



## Vertical Aerospace Analyst Presentation

Conference Call Transcript

September 22, 2021

### **Why Vertical - Stephen Fitzpatrick**

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Thank you all for joining us today. My name is Stephen Fitzpatrick and I'm the founder and CEO of Vertical Aerospace. We're here to show you why we believe Vertical is the only eVTOL company that has both the engineering capability and the right business model to be successful in this sector. I will introduce my colleagues in a moment, but before I do that, I know a lot of you folks probably won't be familiar with my story, so let me take just a couple of minutes to let you know how I got here, what inspired me to launch Vertical, and why I'm so high conviction on the opportunity in electric aviation and eVTOL in particular.

#### Slide – Lead by a Proven Entrepreneur

Before launching Vertical, I successfully built a multi-billion-dollar revenue business called OVO Energy after years of studying how de-carbonization of the power sector and digitization of the consumer experience would completely disrupt an entire industry. I launched OVO Energy in 2009 and I've grown it into a six billion dollar revenue business with five million customers in a heavily regulated industry. I funded it with my own capital and boot strapped the first five years, building a lean and highly productive organization. I'm no longer involved in the day to day running of that business, but I remain a majority shareholder of the company. I know what is required to build a winning organization and significant value for shareholders, manage risk, manage costs, and work within a heavily regulated environment. I'm not a serial entrepreneur, but I was so high conviction on the opportunity at Vertical that I brought in a professional management team to run OVO so I could concentrate my time on making Vertical a huge success.

Investing more than a decade in understanding how to help consumers reduce their carbon footprint led me to a significant realization. The technology exists today to de-carbonize almost every part of our lives, apart from flying. After spending much time understanding the constraints in aerospace, I came to the realization that eVTOL was going to be an amazing opportunity to bring electric technology to aviation, to create vehicles that would not only de-carbonize how we fly, but completely transform how we think about travel. To date, I've personally funded most of the capital in the company. I think about the business as somebody who has skin in the game and have designed a business model to take advantage of the enormous opportunity but also to do so in a disciplined, executable way.

To summarize, we've built our business based on existing technology to work within existing regulations and to use existing infrastructure.

#### Slide – Today's Speakers and Agenda

The individuals presenting today are part of a much larger and exceptional team who have joined Vertical over the last five years. We have truly world class engineers that are based in Bristol, led by our president Michael Cervenka, who has been with the business since 2019. Prior to that, he spent 20 years at Rolls Royce, where he was head of future technologies, and today he will talk through our key technology decisions and how these differentiate our business. Paul Harper heads up certification and has been with Vertical for the past four years. Prior to this, he was with Airbus for more than a decade, where he was the



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UK's chief air worthiness engineer for the A 380. He will describe why we're so confident on our path to certification.

Eduardo Puerta Dominguez, our chief commercial officer, was formerly the CEO of Airbus's urban air mobility business and will provide an update on our customer engagement and the significant progress we have made on building our forward order book. Finally, Vinny Casey, our CFO. He's worked alongside me for nearly a decade. He was the CFO at OVO, playing a key role in helping grow the business from a standing start to where it is today. He will talk you through Vertical's unique business model and financial metrics.

### Slide - eVTOL is a \$1tn Market

Urbanization is the biggest trend of the 20th century. As populations continue to grow, especially in emerging markets, this trend shows no signs of slowing down. The technology that helped us build the world's greatest cities -- electricity, steel, concrete, and the automobile -- continue to support the growth of urbanization, but it is coming at a terrible cost. Our cities everywhere are grinding to a halt. The average traffic speed in midtown Manhattan reached an all-time low in 2018 of just 4.7 miles per hour, and it is not nearly the world's most congested city. It's also damaging our health. Air pollution is now a greater cause of death globally than smoking. But we have simply reached the point where creating additional transport infrastructure, whether connecting urban neighbourhoods or local city pairs, is becoming impossible. There is simply not enough room left to build more bridges, more tunnels, more freeways or railways.

Where new infrastructure is possible is becoming prohibitively expensive. In the UK, the flagship rail project HS2 connects London and Manchester, a distance of just 220 miles. It has already reached the projected cost of \$150 billion, 250% over budget, and it's still years from completion. We need a new solution.

### Slide – This Is Not What The Answer Looks Like

This is not what the answer looks like, some futuristic technology or approach that still needs to be proven, yet alone certified. The reality is you can't take a new battery that exists somewhere in a lab and put it straight into an aircraft.

### Slide – The VA-X4 is the answer

We think the answer looks like this, a vehicle that's capable of flying four passengers, 100 times quieter than a helicopter, 100 times safer, 100 miles, and all with zero carbon. We are using existing technologies that are commercially available today. We have assembled the world's leading aerospace engineering team and working with some of the world's best companies that have certified aircraft and their components many, many times before. That is what takes this from being a moon-shot project to an engineering reality and is what I believe is the biggest differentiator between us and our peers in the eVTOL sector.

I founded Vertical, before anybody had heard of eVTOLs. But over the last 12 months, it's clear that a huge amount of excitement is being generated and more and more people are becoming aware of the opportunity ahead of us.

### Slide – Significant Advances in Technology

So, what has changed? The fact is, we've reached an inflection point in the energy density of lithium ion batteries, with the energy density increasing over 50% in the past seven years while costs have fallen by 80% over the same period. 270 watt hours per kilogram translates into a useful mission distance of more than 100 miles. The falling price of batteries means that the vehicle operating cost is now just above one



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dollar per seat mile. And, these are numbers that are based on technology that is commercially available today, not something that still needs to be proven or industrialized for production.

This means this amazing technology will soon be available and affordable to urban citizens all over the world.

### Slide - Why Vertical?

Why do we believe we will be successful? As you can see here, there are four clear and compelling reasons.

The overarching theme is our unwavering focus on the quality of our engineering and how this informs our entire approach.

First – we are really confident in our ability to certify this aircraft.

