STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
◆ To complement the organizations’ internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
◆ To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.
Abstract

Flying Car Research: The prospect is promising. Creator of Google self-driving cars turns to track of flying cars

ResearchInChina released Global and China Flying Car Industry Report, 2020-2026, analyzing eVTOL (Electric Vertical Takeoff and Landing) from the perspective of status quo, trends, business models, financing, the layout of major players, and product solutions.

Compared with traditional cars and aircrafts, eVTOL has gradually materialized, featuring zero emission, low cost, point-to-point low-altitude flight (short mobility time without geographical restrictions), vertical take-off and landing, land and aerial applications. For example, EHang 216 with multi-rotor electric vertical take-off and landing is used as an ambulance in the coronavirus crisis.

Investors favor urban air mobility (UAM). The total financing of the three unicorns exceeds USD1.5 billion

By 2030, 60% of the population will migrate into cities, which may pose enormous pressure on urban ground transportation. By then, the demand for urban aerial short-distance mobility will increase significantly. Morgan Stanley predicts that the flying car market will reach USD320 billion by 2030.

Flying cars have been favored by many investors due to the broad application prospects. Larry Page, cofounder and CEO of Alphabet, Google’s parent company, was among the first to recognize their potentials, personally funding three companies, Zee Aero, Opener and Kitty Hawk. Particularly, Sebastian Thrun, Google’s self-driving team founder turned CEO of flying vehicle startup Kitty Hawk. This indicates the trend of the mobility market: the future transportation may develop in the sky.
Among the three flying car unicorns, Joby Aviation is from the United States, Volocopter and Lilium are from Germany. Joby Aviation has raised the overwhelming USD820 million. Volocopter has announced the signing of their Series D funding round, and its investors include Geely, Daimler, Geely, Daimler, DB Schenker, Intel Capital, etc.

Currently, 5 flying car models have been mass-produced. Electrification and autonomous driving are the mainstream.

American companies (accounting for nearly 50%) are the most enthusiastic about developing flying cars, followed by Chinese companies. Many companies aim to materialize flying cars around 2025. Five flying car projects have seen mass production, and 38% have realized automation.

Automotive technology and aviation technology are merging with each other. Benefiting from the development of automotive electrification, flying cars have a progress in endurance. For example, Airbus Vahana eVTOL has a range of up to 50 kilometers, which basically enables urban short-distance mobility.
### R&D Process of Flying Car Projects

<table>
<thead>
<tr>
<th>Companies</th>
<th>Flying Car</th>
<th>Country</th>
<th>Automation</th>
<th>Development time</th>
<th>Concept / Design</th>
<th>Prototyping</th>
<th>Verification test</th>
<th>Production</th>
<th>Commercial promotion/delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boeing (Aurora Flight)</strong></td>
<td>Aurora eVTOL</td>
<td>United States</td>
<td>✓</td>
<td>1989</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Airbus</strong></td>
<td>Vahana / CityAirbus</td>
<td>United States</td>
<td>✓</td>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>2020</td>
</tr>
<tr>
<td>Bell</td>
<td>Nexus</td>
<td>United States</td>
<td>✓</td>
<td>2018</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>2025</td>
</tr>
<tr>
<td>MuYu Aero Technology</td>
<td>MY-ABC</td>
<td>China</td>
<td>✓</td>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Embraer</td>
<td>UAM aircraft</td>
<td>Brazil</td>
<td>✓</td>
<td>2017</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>AVIC</td>
<td>Sailing</td>
<td>China</td>
<td>✓</td>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Volocopter</td>
<td>Volocopter</td>
<td>Germany</td>
<td>✓</td>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td>2019</td>
<td></td>
</tr>
<tr>
<td>AeroMobil</td>
<td>AeroMobil 4.0</td>
<td>Slovakia</td>
<td>✓</td>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td>2021</td>
<td></td>
</tr>
<tr>
<td>Lilium</td>
<td>Lilium Jet</td>
<td>Germany</td>
<td>✓</td>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td>2025</td>
<td></td>
</tr>
<tr>
<td>SkyDrive</td>
<td>SD-XX</td>
<td>Japan</td>
<td>✓</td>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td>2026</td>
<td></td>
</tr>
<tr>
<td>Joby Aviation</td>
<td>S4/S2</td>
<td>United States</td>
<td>✓</td>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td>2024</td>
<td></td>
</tr>
<tr>
<td>Terrafugia (acquired by Geely)</td>
<td>Transition</td>
<td>United States</td>
<td>✓</td>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td>2019</td>
<td></td>
</tr>
<tr>
<td>PAL-V</td>
<td>PAL-V Liberty</td>
<td>Netherlands</td>
<td>✓</td>
<td>2001</td>
<td></td>
<td></td>
<td></td>
<td>2022</td>
<td></td>
</tr>
<tr>
<td>Kitty Hawk</td>
<td>Heaviside</td>
<td>United States</td>
<td>✓</td>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td>2021</td>
<td></td>
</tr>
<tr>
<td>Opener</td>
<td>Blackfly</td>
<td>United States</td>
<td>✓</td>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Ehang</td>
<td>Ehang184/Ehang216</td>
<td>China</td>
<td>✓</td>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td>2019</td>
<td></td>
</tr>
</tbody>
</table>

