight bases, can receive up to 30% of construction costs, with caps of RMB30mn for airports and RMB10mn for flight bases.</p> <p>Operational Subsidies for Airports: Airports achieving over 1,000 flights per year and open to the public are eligible for annual subsidies up to RMB300k.</p> <p>R&D Subsidy for Aviation Manufacturing: Manufacturing enterprises obtaining national type certification for eVTOLs (excluding UAVs under 150 kg) can receive rewards up to RMB1mn.</p>
					<p>Training Subsidies for eVTOL Pilots: Training programs for eVTOL pilots can receive funding of RMB50k for commercial licenses, RMB20k for private licenses, and smaller amounts for other types of pilot certifications.</p> <p>Support for Aviation Education Programs: Schools that establish aviation-related programs and meet certain criteria may receive one-time subsidies of RMB50k for ongoing aviation education activities.</p> <p>Incentives for Aviation Events: Events that promote aviation, including eVTOL competitions, can receive special subsidies for hosting, with specific amounts not detailed.</p> <p>Support for Innovation Platforms: National key laboratories and technology innovation centers related to eVTOL can receive annual funding of up to RMB1mn based on performance.</p>
May 2024	Guangdong Province	Government of Guangdong Province	Action Plan to Promote High-Quality Development of Low-altitude Economy (2024-2026)	Not Mentioned	In 2026, the scale of the low-altitude economy will exceed RMB300bn, and a low-altitude economic industrial landscape will basically be formed with Guangzhou, Shenzhen, and Zhuhai linking the three cores, multi-point support, and integrated development. Support the setup of a group of leading enterprises and specialized new industries, strive for low-altitude economic pilot demonstrations, develop new urban air transportation models, and encourage the use of low-altitude aircraft such as eVTOL to explore and expand new low-altitude business formats such as air commuting, business travel, air ferries, interline connections, and cross-border flights. Explore and open low-altitude routes between Guangdong and Qiongzhou.
May 2024	Nanjing City	Government of Nanjing City	Implementation Plan for Promoting High-quality Development of Low-altitude Economy (2024-2026)	Not Mentioned	By 2026, the city's low-altitude economy is set to exceed RMB50bn, featuring over 120 high-tech enterprises and the establishment of 15 key innovation platforms, including provincial laboratories and engineering research centers. The plan aims to integrate resources from local universities and research institutions in sectors like software, aviation command, and new energy to enhance industry applications. Additionally, improvements in ground infrastructure and digital networks will support the development of over 240 take-off and landing sites, more than three test flight areas, and 1-2 general airports, along with the opening of over 120 low-altitude flight routes.
May 2024	Guangzhou City	Government of Guangzhou City	Guangzhou Low-altitude Economic Development Implementation Plan	Not Mentioned	By 2027, Guangzhou's low-altitude economy is projected to reach ~RMB150bn, driven by advancements in aviation infrastructure and the development of a high-end intelligent manufacturing industry. The city plans to produce its first flying car, contributing to >RMB110bn in aircraft manufacturing, including cargo drones and helicopters. Additionally, Guangzhou aims to be the first city in China to commercialize manned flight operations, targeting a market size of RMB30bn for various services. Infrastructure developments will include the construction of a runway-type general airport, over five hub vertical take-off sites, and more than 100 landing points, with investments exceeding RMB10bn.
Jun 2024	Hunan Province	Government of Hunan Province	Policies and Measures to Support the High-Quality Development of Low-altitude Economy	Yes	<p>Support for New Aircraft Operations: Companies using eVTOL aircrafts for commercial flights will receive a subsidy of RMB1,000 / flight hour for each fixed route, with a maximum annual subsidy of RMB3mn.</p> <p>Encouragement of Drone Logistics: For drone logistics operations, companies will receive a one-time subsidy of RMB100k for each established route. Additional subsidies based on flight frequency can be awarded, with an annual cap of RMB1mn.</p> <p>Technical Innovation Support: Companies developing core technologies for eVTOL, such as tilt-rotor systems and low-noise propellers, may receive subsidies based on R&D expenditures, with a maximum amount of RMB1mn.</p> <p>Talent Development: Financial support is available for vocational schools offering courses on eVTOL-related skills, aimed at training pilots and technicians.</p> <p>Financial Assistance: Government funds will support the establishment of leasing companies focused on low-altitude economic activities, with efforts to lower borrowing cost for eVTOL businesses.</p>