The number one challenge in our industry is simple. It is not selling the vision... It is not in proving that business model works... we all know that flying over traffic is an easy sell. It is not even in demonstrating that the technology works. It is in building aircraft safe enough to meet the world's most stringent safety standards, and earning the trust and confidence of industry partners, regulators and of course, passengers. Safety is priority one, two and three, and there are simply no shortcuts. In this industry, experience really counts and is why we have focussed on building the world's most qualified aerospace team, with an unparalleled track record and delivering certified aircraft and propulsion systems.

Alongside this, we are working with a world-class roster of engineering partners.

Second – we have an unrivalled order book and global distribution capability. We have agreed already one thousand three hundred and fifty aircraft covering key markets such as the US, the UK, Europe, Japan and Brazil.

These contracts are of course conditional on us certifying the aircraft, but they represent powerful validation of our vehicle design, certification approach, technical capabilities and the size of the global market opportunity.

No other eVTOL company has this volume or geographic reach.

Third – our asset light approach results in capital requirements less than half of our peers. Our approach means working with the existing aerospace ecosystem, respecting established engineering processes and leveraging mature and proven supply chains. Partnering with the likes of Rolls-Royce, Honeywell and GKN not only de-risks our path to certification but it also allows us to leverage their incredible design and manufacturing capabilities.

And lastly - we are realistic on the current market backdrop and we've valued the business sensibly and even modestly based on our strong expected earnings and cash flows and the significant momentum we have in our business.

Before passing you over to Michael, I am delighted, proud and humbled to be able to share with you messages from some of our key partners, who wanted to tell you first-hand why they are so excited about working with Vertical.



## Key Technology - Michael Cervenka

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### Slide - Introduction

As you can see from that video we have really strong relationships with world leading organisations that we are really proud of.

My name is Michael Cervenka and as Stephen said earlier, I was previously Head of Future Technologies at Rolls-Royce. I have 25 years of civil and military aerospace experience and I know what it takes to get the best engineering talent and to get these aircraft certified and flying. I have no doubt we will be successful.

There are a number of reasons for this confidence, much of which Stephen has already touched on. But today, I will focus on providing more detail on our technology, and the key decisions we have made that we believe give us both a competitive advantage and significantly increase our ability to successfully deliver on our plan.

### Slide – Successful in Flight

Firstly, we have been doing this for the last six years and have already successfully flown two prototype aircraft multiple times. You can see here on the left the VA-X1 and on the right the VA-X2, which we flew in 2018 and 2019 respectively. These are not models or mock-ups but full-size proof of concept aircraft that our engineering teams have designed and built from scratch and tested under regulatory conditions.

The VA-X2 demonstrated superb aircraft handling qualities during a deliberate motor out, which is a critical step in EASA certification, and many of the lessons learnt from these previous two designs are being translated over to the VA-X4 which is currently being built.

We have actually built multiple subscale drones before these proof-of-concept aircraft so we have been continually learning and refining what our final product might look like. The drones and full-scale demonstrators delivered a huge amount of learning for us on areas such as flight control systems, battery and electric powertrain integration, not to mention developing the processes and capabilities to successfully deliver a safe flight test programme under regulatory approvals.

We have gained a great deal of experience and insight from this long-term programme and this, I believe, puts us in a very strong position relative to our peers.

### Slide – Evolved by Design

Fundamentally, there are a number of different ways of configuring eVTOL aircraft in order to take advantage of electric distribution systems.

We took the view a long time ago that the product we would take to market needed to be a winged vehicle, however to aid our learning our early aircraft testing for the VA-X1 and the VA-X2 were multicopters.

These are really useful technology demonstrators. However, they are relatively simple vehicles and are far less capable of being commercially successful in most markets.

They were part of a useful research activity for us as we looked to develop the VA-X4, which is the aircraft you see on the right.

The move to vectored thrust is not an easy one - and I am happy to give more detail later on this in Q&A - but one of the reasons we are confident on this move to vectored thrust is the technology and certification



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experience Honeywell is bringing to us on flight controls. Any organisation trying to do this alone will face some real barriers without Honeywell's decades of expertise?

So while we are seeing a coalescence around vectored thrust in the sector, the choices we have made in how to go about this are very much different to our peers.

### Slide - VA-X4

Here you can see the design of our VA-X4.

We very deliberately based this vehicle around currently available technology and a view informed by our certification experience that regulators will not switch to embracing things that are unproven.

From a tech perspective, we have designed this aircraft with safety and economics in mind in order to capture a mass market opportunity.

We have deliberately designed a piloted aircraft, as we are convinced that this will be mandated by the regulators and expected by the public in most parts of the world for well into the next decade. This drives a need to carry up to four passengers for the economics of the aircraft and the sorts of flights we will be making.

It will have zero operating emissions, be near silent in flight and capable of travelling 100+ miles at speeds of up to 200 miles per hour. Critically, the inherent efficiency of the aircraft also makes it ideally suited for high value shorter missions, such as the typical 15-to-25-mile airport to city centre routes, expected to enable rapid battery recharging and aircraft turnaround in 10 minutes or less.

### Slide – Over 120 Engineers with Extensive Experience

As Stephen has already touched on, we believe the calibre of the team we have been able to attract to Vertical is second to none.

We knew from the outset that certification would be the greatest initial challenge and that is why we have deliberately recruited people who have experience designing and certifying aircraft.

In total, they have cleared 30 plus aircraft and propulsion systems, and collectively, we have more than 400 years of experience in Formula 1, automotive and technology sections, adding technological expertise, performance and agility to our team.

As you can see from this slide, these are senior people who have done this work at the most senior level in their previous organisations.

I will call out a few:

Our Head of Engineering Eric Samson was Engineering VP and Chief Engineer at General Dynamics, certifying the structures of all the latest Gulfstream jets and an EASA approved Head of Design Organisation. Tim Williams spent the last decade as Chief Engineer for Rolls-Royce and Paul Harper was UK Chief Airworthiness Engineer at Airbus. Our Head of Battery, Dr Limhi Somerville, led much of the battery systems development at Jaguar's electric vehicle program and he leads the eVTOL EuroCAE battery certification group that is defining all the battery standards for electric aviation for EASA.

