



9 COMPANIES BUILDING FLYING CARS

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As Peter Thiel wryly quipped, “we wanted flying cars and all we got was 140 characters”. This made us think, just how far are we away from realizing flying cars? Is this next on Elon Musk’s to-do list after he makes them all electric first? Just three days ago, Google co-founder Larry Page made the news with his \$100 million investment to fund a flying car venture called Zee.Aero. Aside from their sparse website, Zee.Aero does doesn’t say much about what they are working on except for some patents filed as seen below:

Larry Page is also said to have made investments in a second flying car company to “compete” with Zee.Aero. This second startup called Kitty Hawk is even more secretive. Here's what a recent Bloomberg article had to say about Kitty Hawk:

Kitty Hawk has about a dozen engineers, including some Zee.Aero veterans. Others came from AeroVelo, a startup whose claim to fame was winning the \$250,000 Sikorsky Prize in 2013, for building a human-powered helicopter that could stay aloft for more than a minute. Kitty Hawk employees include Emerick Oshiro, who did self-driving car work at Google, and David Estrada, who handled legal affairs for Google?X. They all listed the company as their employer on LinkedIn until they were contacted by Bloomberg Businessweek, at which point they erased any mention of Kitty?Hawk from their profiles.

Unfortunately these first 2 companies are operating in stealth mode so there's not much more you can find out about what types of flying cars they're working on or how far along they are with development. However there are 7 other companies that aren't so secretive about their plans to make flying cars a reality.

Founded in 2006, Massachusetts based Terrafugia has taken in \$5.5 million in funding to develop several types of flying cars. The first flying car they built called “The Transition®” is a fixed-wing street legal aircraft that fits in a single car garage and is designed to be flown in and out of general aviation airports (seen above). Yes, it looks like just a plane with folding wings but if it is *street legal* then we have to consider it a flying car. Their second effort called the the TF-X™ is a vertical take-off and landing (VTOL) aircraft that would be more along the lines of how we might think a flying car would operate. We'd show you a picture of the prototype, but with a production date estimated at 8-12 years in the future we reckon the design will change quite a bit during the development phase.

Slovakian company AeroMobil may be the first company that actually delivers on the flying car concept with a posh looking 2-seater that fits into any standard parking space, uses regular gasoline, and can be used in road traffic just like any other car. As a plane it can use any airport in the world, but can also take off and land using any grass strip or paved surface just a few hundred meters long. The current version is the AeroMobil 3.0 which is predominantly built from advanced composite material and contains avionics equipment, autopilot and an advanced parachute deployment system. The AeroMobil 3 has been in regular flight-testing programs in real flight conditions since October 2014. AeroMobil expects to start delivering the product at a price point of around \$400,000 in the next two or three years and hopes to begin taking preliminary orders in 2016.



Founded in 1983, Moller International, has been developing flying cars for more than 40 years. Moller International has developed their Skycar® 200 which is a lightweight, 2-passenger VTOL aircraft now targeted for local commuter markets. The range with 2 passengers traveling at 122 mph (at 42 mpg) is 434 miles. The Skycar® 400 is the 5th generation of VTOL aircraft developed by Dr. Paul Moller and is now in the “operational prototype” stage.

Note that Moller International is an over-the-counter (OTC) stock trading under the ticker which has lost **-94.7%** of its value in the past 10 years giving it the miniscule market cap of less than \$5 million. We took a quick look at the latest corporate presentation and it had the usual red flag statements we often see with OTC companies like *“Upgrade the original M200 Neuera prototype to the FAA standards required for FAA approval to demonstrate it before a group”* and *“Work with our FAA liaison Ed De Reyes to get approval for a quick and low cost way to achieve FAA’s approval”*. If there is one takeaway here it should be never ever buy shares in any OTC company, much less one that’s promising you a flying car.

One company developing a flying car using a unique method is Xplorair which was a project announced in 2007 that would develop a UAV prototype in ten years’ time. Backed by the French Armed Forces and supported by a number of European aeronautical firms, the Xplorair project is using a proprietary thermoreactor to produce the thrust required for VTOL. A radio-controlled full-scale model will be debuted at the Paris Air Show 2017 while the first manned prototype should be available before 2020.

Dutch company PAL-V has developed a gyrocopter that turns into a 3-wheel road worthy vehicle. It takes 10 minutes to convert between drive and flight mode. The 230-hp gasoline engine can propel this apparatus to 112 mph in the air and zero to 60 in under 8 seconds on the ground. It’ll set you back about \$300,000 and deliveries are expected to begin in 2016/2017.

Founded in 2009, Joby Aviation is revolutionizing transportation with the S2, an all-electric 200 mph vertical takeoff and landing (VTOL) aircraft. We’re not sure how street legal it’s going to be with those 12 propellers blazing and that massive wingspan, so the definition of a flying car might be stretching it a bit. It would better be described as a drone that carries humans at which point you might just call it a form of helicopter that has many propellers. Prototypes will begin flying this year and their business model is similar to Uber in that they plan to rent the vehicles and you can summon them on demand. The cost to produce this flying car/drone/plane is expected to be around \$200,000 and it is in active development at the moment.



We couldn't mention the Joby Aviation S2 "drone airplane" without also mentioning the "volocopter" which has recently completed a test flight which is depicted in the above picture. The 18 electric motor powered rotors that power the VC200 Volocopter each operate on their own batteries, and offer considerable efficiency and safety advantages compared to other concepts and operate at a much lower sound volume than a helicopter. The Company described the experience of flying a volocopter as exceptionally easy:

Stalling, pitch adjustment, gliding angle, the components that are difficult to master aeronautically are mastered through the operation of a simple joystick. Well in excess of 100 microprocessors and a large number of different sensors ensure it can take off, land and be flown in a relaxed manner and without any worries. It's amazing! Flying becomes so easy as the aircraft automatically compensates for turbulence.

They even have an aircraft parachute to make you feel extra safe when you're up there all alone. It's expected to be made available at a price point of around \$280,000 sometime in the next several years.

While it's hard to say if any of these startups can bring the flying car into mainstream usage, you can be sure that the companies with the deepest pockets and best talent pool to choose from are Zee.Aero and Kitty Hawk. Who wouldn't like to put on their CV that they worked with Larry Page on a secretive flying car project? Rest assured that both of these stealth companies are studying every bit of information about their not so stealthy competitors as well.

If the flying car is finally going to happen, it can't be that far away. Want to read about 55 companies like these that are building truly disruptive technologies like flying cars? Download the free "CB Insights Game Changer Report" to learn more about 55 companies that are looking to change the world.

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