Source: Local governments, CMBIGM

Figure 37: Local government policies (c)

Date	Region	Authority	Policy	Subsidy?	Policy Summary
Jul 2024	Hangzhou City	Government of Hangzhou City	Low-altitude Economy High-Quality Development Implementation Plan (2024-2027)	Not Mentioned	By 2027, the low-altitude industry is expected to significantly advance, with over 10 leading enterprises and more than 600 related companies, achieving a scale exceeding RMB60bn. A foundational low-altitude transportation network will be established, including >275 take-off and landing points and >500 low-altitude flight routes, supported by a unified management platform. The management system will operate effectively, ensuring safe drone operations exceeding one million flights annually. Diverse application scenarios will be developed, focusing on logistics, governance, and cultural tourism, with low-altitude logistics projected to rank in the top five nationally and flight volumes surpassing 1.8 million annually. Efforts will also be made to create 3 to 5 provincial pilot zones, yielding significant demonstration outcomes.
Jul 2024	Guangzhou City	Government of Guangzhou City	Measures to Promote High-quality Development of Low-altitude Economy	Yes	<p>Support for Low-Altitude Headquarters: Headquarters in the low-altitude economy sector can receive up to RMB1mn annually if they meet criteria such as achieving sales revenue of >RMB100mn in the previous year.</p> <p>Encouragement for eVTOL Projects: Projects involving the development, manufacturing, and operation of eVTOL aircrafts with fixed asset investment between RMB500mn and RMB10bn will receive a subsidy of 2% of the investment. For projects exceeding RMB10bn, the subsidy increases to 5%.</p> <p>Support for Key Equipment and Components: Similar to eVTOL projects, investments in key equipment and components in the low-altitude sector will receive a 2% subsidy for investments between RMB500mn and RMB10bn and a 5% subsidy for investments >RMB10bn.</p>
					<p>Funding for Aeronautical Certification: Companies engaged in eVTOL research and production that obtain type certification (TC) for manned or unmanned aircraft will receive a one-time subsidy of RMB15mn for aircraft exceeding 150 kg in weight. For large cargo drones, the subsidy is RMB1.5mn, with a cap of RMB15mn per company.</p> <p>Support for Low-Altitude Application Routes: For approved passenger eVTOL routes operating regularly within the city, companies can receive up to RMB1mn per route annually, with a maximum of RMB2mn per enterprise.</p> <p>Cargo Application Routes: For approved low-altitude cargo routes, companies can receive up to RMB500k per route annually, with an annual cap of RMB2mn for each enterprise.</p>
Jul 2024	Shandong Province	Government of Shandong Province	Implementation Plan for Innovative Application of General Aviation Equipment (2024-2030)	Not Mentioned	The initiative focuses on leading technological innovation by accelerating breakthroughs in key areas such as drones, intelligent obstacle avoidance, and power systems. It aims to establish industrial innovation platforms to foster collaboration between industry, academia, and research, promoting the development of advanced drones and core components. Additionally, it seeks to nurture and attract leading enterprises for complete manufacturing and core parts production, while enhancing the quality of aviation materials and developing new types of aircraft components. The plan emphasizes expanding applications of general aviation in agriculture, industry, and emergency services, as well as exploring drone logistics. It also aims to advance the test flight industry, improve maintenance capabilities, and expand the field of modification design.
Jul 2024	Hubei Province	Government of Hubei Province	Action Plan to Accelerate High-quality Development of Low-altitude Economy (2024-2027)	Yes	<p>Support for General Airport Construction: New or expanded general airports can receive subsidies of up to RMB10mn, while various take-off and landing sites can receive up to RMB1mn.</p> <p>Subsidy for Low-Altitude Information Infrastructure: Projects related to low-altitude information infrastructure will receive a subsidy of up to 50% of the approved contract amount, with a maximum of RMB1mn per project and RMB5mn per enterprise annually.</p> <p>Incentives for Aircraft Certification: Companies obtaining Type Certification (TC) for eVTOL aircraft can receive a one-time reward of RMB1mn. Subsidy for Manufacturing Certification: Domestic aviation manufacturing enterprises that achieve national certifications for their eVTOL products will be rewarded with a one-time subsidy of RMB1mn.</p>
					<p>Support for Key Component Development: For the first certified set of new materials or equipment, eligible projects can receive a subsidy of 15% of the product purchase price or R&D costs, with a maximum of RMB1mn.</p> <p>Encouragement for New Business Models: Initiatives integrating eVTOL into logistics and urban traffic can receive financial support, although specific subsidy amounts are not detailed in the provided text.</p> <p>Funding for R&D in Control Systems: Projects focused on developing low-altitude flight control systems can receive up to RMB1mn in funding for eligible projects.</p>