These individuals exemplify the level of experience in our business and a strong track record of delivery that we are fortunate to have across the company.



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### Slide - Key Technology Choices

The experience of this team has enabled us to make a number of strategic technology choices that define our business model.

These choices enable us to focus on areas that are strategically important to our business while partnering with world class experts where technology already exists. This also has the added advantage of significantly reducing our capex and maximising our certification confidence.

Let me explain.

At the top of the slide you can see that both batteries and rotor technology remain our in-house expertise. We made this choice because the novel nature of eVTOLs means there were no existing partner solutions available for these key components. They are also both areas where the IP is both strategically important and fundamental to the economics of the vehicle. Put short we don't believe anyone can do it better than us.

Where world class partners are already successfully building the key components that we require, we have chosen to partner with them. This is not only because they have a proven track record of building and certifying these components but also because they have each invested years and billions of dollars to develop this technology. Why try to add complexity and cost to our business model if it's not necessary?

Rolls-Royce has a world leading electric propulsion unit and their aeronautical pedigree is second to none. They already have 1,500 flight hours of electrically powered aircraft under their belt, and are developing a bespoke, lightweight, compact system for the VA-X4.

GKN has the manufacturing technologies to produce the wing that we require, and Honeywell has industry leading safety critical flight control hardware and software expertise from, among other things, the F35 joint strike fighter. It's hard to overstate just how complex the flight control systems for these novel vehicles are, nor the huge certification challenge involved and I'm grateful that we are able to bring to bear Honeywell's many decades of broader experience in this field. Solvay brings significant proven capabilities in lightweight composites across aerospace, motorsport and high end automotive which are critical in meeting the certification requirements and enabling the mass manufacture of the vehicle.

Vinny will provide more specific detail later on how these decisions dramatically reduce our capex requirements.

### Slide – Vertical is Standing on the Shoulders of Giants

This slide brings the example to life for you – the VA-X4 is designed around existing technology and best-in-class components developed by our industry specialists.

You can see the number of years each partner has invested in developing these technologies.

This is work we have not had to do or spend on.

I will break down in more detail the technology and systems we are focussing on in house and I will go through each of these in more detail over the next four slides.

### Slide – Proprietary Battery

There is a perception that the battery cell technology we are using is unproven technology. The truth is the battery cells are already in commercial automotive applications. This is critical as the regulators



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require proven repeatable high quality mass cell manufacture, as well as enabling us to source cells at competitive prices.

What we are doing however, is bringing all of the automotive capabilities and technologies and focussing on how to apply these to an aerospace application. This know-how that we've been building since the company was founded in 2016 is a very big differentiating factor for Vertical and is key to our success.

The two key factors we are focussed on are the fact that aerospace regulations are different from a safety perspective. This is why we have done a huge amount of safety testing under the EASA standards which are much more demanding than the FAA standards.

It is why we have already carried out crash and thermal runaway testing under EASA and CAA supervision and completed extensive safety testing on these bespoke batteries

The second key factor is optimising the battery system weight and performance. The battery is the single largest contributor to aircraft weight, and we are targeting a class-leading battery pack energy density of 220 watt hour per kilogram using commercially available high energy dense lithium-ion battery cells at 270 watt hour per kilogram. We are leveraging Solvay's lightweight, fireproof composite materials in a battery system that has been highly optimised around the specific requirements of our aircraft. In addition, we have been developing state-of-the-art charging and battery health diagnostics capabilities in conjunction with Warwick Manufacturing Group – a world-leading battery research establishment here in the UK. This enables us to safely utilise the maximum available energy from the battery and optimise when we swap them out, minimising operating costs.

### Slide - Revolutionary Rotor Design

Our advanced rotor technology minimises noise but maximises safety to cope with, for example, bird strikes. As with everything we do at Vertical, we arrived at our unique design with an approach centred on engineering expertise. We have the former top expert on composite fan blades from Rolls-Royce. We have top university partners researching aerodynamics and noise. And we're running state of the art simulations, large- and small-scale tests, from which we learn and constantly iterate our designs.

### Slide – Optimised Aerodynamics

Optimising aerodynamics is critical. We start with state-of-the-art aerodynamic simulations, ranging from individual parts of the aircraft all the way up to modelling the entire vehicle. These can be hugely computationally intensive calculations, and we are fortunate to have Microsoft as a strategic partner and investor, supporting us with the very latest in cloud based high performance computing technologies.

We then validate these simulations. An example of this is the precision-made VA-X4 scale model shown undergoing testing at the Airbus wind tunnel facility up the road from our Bristol site.

### Slide – Modular Design

One of the key features of the VA-X4 design, and what we have planned from the outset, is the recognition that we will see continuing advances in technology and a wide range of applications for these aircraft.

We have therefore designed it to be modular, upgradable and scalable.

This includes the ability to incorporate new technologies as they become available, for example by retrofitting improved batteries or increasingly automated flight control and avionics systems. The aim here is to ensure it is readily upgradable for other missions that we know there is demand for.



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### Slide – In Summary

So all in all we have:

- Proven expertise,
- The best team,
- A design that can address the largest market,
- And a strategic approach on what tech we develop internally and how best to leverage world-class external partners.

With that, I will now open to Q&A on this section.

### **Q&A - Michael Cervenka**

Stephen Fitzpatrick, Founder & CEO, Vertical:

Thanks for joining us today. We're really excited to be with you today from London and able to answer all your questions. We'll been taking questions from our speakers one at a time today. So we'll jump straight away to our technical questions with Michael Cervenka. We've had lots of great questions come through already, but please do ask questions now as we go along. I think there's a box -- should be on the left-hand side of your screen -- I think. So if you can file them through now, we'll try to get through as many as possible. Michael Cervenka, the first question we have is from David Zazula from Barclays. And he's asking: "What is the expected maintenance check schedule for the X-4, and how long is the aircraft out of service when it needs checks?"

