The ex-Rolls Royce engineer on a mission to make Britain a leader in flying taxis

Michael Cervenka, chief executive of Bristol-based Vertical Aerospace, says the UK is well-placed to gain a large slice of a market

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In the next few decades, instead of jumping on the Piccadilly Line or ordering an Uber, you could be hailing an air taxi.

At least, that's if the latest crop of flying car manufacturers is to be believed. The technology has long been a thing of pure fantasy, reserved only for science fiction movies like *Blade Runner*.

But now, more than ever, many believe flying taxis are on the cusp of becoming reality. Hyundai has outlined its plans to enter the market by 2028. Elsewhere, Toyota has invested $400m (£309m) in US firm Joby Aviation.

In the UK, one man is using a different strategy that he hopes will allow Britain to become the market leader in the industry that has been tipped to be worth $2.9 trillion by 2040.

"I think there's a real opportunity for us to take a lead in this space," says Michael Cervenka, chief executive of Vertical Aerospace and an ex-Rolls Royce engineer.

The Bristol-based company has been working on the VA-1X air taxi which has a 49-foot wingspan and V-shaped tail. It will have a cruise speed of around 150mph and a range of 100 miles.

The vehicle will boast lithium ion batteries, the same technology that underpins much of the modern day electric car fleet, including Teslas. It can carry up to five people, made up of four passengers and a pilot - or a payload weighing up to 450kg.

The company claims that it could travel from London to Brighton in approximately half an hour, a journey that typically takes two hours by car or an hour by train. Customer orders for the vehicle are set to begin in 2023 with production due to kick off at some point in 2024.

"The next near-term significant milestone for us is to build and fly a VA-1X," says Cervenka.

"There is a huge market opportunity. For us, it's about how quickly can we start making the aircraft because we're convinced that the market demand is going to be way more than the available supply."

Cervenka insists that the next breakthrough in personal mobility will be more like the second coming of the helicopter than a four-wheeled DeLorean that drives through the air, as depicted in the 1985 movie *Back to the Future*.

The flying DeLorean in Back to the Future

The new vehicles that have garnered such excitement are instead called electric vertical takeoff and landing - or eVTOLs. They are battery-powered aircraft that typically carry up to five people and can rise straight up using a series of propellers.

“Flying cars is a really bad name because cars don’t fly and if you’ve got a concept that looks anything like a car, it’s really not going to be a very good aircraft,” Cervenka says.

“Helicopters are fine if you’re a billionaire but they’re very, very expensive and very noisy and actually not that safe,” adds the 45-year old.

“The aim of eVTOLs is really to disrupt the way we travel by essentially replacing what is a 1960s technology.”

That disruption, he says, will be largely driven by an enormous reduction in the cost of using such a service in comparison to a helicopter. Cervenka, who graduated with a first-class honours degree in aeronautical engineering from Bristol University, maintains the machines will largely be used as air taxis that can be scheduled ahead of time.

The cost of using a helicopter currently stands at around £10 per passenger mile. Cervenka says his first eVTOL will cost around half of that but will soon cost as little as £3. For comparison, that’s about the price of an Uber Black.

The VA-1X will sit in the eVTOL bracket, which is widely viewed as the category that will dominate the first generation of flying cars. Hyundai, Nissan, and Uber have all poured cash into the sector while highly-funded start-ups work to build the vehicle that will meet the needs of the looming air taxi market.

Cervenka’s background is testament to a company that has drawn upon a wealth of expertise across the country. He spent 22 years at Rolls Royce across a range of leadership engineering positions before being tapped to run Vertical Aerospace.

His boss is founder Stephen Fitzpatrick, who previously set up OVO Energy, Britain’s second-largest energy company. Fitzpatrick was also formerly the owner of Formula 1 team Manor Racing. Vertical’s dependence on Formula 1 goes far beyond its founder’s former exploits.

“We are very deliberately based in Bristol, where we’re surrounded by 270 aerospace companies,” Cervenka says.

“Then one of our other bases is in Oxford, right in the middle of the Formula 1 cluster. We’ve got 80 people in Bristol, mostly aerospace, and then we have 25 Formula 1 engineers in Oxford.”

Vertical boss Michael Cervenka expects to into production within the next four years | CREDIT: Mark Griffiths

Nabbing high-quality staff for Vertical has been fruitful to date for a whole host of reasons, not least, he says, because it represents the future of aviation.

“Actually, one of the things we're finding is a lot of people in aerospace and a desperate to come and work for a company that's producing a sustainable aircraft,” he says. “So that's a real catch for us.”

It is this groundswell of expertise that puts the UK in prime position to lead the new industry. Cervenka believes Britain's "pedigree" in aviation and car manufacturing gives the country a real edge. He maintains the company's goal is to be in the "top five" eVTOL manufacturers in the world but believes that Vertical can claim the top spot.

"I do think there is quite a diversity and scale of market, it's not going to be a winner takes all, I think there is certainly room for several players," he says.

In addition to the UK's strong talent pool, he also praised the country's "tremendous manufacturing facilities" and its growing electrification capabilities in automotive technologies.

To date, Vertical has been mostly funded by founder Fitzpatrick, but it is currently in the midst of a £150m funding round due to close by the end of the year.

It has some well-funded competition in the likes of Munich-based start-up Lilium, which has raised $375m to date. Lilium too is targeting the lucrative air-taxi sector but it has taken a much more hands-on approach, building and maintaining everything from the ground up, including the final ride-hailing app itself.

By contrast, Vertical hopes that its reliance on partnerships, predominantly with British firms, will allow it to leapfrog the competition.