Source: Local governments, CMBIGM

Figure 38: Local government policies (d)

Date	Region	Authority	Policy	Subsidy?	Policy Summary
Jul 2024	Zhuhai	Government of Zhuhai City	Measures to support high-quality development of low-altitude economy	Yes	<p>Support for Major Projects: New low-altitude economic manufacturing projects or significant expansion made by existing enterprises can receive subsidies of up to 20% of equipment purchase costs (excluding tax), along with fixed asset investment loan interest subsidies and rent support.</p> <p>Subsidies for Certification: Companies that obtain type certification (TC) or production licenses (PC) for eVTOLs or similar aircraft can receive rewards of RMB5mn for large manned drones, RMB1mn for large unmanned drones, and RMB500k for medium unmanned drones. Additionally, certified companies may receive up to RMB2mn annually.</p>
					<p>Cost Reduction for Test Flights: Low-altitude manufacturers conducting test flights can receive a subsidy of 30% of actual testing service costs, capped at RMB1mn per year for each enterprise.</p> <p>Support for Cargo Routes: New low-altitude cargo routes can receive subsidies ranging from RMB30 to 300 per flight, depending on the drone size and flight distance, with annual caps of RMB3mn to RMB5mn for each enterprise.</p> <p>Subsidies for eVTOL Passenger Routes: Approved eVTOL passenger routes can receive subsidies of RMB100 for sightseeing flights, RMB200 for urban transport, and RMB300 for intercity transport, with a maximum of RMB5mn for each enterprise per year.</p> <p>Support for Infrastructure Development: Low-altitude economic enterprises investing in infrastructure, such as drone take-off points or eVTOL hubs, can receive a one-time subsidy of 50% of their fixed asset investment (up to RMB5mn per year).</p> <p>Talent Support: Low-altitude economic enterprises can apply for national and provincial talent projects, with additional support for overseas talent and various benefits related to housing, healthcare, and education.</p>
Jul 2024	Nanjing City	Government of Nanjing City	Three-year action plan for the construction of low-altitude flight service support system (2024-2026)	Not Mentioned	<p>To establish a safe and efficient low-altitude management mechanism, the city plans to create a collaborative management system integrating military, local, and civilian efforts. Over the next three years, it will develop >240 take-off and landing sites for low-altitude aircraft, alongside enhancing information infrastructure. Additionally, the city aims to construct 1–2 new general airports, designate >1,500 square kilometers of airspace, and open >120 low-altitude routes. Key application scenarios will focus on public services, production operations, low-altitude transport, and aviation consumption, with the goal of developing >30 demonstrative application scenarios and exploring urban pilot projects. Moreover, the city will strengthen its service capabilities by establishing at least three test flight areas, training sites for drone operators, and developing inspection services while creating relevant management rules and standards.</p>
Aug 2024	Shanghai City	Government of Shanghai City	Action Plan for High-Quality Development of Low-altitude Economic Industries (2024-2027)	Not Mentioned	<p>By 2027, the city aims to establish a comprehensive industrial system for low-altitude new aircraft, encompassing research and design, manufacturing, airworthiness testing, and commercial application, with a core industry scale >RMB50bn. The initiative will support the development of >10 leading companies in electric vertical take-off and landing (eVTOL) aircraft, industrial drones, and new energy general aviation planes, along with fostering about 20 low-altitude service enterprises and aggregating >100 key supporting companies to create a complete industry chain. Additionally, the plan includes developing >30 flagship products, upgrading low-altitude take-off and landing facilities, enhancing test flight bases, and establishing specialized industrial parks. The city will also implement various commercial applications in logistics, emergency rescue, and tourism, while actively pursuing city air traffic management pilot programs. Finally, it will enhance overall support by establishing an open coordination mechanism for low-altitude airspace and improving safety regulation and service efficiency.</p>
Sep 2024	Inner Mongolia Autonomous Region	Government of Inner Mongolia Autonomous Region	Implementation Plan for High-quality Development of Low-altitude Economy (2024-2027)	Not Mentioned	<p>The plan aims to, by 2027, develop low-altitude airspace by building 33 general airports and 100 standardized temporary landing sites, while developing low-altitude economic demonstration zones. Key tasks include enhancing infrastructure, creating a flight support network, and promoting diverse applications in agriculture, logistics, and tourism. The initiative will attract competitive enterprises to boost drone and eVTOL production, emphasize technological innovation, and encourage university-business collaborations. A coordination mechanism will ensure effective implementation and sustainable growth of the low-altitude economy.</p>