Michael Cervenka, President, Vertical:

Hello, everyone. Thanks, Stephen, and thanks for the question, David. So I think this is one of the real beauties of an electric aircraft. We have a much simpler vehicle [inaudible]. But on the really, sort of high-utilization missions where we do maybe 30 flights a day, we would expect to be swapping that battery two to three times a year. In fact, we designed the aircraft so that, as a major activity, it is an overnight job. And we would expect to take the aircraft down to service. So a lot of the maintenance that we can do is actually a pretty quick turnaround.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Thanks, Michael. Next question we have: "What range do you expect from the X-4, how much range do you think it could achieve with the current / 2022 battery technology?"

Michael Cervenka, President, Vertical:

So we've actually been doing a lot of work to optimize this. From the latest work that we've done, we can get batteries that are about 270 watt hours per kilogram at the cell level, and at the pack level, we are now predicting close to 220 watt hours per kilogram. With that battery energy density, that takes us to around a hundred plus mile range. And really we're using existing technologies now because that's what's going to be necessary to go through the initial certification, as we go in service we will bring in future upgrades so that range will extend over time. And naturally as we replace the batteries, we'll constantly be upgrading the performance of the vehicle through its lifecycle.

Stephen Fitzpatrick, Founder & CEO, Vertical:

So, another question. "Some of your peers are suggesting they can access a higher energy density battery. Why are you at 270 watt hours per kilo?"

Michael Cervenka, President, Vertical:



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So I think one of the really important things for me is to base the vehicle on what is commercially available, and there's a couple of reasons for this.

The best is just a cost of ownership perspective. If you are talking about batteries that are in the lab, it takes a number of years to commercialize those - to then commercialize those at scale, through all of that period you're going to be paying a huge premium on battery costs, and so that translates into a much higher operating cost for the end user. The other thing, I mean, we, I think I said it in the video, we lead the standards committee working on batteries for the European regulations, and we talked a lot to the regulators, and one of the things that's really important for them as a demonstrated mass manufacturer of batteries that really show the high levels of quality and repeatability. And so that proven manufacturer capability from a certification perspective is really important. So for us, those are really the two key drivers for basing the aircraft on today's technology. But as I've said Stephen, these new batteries coming over time, we would expect to certify the new packs in order to operate the vehicles.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Good. Another question just in line from Charles Armitage. Thanks Charles. "Battery energy density is likely to be a big key differentiator. Please talk through the differences between your expertise at assembling the packs versus buying in the cells."

Michael Cervenka, President, Vertical:

So, I've already touched on why we're buying in the cells. We need that mass manufacturer, and it's really critical as a key cost element for battery. Really, the bit we've focused on is, we've hired brilliant people from automotive, but then we are looking at how do we take that automotive knowledge to then certify a pack that meets the aerospace safety standards. And in fact, the European standards are much more demanding than the current FAA rules, and so this includes things like we have to demonstrate that we can contain any fires, we can withstand crashes, that the aircraft and continue to fly safely and complete its mission.

But then we also obviously have a huge amount of knowledge about specific vehicle requirements, and this is very tied to our concept and our aircraft, and so really we are tailoring and optimizing the battery pack around our mission. That includes bringing in Solvay's lightweight composite materials, which gives us the weight and fire protection, but then things like the thermal behaviour of the batteries, cooling systems, really optimizing that for our vehicle, and that ultimately translates into the maximum performance and range of the vehicle, but also a huge amount of knowledge we've been developing around the state of health, deterioration and smart charging so this all translates into a leading edge cost of ownership and capability of the vehicle.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Thanks, Michael. On to a different subject now, we've got a question coming in about the weather, something that British typically like to talk about a lot: "When do you expect to be able to operate in adverse weather or low cloud covering?"

Michael Cervenka, President, Vertical:

So, inherently, our vehicles is what is called instrument flight rules capable. This is a real advantage to the partnership we've got with Honeywell. Honeywell brings in really state of the arts avionics systems, so cockpit displays and the information that allows the aircraft to be flying in all sorts of weather conditions.

From a certification perspective, we will initially certify the aircraft under visual flight rules, and so you have to have good weather and visibility, but then within about six months of certifying, we then effectively go through an additional process to then clear that aircraft for instrument flight rules to be able to operate it in rain, low clouds, etc.

Stephen Fitzpatrick, Founder & CEO, Vertical:



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Okay. Thank you. Back to batteries. Unsurprisingly, David Strauss. Thank you very much: "What risk mitigation systems will be in place in case of thermal runaway? Boeing had to put a containment box around the battery in the 787."

That is a really excellent question, I think you have plenty to say on this...

Michael Cervenka, President, Vertical:

...it is a really good question. So actually one of the requirements of the EASA rules is we have to demonstrate the aircraft can cope with effectively two cells simultaneously exploding, and we have to contain that. This is where the Solvay high temperature composite materials inherent in our battery design come to play, and in fact we have already done demonstrated thermal runaway tests with EASA and the Civil Aviation Authority witnessing those tests. And we've since done a whole load of testing around Solvay's material combination to prove that it can withstand the maximum temperature you get in a runaway event.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Yeah, and I think it's fair to say, as far as we know, the only company in this space that has done witness battery testing and destructive testing with an air authority. So it's clearly something that's right at the top of our list of the things that need to be proven on this aircraft. One in from Louis Raffetto: "Could weather impact your company's speed and range capabilities?"

Michael Cervenka, President, Vertical:

Not significantly. So there will be some restrictions over, said wind conditions, that's more around, crosswinds and take-off capabilities, but the reality is the level of sort of wind conditions you typically get is not inherently affecting the range of the vehicle.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Excellent. I think that's about all we've got time for on the ticket. We're going to have a general roundup later on. If there's anybody that has any questions we'd like to put to Michael on the technical material we've covered, you should have time to do it in the end.