Source: ResearchInChina
Amid many participants, Geely, Xpeng, Hyundai and other OEMs have deployed the market. Currently, traditional airlines such as Boeing, Airbus, Bell, etc. have embarked on flying car projects. Technology companies follow suit. For example, Uber has established Uber Elevate to develop flying taxis with 9 partners including Embraer, Aurora Flight Sciences, Jaunt Air Mobility, etc.

The CEO of the OEM Xpeng recently stated that it will build flying cars in 2021. Geely completed its acquisition of the US flying-car startup Terrafugia, and invested in Volocopter, a German electric flying taxi R&D company, demonstrating its ambition to deploy UAM. Recently, Transition (TF-1), a subsidiary of Geely, obtained the world's first special airworthiness certificate from the Federal Aviation Administration (FAA), USA.

The United States, Germany, China, South Korea, Japan and many other countries have paid attention to the concept of flying cars, and many of them have formulated UAM development plans. Affected by favorable policies, insufficient urban road traffic space, autonomous driving and the development of 5G communication technology, flying cars are expected to become an important way of smart mobility in the future.
## 1. Overview of Flying Cars

1.1 Definition  
1.2 Classification  
1.3 Development History  
1.4 Features and Advantages  
1.5 Comparison of Autonomous Flying Cars, UAVs and Shared Cars  
1.6 Technology  
1.7 Grades of Autonomous Flying Car Technology  
1.8 Development of eVTOL Technology  
1.9 Applications

## 2. Global and Chinese Flying Car Market

2.1 Status Quo  
2.2 Laws and Regulations  
2.3 Development Plan in Japan  
2.4 Development Plan in South Korea  
2.5 Development Plan in Europe and America  
2.6 Development Plan in China  
2.7 Market Size  
2.8 Competitive Landscape  
2.8.1 Parameter Comparison of Flying Cars in Mass Production  
2.8.2 Financing  
2.8.3 Financing Ranking  
2.8.4 Cooperation between Domestic and Foreign OEMs and Technology Companies

## 3. Airlines Which Lay out Flying Car Field

3.1 Boeing  
3.1.1 Profile  
3.1.2 Flying Car Prototype: PAV and CAV  
3.1.3 Flying Car Prototype: Parameter Comparison of PAV and CAV  
3.1.4 Flying Car Layout Schedule  
3.2 Airbus  
3.2.1 Profile  
3.2.2 Development History of Vahana  
3.2.3 Technical Parameters of Vahana  
3.2.4 Development History of Flying Car Project  
3.2.5 Technical Parameters of Flying Cars  
3.2.6 Cooperation and Development Plan in the UAM Field  
3.3 Bell  
3.3.1 Profile  
3.3.2 Parameter Comparison of Air Taxis  
3.3.3 Cooperation and Development Plan in the UAM Field  
3.4 MuYu Aero Technology  
3.4.1 Profile  
3.4.2 Air, Land and Sea Flying Car  
3.4.3 Air, Land and Sea Flying Car: Parameters
Table of contents

3.4.4 Air, Land and Sea Flying Car: Parameters and Development Plan
3.5 Embraer
   3.5.1 Profile
   3.5.2 UAM Aircraft
3.6 AVIC
   3.6.1 Profile