Source: Local governments, CMBIGM

Figure 39: Local government policies (e)

Date	Region	Authority	Policy	Subsidy?	Policy Summary
Sep 2024	Beijing City	Government of Beijing City	Action Plan to Promote High-Quality Development of Low-altitude Economic Industries (2024-2027)	Yes	<p>Emphasizes eVTOL aircrafts. Goals include increasing low-altitude economy enterprises to >5,000 and targeting a total scale of RMB100bn. Establishment of innovation platforms and improvement in standard-setting participation for eVTOL technologies.</p> <p>Key tasks include fostering innovation through enterprise and research collaborations. Emphasis on effective safety measures specific to eVTOL operations. Strengthening the manufacturing chain for eVTOLs to cultivate leading enterprises. Creation of a digital regulatory system to enhance oversight and operational efficiency. Infrastructure development for take-off and landing sites for eVTOLs.</p> <p>Application of eVTOLs in emergency services and logistics. Measures include increased financial support and the development of conducive policies. Encouragement of collaborative resource efforts among stakeholders.</p>
Oct 2024	Hefei City	Government of Hefei City	Policies to Support Low-altitude Economic Development	Yes	<p>Support for Low-Altitude Enterprises: New low-altitude economic enterprises can receive up to RMB5mn, which is 20% of their annual investment, for establishing airworthiness testing centers and quality inspection facilities.</p> <p>Incentives for High-Performing Companies: Companies achieving national recognition can receive rewards based on their economic growth, with maximum amount of RMB3mn, RMB1.5mn, and RMB1mn for different recognition levels. New R&D institutions can receive up to RMB20mn annually.</p> <p>Subsidies for eVTOL Certification: Low-altitude enterprises receiving type certificates for eVTOLs can be subsidized up to RMB15mn, while large / medium unmanned aircraft will be entitled RMB5mn/3mn.</p>
					<p>Flight Route Support: Approved eVTOL passenger routes will be entitled subsidies up to RMB6mn annually based on operational costs, with specific rates for sightseeing and urban transport flights.</p> <p>Logistics Drone Route Subsidies: For approved drone logistics routes, small/medium/large drones will be entitled RMB30/50/100 per flight, with a cap of RMB10mn per year for each enterprise.</p> <p>Support for Demonstration Projects: Projects integrating drones with other transportation will be entitled a one-time reward of RMB300k upon certification by relevant authorities.</p> <p>Infrastructure Development Subsidies: For constructing eVTOL and drone landing points, subsidies up to 15% of actual construction costs (capped at RMB500k annually) can be provided .</p>
					<p>Support for System Platform Development: Companies participating in the development of unified control and data platforms can receive priority support for project approval and financing.</p> <p>Standards Development Incentives: Organizations involved in creating or revising standards for the low-altitude economy can receive financial rewards according to relevant regulations.</p> <p>Support for Industry Promotion: Various activities promoting the low-altitude economy, including exhibitions, can receive subsidies, and efforts to form industry alliances will be encouraged.</p>