### **Certification Programme – Paul Harper**

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#### Slide - Introduction

My name is Paul Harper and I am Head of Certification. I've been with the company since 2017 and before that I was with Airbus for 12 years working in roles including UK Chief Airworthiness Engineer for the A380 and Head of Engineering for the A321neo wing

#### Slide – Outstanding Certification Team

Vertical recognised very early on that Certification would be crucial to the success of the company, hence why a Head of Certification was recruited in the company's first round of expansion in 2017. And in that time we have been steadily and consistency building our capabilities, developing our learning and how we collect our evidence, and building our working relationship with the Authorities.

#### Slide – Experienced in Build and Testing

As Michael mentioned, our learning has evolved and moved us to the VA-X4 architecture. That learning and certification de-risking continues though and we have our next prototype aircraft in production and are



implementing further capabilities to allow us to test, learn and gather certification-quality evidence more quickly.

Slide – VA-X4 Prototype Aircraft Expected to Fly Q1 2022

As you can see from the images on screen, we have major structural components coming out of mould with our suppliers, some images of the powertrain and wind tunnel testing and an illustration of the bespoke simulation facility that is being built in our facility as we speak – this simulation facility has been designed to meet the applicable requirements and guidance to allow it to produce certification quality data.

Slide – Clear Roadmap to Certification

We now have a clear roadmap to certification.

Our approach to certification has meant that we have deliberately designed the aircraft around meeting the most stringent global safety standards being set by EASA and the CAA. The certification basis is set out in is the EASA SC-VTOL, which gives a really clear, transparent, and level playing field for certification applicants – we have absolute clarity on what the authority expects of our certification basis.

Both we and EASA recognised early-on the mass market potential for eVTOLs and that with the numbers of vehicles expected in service, operating in exacting urban environments new levels of achieved safety would need to be defined and realised to protect the passengers and public. This has resulted in the “enhanced category” of VTOL vehicles that certification will be required against to operate in an urban environment. This requires the same level of system safety as that used for large transport category aircraft as well as enhancements over what is required for aircraft.

We have all rightly come to expect and trust being safe on (or overflown by) large commercial airliners and this is what the VA-X4 will deliver by following the EASA requirements.

To put this into numbers, these safety levels equate to system failure rates leading to a crash of no more than one in one billion per flying hour. This is 100 times safer than required for an equivalently sized helicopter.

To achieve these enhanced certification standards is a significant undertaking, and as Michael outlined, we have very deliberately selected best-in-industry aerospace partners, experienced in certification and qualification, to partner with and support us in critical areas. We chose these partners because we believe they will significantly de-risk our certification programme by bringing years of specialised certification experience and capability.

We will work with the Validating Authorities as we will with the Certifying Authority to ensure that regional needs are met and I will touch more on this in a moment. This is planned for and the Certification Team is structured to provide dedicated support to the Validating Authorities.

Slide – On Track for Certification in 2024

We have already passed several important milestones laying the foundations to our certification. We have been in communication with our Airworthiness Authorities and are working along a clearly understood path to certification for some time. This is more than just about showing a safe design, it is about showing we have a competent company both in our ability to design and in our ability to produce aircraft.

Our CAA DOA, an accreditation and recognition that we are a company able to meet the strict requirements needed to design aircraft, is in process and on track. We have been allocated our DOA number on a provisional basis, and their team is ramping up to finalise the audits of the Governance



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Manual and Assurance System we have submitted. The DOA enables Vertical to hold a Type Certificate – and by extension allow our customers to obtain Certificates of Airworthiness for their aircraft. It is core to the company ability to generate revenue and we are progressing well with this, and we look forward to sharing and celebrating passing this milestone in the near future.

Our VA-X4 prototype will operate unpiloted and we expect piloted test flights in 2022. To this end, we are working with the CAA and have a clear route to obtaining the necessary flight permissions for each test phase.

Full EASA/CAA certification is currently expected to be achieved at the end of 2024. Our aircraft will be CAA certified and concurrently undergo a foreign validation of the Type Certificate with EASA. We have aligned our Certification Basis with EASA requirements so we know we will meet EASA expectations.

### Slide - Working In Partnership With EASA

In order to accelerate the Industry Consensus Standards that support the requirements and regulatory Means of Compliance that they have established, EASA has teamed with Eurocae, with involvement of other Airworthiness Authorities, standards bodies and industry, to set up a Working Group on VTOLs. I am pleased to say that when we look at the five key working groups that are establishing eVTOL industry consensus standards Vertical and our partners are playing key roles in each and in the case of Electrical, chairing that group.

Our working in partnership with EASA and Other Authorities in this forum cannot be underestimated. Vertical is helping to write the requirements for eVTOL vehicles and in so doing is able to ensure that our designs meet the critical safety standards set by our regulator.

### Slide – EASA Certification Expected to Unlock Global Market

As already noted, EASA intends to re-enforce the Certification requirements for VTOLs, to ensure new levels of safety are achieved in the very demanding operational environment of mass scale urban air mobility. This initiative is something that Vertical fully endorses as ensuring public safety and continued confidence in the mode of transport is essential to allow the sector's mass scale growth to proceed as expected.

This does mean that the EASA SC-VTOL goes above and beyond in some areas from what is currently called for in either the CS/FAR 23 or 27, the standards that would be called upon if a Certification Basis were developed as allowed for by the FAA, and yes, it adds additional challenge to the design.

I have already said there are no harmonised standards for VTOLs and that we will have to work closely with all Validating Authorities to understand the specific certification route and needs for that country or region in introducing an essentially new mode of transport.

The advantage of taking the EASA approach for our design requirements - and this is really critical - is that there is a very high probability that these requirements, and by extension our design and justification documentation, will map across directly to the Validating Authority. This is not necessarily the case the other way round. In short, if you want an EASA Validation to sell aircraft into Europe, you will need to address any shortfalls between your Certification Basis and SC-VTOL (including Accepted Means of Compliance). In some cases, such as rotor cascade or critical parts, this could result in extensive or impossible redesign for those coming it at from a different perspective to ourselves.