“We’re certainly not going to build our own vertie ports, we’re not a civil engineering company,” says Cervenka, who was Rolls Royce's head of future technologies prior to his departure.

“We’re not going to do things like financing and in terms of the customer facing side I think we’ll partner in some form.”

The consumer-facing side is undoubtedly the most-interesting. While Cervenka believes many of Vertical’s early eVTOLs will be sold to “high net worth individuals”, eventually the goal is to get them into the hands of the general public.

This will likely look much in the same way that booking an Uber does, except don't expect it to arrive at your door. Instead, the flying vehicles will make use of existing helipads and vertie ports. Vertical claims its vehicles are around 30 times quieter than a traditional helicopter, which should help assuage some fears over their noise pollution.

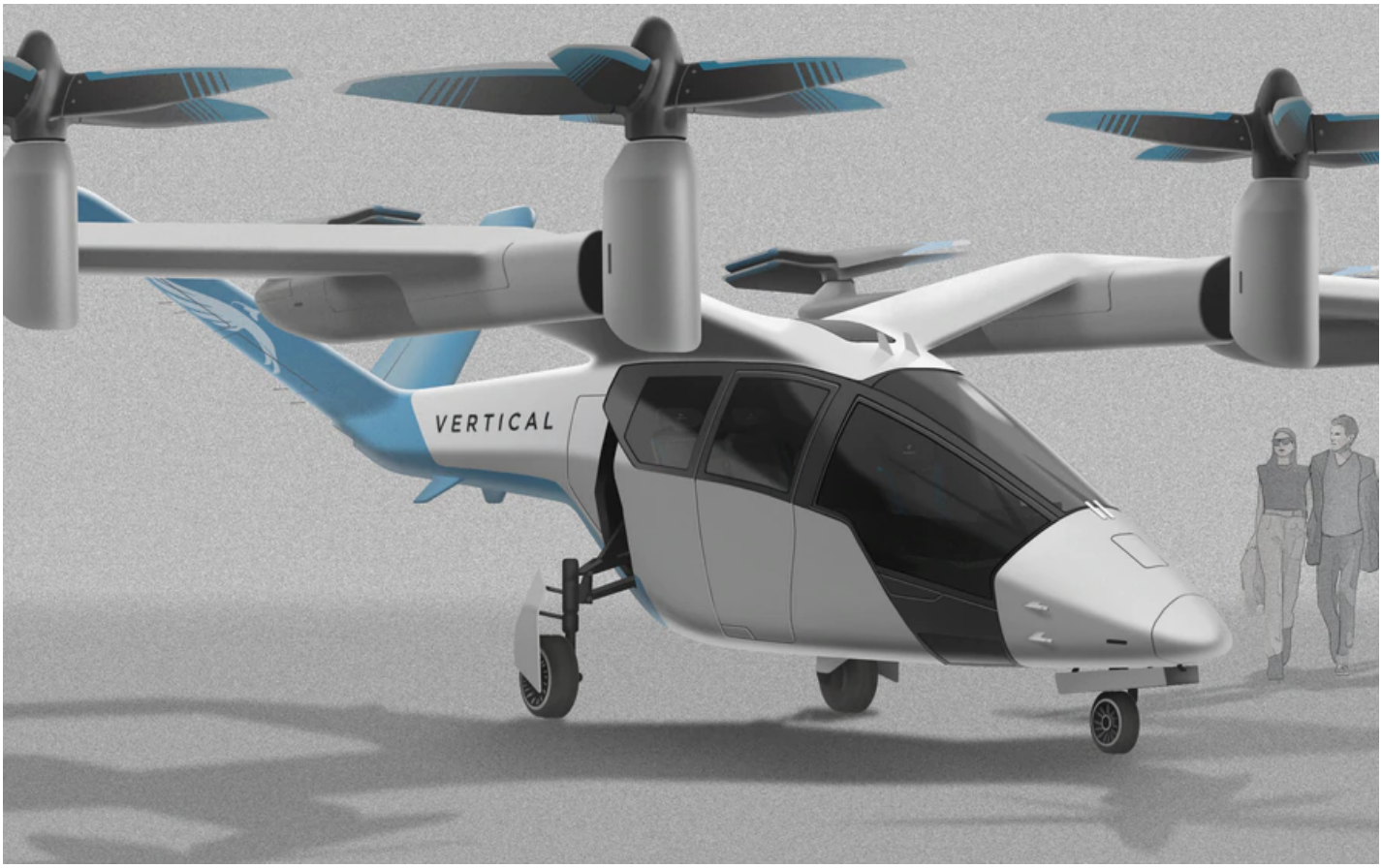
Cervenka is coy on a deal with a ride-hailing company.

"We're not at liberty to say yet but watch this space," he says.

Any deal with a ride-hailing firm is unlikely to be exclusive on either side he says.

"I think ultimately, there will be lots of options. So we're not going into any kind of individually exclusive relationship," the Vertical chief says.

"But you know, there are different parts of the world. One of the nice things about these vehicles is actually there's lots of different use cases. So it's important that we've got that ability to provide our aircraft into those different use cases."



The VA-1X will carry five passengers | CREDIT: Vertical Aerospace

The advent of the eVTOL industry has ironically been heavily dependent on the development of electric cars, a sector that could be considered something of a foe.

Where once a thing of pure fantasy, the days of the Jetsons soaring through the skies may finally become a reality. Vertical seem determined to bring the icon of the 1960s sitcom to fruition while making Britain a leader in the process.

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