Source: Local governments, CMBIGM

Figure 40: Local government policies (f)

Date	Region	Authority	Policy	Subsidy?	Policy Summary
Oct 2024	Wuxi City	Government of Wuxi City	Policies and measures adopted to support high-quality development of low-altitude economy	Yes	<p>Attracting Quality Enterprises: Cities are encouraged to enhance global investment channels for low-altitude economy projects. Eligible projects that significantly contribute to local development can receive up to RMB30mn based on a comprehensive assessment within three years of establishment, along with additional support for space, construction, and equipment.</p> <p>Cultivating Local Enterprises: Qualified enterprises can apply for "Manufacturing Single Champions" and "Specialized and Innovative" status. First-time national champions can receive RMB800k, while provincial / national specialized companies can receive RMB500k / RMB300k, respectively. Local listed companies may also receive support based on relevant policies.</p> <p>Supporting Equipment Upgrades: Local low-altitude manufacturing enterprises that update equipment through bank loans can receive interest subsidies in accordance with the provincial policies.</p>
					<p>Encouraging Production Transition: Enterprises in the "465" modern industrial cluster are encouraged to upgrade their production lines for low-altitude compatibility. Projects with at least RMB10mn investment will be entitled interest subsidies up to RMB1mn annually for three years.</p> <p>Promoting Innovation Platforms: Collaborations among enterprises, universities, and research institutions to establish key innovation platforms are encouraged. Rewards for new or reorganized national key laboratories can reach RMB20mn.</p> <p>Supporting Key Technology Development: Projects focusing on critical technologies can receive up to RMB500k of R&D funding, with additional rewards for significant achievements and new equipment projects.</p> <p>Aviation Certification Support: Companies obtaining type certificates (TC) or production licenses (PC) can receive up to RMB500k based on product type. The maximum support for a single enterprise is RMB30mn.</p>
					<p>Standard Development Incentives: Entities leading the creation or revision of industry standards can receive rewards of up to RMB100k.</p> <p>Encouraging Short-Distance Passenger Routes: Companies operating approved passenger routes can receive a one-time reward of RMB150k for new routes, with additional incentives for increased flights.</p> <p>Logistics Drone Route Rewards: Companies that establish operational logistics routes for drones can receive up to RMB200k for small drones and RMB300k for larger models.</p> <p>Expanding "Low-Altitude + Cultural and Sports" Applications: Companies developing low-altitude applications in tourism and sports can receive up to RMB120k for hosting drone racing events.</p> <p>Enhancing "Low-Altitude + Public Services": Local governments are encouraged to collaborate with low-altitude enterprises for public services, with rewards based on investment and results.</p> <p>Exploring New Application Scenarios: Local enterprises are encouraged to innovate in low-altitude applications and business models, with support for exemplary projects totaling up to RMB200k per year.</p>
Oct 2024	Yangpu District, Shanghai	Government of Yangpu District	Measures to Promote Low-altitude Economic Development (Trial)	Yes	<p>Low-Altitude Route Service Subsidy: Up to RMB1mn per year for each enterprise. Micro UAVs (≤25 kg) will be entitled RMB30 per flight; medium UAVs (25-150 kg) will be entitled RMB20 per flight. A one-time subsidy of RMB200k for completing 5,000 flights in the first year on new routes.</p> <p>Application Scenario Development: Support up to RMB5mn for projects in low-altitude tourism, emergency services, and other applications, covering 30% of total investment.</p> <p>R&D subsidies for Key Technologies: Up to RMB2mn based on 10%-30% of actual R&D expenditures for significant breakthroughs in core technologies.</p> <p>Innovation Platform Support: Up to RMB2mn for joint innovation platforms with universities, covering 30% of investment.</p> <p>Infrastructure Development: Support for building or upgrading low-altitude infrastructure, with specific amounts not detailed.</p> <p>Headquarters Incentives: Up to RMB10mn for new eVTOL headquarters, RMB5mn for innovative headquarters, and RMB3mn for recognized specialized enterprises.</p> <p>Financial Services Support: Focus on establishing early investment funds for incubators and startups in the low-altitude economy.</p> <p>Brand Activity Support: Up to RMB3mn for recognized international events, covering 50% of actual expenses.</p>