### Slide - Summary

So, in summary, we and our key partners have been working along our path to certification with our Airworthiness Authorities for some time, and we have accumulated experience from our prototypes and a



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clear understanding of the design requirements. We know what is expected and are continually working to this so we can significantly de-risk our Validation exercises and move closer to certification.

With that, I will now hand over to questions.

### **Q&A – Paul Harper**

Stephen Fitzpatrick, Founder & CEO, Vertical:

Great. Thanks, Paul. And Paul's right with us here today in London. Certification is, as I've said, priority one, two, and three for any company seeking to enter this new eVTOL space and we're delighted to have somebody of Paul's experience and expertise leading our cert efforts. So we've got some great questions coming through, quite a lot on the difference between the FAA and the EASA, so just to start with that one. Miles Walton has asked, "When will you receive the EASA cert basis as the equivalent to the FAA G-1?"

Paul Harper, Head of Certification, Vertical:

Okay. Thank you very much everyone for joining us today. I think we've been little bit surprised on our side just how much attention the FAA CRI-1 announcements have been generating. It is a basic agreement between the authority and the applicant as to what set of standards they are going to go and show compliance to. Now, EASA has already made that really, really clear to us. The SC-VTOL that's been issued is absolutely clear, and that really does form our certification basis. So we're in a good position on that. Thank you.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Thanks, Paul. Next question is from Kristine Liwag. I hope I've pronounced that correctly. She asks, "EASA pursued the path special conditions for VTOL and FAA between part 23 standards. If your aircraft is certified under EASA, will it be able to operate in the U.S.?"

Paul Harper, Head of Certification, Vertical:

That's a really, really good question. So both routes that EASA are taking and the FAA are taking are there to lay down the requirements that the applicant needed to show compliance to. In the case of EASA, the special condition VTOL is a blanket standard or a blanket set of requirements that all applicants can use to show compliance to. And that is a level playing field approach. The FAA is pursuing a slightly different route, which under the part 21 allows an applicant to propose their own requirements for the authority to accept. And these are likely to be a good mix of part 23 and part 27 with maybe some part 29 aspects being swept into that.

In terms of an EASA-certified or CAA-certified aircraft being able to operate in the U.S., it all comes down to showing that we've got, or the applicant manufacturer has got coverage of all the FAA requirements that the FAA are concerned about. So we strongly believe that the EASA SC-VTOL will address any and all concerns that the FAA may have with the types of operation. It's then a case of mapping our justification documentation that we'll be producing to the CAA and EASA over to the particular requirements for the FAA, so that they can run their validation activity. And yes, once we've got the validation, there will be no stopping our aircraft being able to operate in the U.S.

Stephen Fitzpatrick, Founder & CEO, Vertical:

So would they be certified by the FAA or they be passported across?

Paul Harper, Head of Certification, Vertical:



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It's an endorsement of the type certificate that is issued by the CAA under the EASA SC-VTOL design requirements. So, yeah, it's an endorsement that we have shown enough to meet the high standards that the FAA might expect.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Therefore, we'll be able to fly in the U.S.?

Paul Harper, Head of Certification, Vertical:

Yeah; therefore, we'll be able to fly in the U.S. No problem.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Does it work the other way around?

Paul Harper, Head of Certification, Vertical:

Not necessarily. So EASA has put in some fairly challenging and new requirements into the SC-VTOL, especially around cascade failures, no single-point failures, common mode aspects as well. What it ultimately boils down to is if you wish to operate your aircraft or to sell your aircraft into an EU-state country, it will have to pass the requirements laid out in SC-VTOL. If you've designed your aircraft around a certification basis, including one that hasn't taken into account all of these EASA requirements, and all of these new parts, you are potentially going to struggle later on to get that validation.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay, thank you. Question here, about avionics and flight control software, and I think it's an area that we've all been paying critical attention to. Based on the development of flight controls and software with Honeywell, in what timeframe do you see an eventual path to certification for a pilotless vehicle, and what are the major roadblocks to autonomy? So, I'm going to take the first part of that question myself, Paul, and then you can talk a little bit about what are the roadblocks.

So, we've based all of our thinking, the business model, the design of the aircraft, and even the team that we've assembled around a simple premise that we want to work with technology that we have available today and regulations that exist today. I think we've all been somewhat surprised at how long it is taking to see autonomous road vehicles. There was a lot of promise of this over the last two or three years. And we expected it was not far away. Going back to the principle in aviation that this is not about proving that it works, but about proving that it will never fail. We've taken the decision that we see that it will not be in this decade that we will have the regulatory framework or standards defined that would enable us to develop autonomous aircraft. On a much simpler note, we've taken the decision that we simply don't expect very many passengers will be willing to fly in an unpowered vehicle for the foreseeable future. And so we very definitely thought and are aware of the fact that autonomy will change the economics of the business model dramatically, but this is in our view so far away at this stage that it's not something that we're focused on. Maybe you want to talk a little bit about the mechanics of what would be required very briefly.

Paul Harper, Head of Certification, Vertical:

I think that Steve has done a fantastic job of answering that question, and we do have excellent partners with Honeywell who will enable us to access when we get to that stage. The significant challenge really is in proving the software and the algorithms that are running the aircraft in the fully autonomous mode are actually able to cope with every single foreseeable possible scenario. And when you're talking with AI and non-deterministic solutions, trying to demonstrate to the authority's satisfaction that that is going to work every single time to the standards that they expect, and that the public expect, is significantly challenging. There are various industry working groups working towards that, but I see that as being at least in 10 years, 10 years plus down the line.



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Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Another question from Charles Armitage. Thank you very much, Charles. The 777X has not passed the correct standard to allow the flights to count towards certifications. This is test flight counting towards certification. Is there a similar hurdle in EASA and when will the X4 pass it? When will Vertical Aerospace achieve the equivalent of G2 compliance in the FAA?