4. Flying Car Manufacturers
4.1 Volocopter
   4.1.1 Profile
   4.1.2 Main Investors
   4.1.3 Development History
   4.1.4 eVTOL Industry Chain
   4.1.5 Parameters and Layout Plan
   4.1.6 Commercial Operation and Layout Plan
4.2 AeroMobil
   4.2.1 Profile
   4.2.2 Flying Car
   4.2.3 Parameters of AeroMobil 4.0
   4.2.4 Commercialization
4.3 Lillium
   4.3.1 Profile
   4.3.2 Lilium Jet
   4.3.3 Development Roadmap of Lilium Jet
4.4 SkyDrive
   4.4.1 Profile
   4.4.2 Development History
   4.4.3 Partners
   4.4.4 Parameters
   4.4.5 Commercialization Roadmap
   4.4.6 Application Scenarios
4.5 Joby Aviation
   4.5.1 Profile
   4.5.2 Financing
   4.5.3 Development History of Joby Aviation
   4.5.4 Joby Aviation S4
   4.5.5 Commercialization Roadmap of Joby Aviation
   4.5.6 Joby Aviation Acquired Uber Elevate
4.6 PAL-V
   4.6.1 Profile
   4.6.2 PAL-V Liberty
   4.6.3 Parameters of PAL-V Liberty
4.7 Kitty Hawk
   4.7.1 Profile
   4.7.2 Kitty Hawk
   4.7.3 Parameters of Heaviside
4.8 Opener
   4.8.1 Profile
   4.8.2 Development History of Opener
Table of contents

4.8.3 Parameters of Blackfly
4.9 EHang
4.9.1 Profile
4.9.2 Development History of Flying Cars
4.9.3 Flying Car Certification
4.9.4 Financing
4.9.5 Parameters of Autonomous Aircrafts
4.9.6 Capacity Expansion Plan in China
4.9.7 UAM Ecosystem Layout

5. Automakers and Technology Companies Which Lay out the Flying Car Field
5.1 Geely
5.1.1 Profile
5.1.2 Development History of Transition
5.1.3 Parameters of Transition
5.1.4 Geely invested in Volocopter
5.2 Xpeng
5.2.1 Profile
5.2.2 Traveler T1
5.3 Hyundai
5.3.1 Profile
5.3.2 Parameters of S-A1
5.3.3 Hyundai and Urban Airport Cooperate to Build Flying Car Airports

5.3.4 Future Smart Mobility Vision
5.4 General Motors
5.4.1 Flying Car Layout
5.5 Aston Martin
5.5.1 Flying Car Layout
5.6 Porsche
5.6.1 Flying Car Layout
5.7 Toyota
5.7.1 Flying Car Layout
5.8 Daimler
5.8.1 Flying Car Layout
5.9 Uber
5.9.1 Profile
5.9.2 Partners of Uber Elevate
5.9.3 Business Models of Uber Elevate
You can place your order in the following alternative ways:

1. Order online at www.researchinchina.com
2. Fax order sheet to us at fax number: +86 10 82601570
3. Email your order to: report@researchinchina.com
4. Phone us at +86 10 82600828

<table>
<thead>
<tr>
<th>Party A:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>Contact Person:</td>
<td>Tel</td>
</tr>
<tr>
<td>E-mail:</td>
<td>Fax</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Party B:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Beijing Waterwood Technologies Co., Ltd (ResearchInChina)</td>
</tr>
<tr>
<td>Address:</td>
<td>Room 2-626, 6th Floor, No.1, Shanyuan Street, Haidian District, Beijing, 100080</td>
</tr>
<tr>
<td>Contact Person:</td>
<td>Liao Yan</td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:report@researchinchina.com">report@researchinchina.com</a></td>
</tr>
</tbody>
</table>

Bank details:
Beneficial Name: Beijing Waterwood Technologies Co., Ltd
Bank Name: Bank of Communications, Beijing Branch
Bank Address: NO.1 jinxiyuan shijicheng, Landianchang, Haidian District, Beijing
Bank Account No #: 110060668012015061217
Routing No #: 332906
Bank SWIFT Code: COMMCNSHBJG

Choose type of format
- PDF (Single user license) ...............3,200 USD
- Hard copy ................................. 3,400 USD
- PDF (Enterprisewide license) .......... 4,800 USD

※ Reports will be dispatched immediately once full payment has been received.
Payment may be made by wire transfer or credit card via PayPal.