Source: Local governments, CMBIGM

Risk factors

■ Risks in safety of eVTOL aircraft products

eVTOL aircraft, as a new transportation and logistics solution with a short history, involve manufacturers, civil aviation authorities, and regulatory bodies with an incomplete understanding of the safety and risk levels associated with them. Therefore, any unexpected safety hazards might arise during the commercialization and operation processes, potentially negatively impacting the large-scale application and sales of eVTOLs.

■ Slower-than-expected development of low-altitude economy

While the low-altitude economy is a fast-growing sector in China, the development is still subject to changes in the macro economy in the near term, the level of support from related policies, the regulatory environment, the establishment of ancillary infrastructure, and the extent of market reception and adoption.

■ Keen competition in the medium term

Although the EH216-S was the first eVTOL aircraft to obtain the TC, PC, and AC globally, other competitors are also diligently working on the certification process. Currently, the TC applications of eVTOL aircraft from domestic competitors, including Autoflight, Aerofugia, XPENG AEROHT, TCab Tech, and Volant, have been accepted by the CAAC. It is expected that some of them will finally obtain the TC, PC, and AC. The competitive landscape of the industry will possibly intensify.

■ Failure to make timely deliveries due to disrupted supply chain or capacity constraint

The successful commercial production of eVTOL aircraft depends on a timely and sufficient supply of various raw materials and components, along with the capability for mass production, manufacturing, and assembly. While EHang is actively expanding its production capacity and developing partnerships within the industry chain, its manufacturing capacity and supply chain are still in the early stages and might be affected by various factors. If there is any disruption in the supply chain or any constraint on the company's production capacity expansion, the deliveries of products will be affected.

■ Unable to develop and commercialize new technologies and models

While EH216-S has received abundant orders as the first commercialized pilotless passenger eVTOL aircraft, its usage scenarios are relatively restricted due to its limited flight range and flight time. Currently, it mainly operates on a limited trial basis in aerial tourism usage scenarios. Additionally, the model primarily targets B2B customers rather than B2C customers since the flight routes need to be jointly designed by EHang and the local civil aviation authorities, with professional flight service personnel required for ground operations.