Paul Harper, Head of Certification, Vertical:

Okay. So I think there's a couple of questions there. Let's take the CRI-G2. So that is going to be, I presume you mean that that is the document that highlights the differences between the EASA certification or the CAA certification and what the FAA are expecting, and how we're going to address those specific differences. We've launched the validation support activity with our local authority, the CAA, and we'll progress to that in due course. We do have a very strong background and a very good understanding of the sorts of areas where EASA and the FAA differ in typical certification programs. And we're designing and capturing that in our own internal design requirements.

In terms of the 777X, for a flight to count towards certification, the aircraft must be sufficiently representative of the design that will go into service. We are designing around, a much smaller aircraft with fewer systems on board, and we are putting a lot more effort up front into nailing down those architectures to a demonstration aircraft. As such, we will have some change between the demonstrating certification aircraft, but potentially not to the extent that the 777X has.

So we are aiming to keep the aircraft of the certification standard, right from the word go. So they should all be able to cope quite easily with that.

Stephen Fitzpatrick, Founder & CEO, Vertical:

I think it's probably worth just summarizing, or trying to put that into layman's terms. We have been very focused at Vertical on understanding the requirements of the aircraft from certification, and then working back from that to help us build our prototype design and so on. So, rather than going from left to right where you start with the basic design, the prototype, and then work towards how you're going to build the certification model, we've gone other way around and, and built what we believe is a really clear understanding of the certification requirements, and then worked back from that. So we expect the three years of work that has gone into the X4 on the drawing board, through multiple computer simulations and iterations, will lead us to a much more straightforward path certification. So I think that is definitely an approach that we think is the right approach in aerospace and one that we think will see us accelerate past some more competitors in years to come.

Okay. I think that's all we've got time for terms of questions for certification. So now we're going to hear from Eduardo, and he's going to say a few words about our commercial strategy and the success we've had with customers, and even some of the announcements that we've made today.

### **Orderbook - Eduardo Dominguez-Puerta**

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#### Slide – Introduction

Ladies and gentlemen, my name is Eduardo Dominguez Puerta. I'm the Chief Commercial Officer at Vertical Aerospace. I joined in May. Prior to that, I was the CEO of Airbus Urban Air Mobility. I've spent six years on the eVTOL space, where I had the opportunity to lead the technology development, vehicle, infrastructure, regulation, and aerospace, and maybe more important to this discussion, I led the setup of ridesharing business, Vroom, that operated during three years in Brazil, in Mexico, in San Francisco, and we've even demoed in Shenzhen. During this six years, I've learned a lot of things. The first thing that I have learned is that it's very difficult for big corporates to disrupt themselves. They might want, but they will need to continuously fight their DNA and conflicting priorities and allocation of resources. They're also



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not well known for speed of execution. The second thing that I learned is that these products are difficult to develop, to certify and to industrialize. You shouldn't do it on your own.

It would take a lot of cash and a lot of risk. It's better to do it with big partners, reliable partners, people that have the experience and can help you through. At the same time, you also need to have the best engineers. Not only the new ones that know about electrification and new generation vehicles, but also you need to compliment with experience or certification. That is really important. The third thing I learned is that going to market is nearly as difficult as developing the planes themselves. You need to create a brand. You need to create a B2C platform. You need to learn how to operate the planes, deal with regulators, infrastructure providers. It's a titanic task. Too much risk. We have actually decided that we shouldn't be doing that on our own. We should creating the right ecosystems with world class partners that can help us in this endeavour.

All these lessons learned brought me to Vertical. I believe we have a great team, capable to take on the challenge. I believe we have a great product, as it has been validated by the market. And I believe we have the right strategy to make this a reality.

### Slide – Leading Sales Orderbook

All that being said, let me now share with you what I believe is the stronger story of the book in the eVTOL market. Since June, when we announce our conditional pre-orders from American Airlines, Avolon and Virgin, we have been able to add additional customers. This is important because we have increased the reach and the typology of those. Adding Marubeni in Japan, adding Bristow and Iberojet from group Avoris.

### Slide – Global Commercial Ecosystem

This is important because this has helped us diversify our customer base and access to different target markets. Some of our customers are airlines. Some of our customers are helicopter operators, lessors, or hotel groups, which shows the huge usability of our products.

### Slide – Compelling Proposition

That dialogue with our customers, and that the clear OEM position in plus services has enabled those discussions with them. And being close to your customer is very important. It informs how your plane needs to be developed, and it informs the type of missions that they will undertake.

### Slide – VA-X4 is Designed and Tailored to Mission

In that sense, we're starting to see three primary uses. The first one relates to big hubs and airports in the world. There are about 50 to a 100 mega-cities in the world with huge airports and traffic of passengers. Airlines can see our products as a way to extend their services, offering their passengers, transit from those hops into their final destinations. We believe that that is going to be the first type of missions that will flourish. And we believe that there's going to be a lot of demand for our products there. The second type of mission that we're talking about with them is a point to point type of mission between cities around 15 to a 100 miles. Actually in the world, they're around 66,000 city pairs within those distances.

And if you imagine trying to filter those into the ones that have a real passenger flow, who help us identify different uses on that regional type of aviation. The third one is around island hopping, is around tourism, is around connecting and offering different experiences to people that today cannot be done with helicopters. Those type of missions are helping us find something beyond our VA-X4.



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### Slide – VA-X4 Product Family

Actually, we're not just developing a plane. We're developing a family of planes. We want to have a single base for certification, but through variants, through different versions and through options, we would like to customize it and tailor to the application of our customers. In that sense, we will explore the creation of medical versions, we will explore the creation of cargo versions, and of course, we will need to adapt our planes to be able to fly in high heat environments, over islands, fulfilling with floatability and leaching requirements, or even in colder or at a higher altitude type of missions.

Now, let me discuss a bit more in detail about those customers. What do they bring? And more importantly, how are we planning together to use our planes?

### Slide – Commercial Partnership with American Airlines

Let me please start with American Airlines. American Airlines have agreed to a conditional pre-order of 350 planes. They have around 200 million passengers per year serving more than 350 destinations, 10 hubs in the U.S. Who could be a better partner there? Let me show you and illustrate how we could use those planes and how we could create business opportunities with them.

