Your flying electric taxi has arrived. Are you ready for the ride?

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The Jetsons, a beloved animated series from the 1960s, captured the imagination of audiences with its futuristic vision of a world filled with flying cars, robotic helpers, and space-age technology. One of the most iconic elements of the show was the flying car, which symbolised humanity's enduring fascination with the idea of taking to the skies. The Jetsons' flying car represented the ultimate realisation of the dream of living in a world where we could effortlessly soar above traffic and congestion, experiencing a new dimension of mobility and adventure.

While we may not yet have flying cars in the same way the show envisioned, Joby Aviation's electric vertical take-off and landing (eVTOL) aircraft is quickly taking us to a place where we might be able to keep up with the Jetsons.

Joby's eVTOL

The eVTOL is an aircraft that looks like a cross between a drone and a helicopter. According to Joby Aviation, it is a faster, cleaner, and smarter way to carry people through their lives. As an aerial ridesharing service, the aircraft will transport passengers from Downtown New York City to JFK Airport in just 7 minutes, in contrast to a car, which can take up to 49 minutes, assuming optimal conditions and no traffic1.

The eVTOL offers numerous additional benefits as well. Its vertical take-off and landing capability enables it to access urban locations more easily. Powered by electric motors running on lithium-ion batteries, like an electric vehicle, it produces zero operating emissions and flies quietly. It is also fast and can achieve a maximum speed of 200 miles per hour. And, as Joby Aviation states, it can accommodate one pilot and up to four passengers, making the experience of flying in it more akin to getting into an SUV than boarding a plane.

Your flying taxi has arrived

In June 2023, Joby Aviation received a Special Airworthiness Certificate by the US Federal Aviation Administration (FAA) for its first production prototype built at its Pilot Production Line in Marina, California, marking a significant milestone. This certificate allows the company to begin flight testing its first production prototype. This aircraft is expected to become the first-ever eVTOL delivered to a customer when it moves to Edwards Air Force Base in 2024 as part of a US Air Force contract. Joby, with substantial support from strategic partner Toyota, is progressing toward FAA certification and large-scale production. This achievement represents a major step in their journey towards sustainable aviation, with plans to

begin commercial passenger operations in 2025 and a recent partnership with Delta Air Lines to offer emissions-free travel2.

For the average person, the cost of riding an eVTOL vs calling an Uber will also be an important factor when deciding whether taking to the skies is feasible. In 2021, Joby founder and CEO JoeBen Bevirt told The Washington Post that the company hopes to begin services at an average price of around $3 per mile – comparable to a taxi or Uber – and eventually move to below $1 per mile.

Decarbonising aviation

At WisdomTree, we believe that eVTOLs represent a crucial component in the exciting array of technologies contributing to aviation decarbonisation. Larger aircraft are increasingly turning to sustainable jet fuel to significantly reduce emissions while maintaining their reliance on internal combustion engines. Hydrogen is also emerging as a viable future aviation fuel, with Airbus planning to test a hydrogen engine on an A380 as early as 2026. Battery-powered flight is expected to make smaller planes airborne. The success of Joby Aviation and other companies involved in eVTOL development will likely inspire additional companies seeking to electrify their aircraft.

At WisdomTree, we view the electrification of aviation as an exciting subsector within the battery value chain. Emerging technologies, especially those that capture the public's imagination, can go through hype cycles. In June 2023, when Joby Aviation announced that it had received the FAA's permit to fly its prototype, the share price immediately surged. Naturally, the share price has since stabilised but continues to show robust year-to-date growth. In a year dominated by headlines about Nvidia and artificial intelligence, Joby Aviation's 107% year-to-date return (as of 14 September 2023) might have flown under the radar. Nevertheless, it underscores the potential of emerging players in the technology world.

Joby is yet to deliver its eVTOLs to customers and, understandably, has not yet achieved positive earnings. All that lies ahead. For now, it's time to fasten your seatbelts.

The way forward for investors

The WisdomTree Battery Solutions UCITS ETF (VOLT) is built in partnership with Wood Mackenzie and gives investors a diversified exposure to the battery value chain. The strategy identifies 37 subsectors across raw materials, manufacturing, enablers, and emerging technologies. ‘Aeronautical’ is one of the subsectors within the category of emerging technologies within which Joby Aviation is classified. As of 13 September 2023, Joby Aviation is the top holding in VOLT. By diversifying across multiple frontiers of potential growth, the strategy stands to benefit if any of the innovations in the world of batteries become the next big thing.

1 Joby Aviation, September 2023.

2 Joby Aviation’s press release on 28 June 2023.

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