Financial Summary

INCOME STATEMENT	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (RMB mn)						
Revenue	57	44	117	454	899	1,341
Cost of goods sold	(21)	(15)	(42)	(176)	(350)	(534)
Gross profit	36	29	75	277	549	808
Selling expense	(43)	(53)	(60)	(91)	(135)	(174)
Admin expense	(187)	(151)	(150)	(231)	(279)	(228)
R&D expense	(137)	(135)	(167)	(195)	(234)	(241)
Other income	11	6	6	24	18	13
Other gains/(losses)	4	(28)	(10)	(1)	(1)	(1)
Share of (losses)/profits of associates/JV	(0)	0	(2)	0	0	1
EBITDA	(313)	(283)	(275)	(194)	(58)	201
Depreciation	8	21	21	22	22	24
EBIT	(321)	(304)	(296)	(216)	(80)	177
Interest income	5	5	8	16	19	19
Interest expense	(2)	(2)	(3)	(2)	(2)	(2)
Net Interest income/(expense)	3	3	6	13	17	16
Pre-tax profit	(314)	(329)	(302)	(204)	(64)	193
Income tax	(0)	(0)	(0)	0	0	(15)
Minority interest	(0)	0	(2)	(1)	(0)	1
Net profit	(314)	(329)	(302)	(204)	(64)	177
Adjusted net profit	(314)	(329)	(304)	(205)	(64)	178
Gross dividends	0	0	0	0	0	9

BALANCE SHEET	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (RMB mn)						
Current assets	477	387	453	1,130	1,113	1,444
Cash & equivalents	247	249	228	673	544	626
Account receivables	56	20	35	90	107	187
Inventories	78	72	59	37	87	59
ST bank deposits	0	0	34	34	34	34
Financial assets at FVTPL	0	0	14	14	14	14
Other current assets	96	45	82	281	326	524
Non-current assets	58	144	146	192	209	294
PP&E	34	47	45	51	66	107
Deferred income tax	0	0	0	0	0	0
Investment in JVs & assos	6	10	18	18	19	19
Intangibles	1	2	2	3	3	3
Goodwill	0	0	0	0	0	0
Financial assets at FVTPL	0	0	0	0	0	0
Other non-current assets	18	85	80	119	122	165
Total assets	535	531	599	1,322	1,323	1,738
Current liabilities	136	282	250	470	535	773
Short-term borrowings	13	121	73	73	73	73
Account payables	46	35	35	255	320	558
Tax payable	0	0	0	0	0	0
Other current liabilities	78	126	142	142	142	142
Non-current liabilities	65	124	134	134	134	134
Long-term borrowings	17	4	9	9	9	9
Other non-current liabilities	48	120	125	125	125	125
Total liabilities	201	406	384	604	669	907
Total shareholders equity	333	124	214	716	652	830
Minority interest	1	0	0	1	2	1
Total equity and liabilities	535	531	599	1,322	1,323	1,738

CASH FLOW	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (RMB mn)						
Operating						
Profit before taxation	(314)	(329)	(302)	(204)	(64)	193
Depreciation & amortization	8	21	21	22	22	24
Tax paid	0	0	0	0	0	(15)
Change in working capital	(2)	(6)	21	(58)	(55)	(57)
Others	186	141	171	(13)	(17)	(17)
Net cash from operations	(122)	(173)	(88)	(254)	(114)	128
Investing						
Capital expenditure	(16)	(12)	(8)	(20)	(30)	(60)
Acquisition of subsidiaries/ investments	0	0	0	0	0	0
Others	(18)	69	(121)	14	18	17
Net cash from investing	(33)	56	(129)	(6)	(12)	(43)
Financing						
Dividend paid	0	0	0	0	0	0
Net borrowings	15	37	(55)	0	0	0
Proceeds from share issues	257	70	250	707	0	0
Others	(5)	0	0	(2)	(2)	(2)
Net cash from financing	267	107	195	705	(2)	(2)
Net change in cash						
Cash at the beginning of the year	0	247	249	228	673	544
Exchange difference	135	13	1	0	0	0
Cash at the end of the year	247	249	228	673	544	626

Source: Company data, CMBIGM estimates. Note: The calculation of net cash includes financial assets.

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