### Slide – New York

Let me show you the New York case. In New York, you have Newark, JFK, and LaGuardia. Three major airports. Getting into Manhattan is challenging. Once you're there, if you want to go to Hamptons, it gets also challenging. Today this market is served with helicopters, actually limiting the amount of frequencies and limiting that accessibility of passengers due to the price points they require.

We believe that by introducing a fleet of around 50 planes, we could generate a business of \$100 million revenue per year and transport more than a half a million passengers per year, creating value for them and saving in time. This New York example could easily be replicated in the different hubs like Chicago, Dallas, Los Angeles, Florida, and actually extend throughout the US.

### Slide – UK Joint Venture with Virgin Atlantic

Let's have a look now at Virgin, our UK partner. Virgin has agreed a conditional pre-order of 150 planes. And is working with us to try to bring these operations in Heathrow. Heathrow will be the start. We're defining nine spokes around it, and we're defining which could be the network routes that should be served. We're mobilizing NATS, the airspace service provider in the UK. We're mobilizing the airports. We are supported by UK innovation and research, and we would like to bring those commercial services in 2025. Initially around London, with a real intention to extend them at different regions in the UK.

### Slide – Global Reach with Avolon

Let me now talk about Avolon. One of the largest lessors in the world. Avolon actually is more than a customer. It's a real way to get to the airlines. They're managing today more than 800 planes with an operation of around \$31 billion. This relationship has proven to be successful already, with the placement of a leasing contract between Avolon and GOL, one of the biggest airlines in Brazil with up to 250 planes.

### Slide – Japan Joint Venture with Marubeni

Let's talk Japan and Marubeni, now. Marubeni has agreed a conditional pre-order of up to 200 planes, and will partner with us to try to introduce our products in Japan. Japan has traditionally been a highly technological country with a particular orography that makes mobility a challenge. We believe that Osaka 2025 will be a great opportunity for us, together, to showcase, advance their mobility.



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### Slide – Commercial Partnership with Bristow

We have talked about airliners. We have talk about lessors. Let me now talk about helicopter operators. Bristow, one of the biggest and most-respected helicopter operators in the world, has agreed to a conditional pre-order of 50 planes. This is great news for us, but I believe this is the beginning. They are the first helicopter operator to make the step change towards sustainability. Others will follow. Bristow is a very strong partner to us, not just as a customer. They also provide a capability to operate vehicles in 50 countries around the world and will help us generate additional partnerships to complement capabilities in different regions.

### Slide – Commercial Partnership with Iberojet

Last but not least, Iberojet, from group Avoris has committed to a conditional pre-order of up to 100 planes. They want to bring advanced mobility to the Balearic Islands. They want to bring advanced mobility to the Canary Islands.

We want to explore the catchment area of Madrid and Barcelona, like we're doing with Heathrow and New York. And additionally, they want to bring these vehicles to all their Caribbean operation. Iberostar from Avoris group belongs to a conglomerate that manages more than 250 hotels around the world and has, or is using today, a fleet of around 2,000 vans to transit tourists between airports and final destinations. Additionally, they will be able to provide experiences, excursions, sightseeing, new services that our vehicles will be able to provide.

### Slide - Summary

In summary, one, the strong order book has validated our product and our business model. Two, the global demand confirms that our approach on certification is the right one. Three, our partner ecosystem gives confidence on our successful to market strategy. Thank you very much. I'd be happy to take your questions.

### **Q&A - Eduardo Dominguez-Puerta**

Stephen Fitzpatrick, Founder & CEO, Vertical:

[Inaudible] Are there any minimum commitments, and when do you expect to see the orders become firm?

Eduardo Dominguez, CCO, Vertical:

Thanks for that question. Very good question. I think our strong pre order book demonstrates that our product is the preferred vehicle in the market and actually it shows customer validation. Our customers are aviation experts that do their due diligence before they make an order. Our pre orders are conditional to our capability to certify. So we have a minimum number of conditional pre orders of up to 705 with additional 645 options, adding to a total of 1,350 planes. We will have deposits of two percent coming in for slot reservation, and more predelivery payments that will come when we are close to certification. We'll be adding more new customers very soon. Traditionally a successful program needs a diverse customer base and this is what we're trying to do.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay thanks Eduardo. Next, why have you been so successful in striking so many aircraft partnerships in particular with airlines?

Eduardo Dominguez, CCO, Vertical:



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I think our customer success relies on three main points. First one, I think our product is attractive and they see it as useful for their services. Secondly, they're validating as well, our team, our capabilities. The third thing, I think they really, really appreciate our position as an OEM, with a clear relationship with them. They can bring their best capabilities and we can focus on the core, and together, we can de-risk the go to market strategy.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay so just to link to that one, another question. Why do you want to only be an OEM? Why not operate passenger services?

Eduardo Dominguez, CCO, Vertical:

Creating passenger services requires a lot of effort. You need to be the brand. You need to invest on booking systems. You need to actually deal with a lot of complexity. We believe that we want to be an OEM and be the best eVTOL in the market, but we want to harness all the, I would say the strengths of our customer base. When we're dealing with customers like American Airlines, like Avolon, well-known names in aviation, I think we need to be humbled and concentrate on what we need to do.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Yeah. Just to add to that, I think it's also a reflection of our appreciation, the EVTOL technology as a global opportunity. When we think about some of the most exciting markets, we're going to be bringing our aircraft to whether it's in Japan, with the partnership we announced today, or in Brazil and Sao Paulo with GOL, which we announced yesterday, with partnerships all over the world in between, we really want to rely on and work with local mobility experts. We don't pretend that we can help build more effective route planning networks or passenger engagement strategies and so on, and those local experts already operating in those markets. So as Eduardo said, a key part of our strategy is to focus on what we know we can do best. So to design, certify and, and manage these wonderful aircraft and then to partner with local operators to bring the technology to passengers in their local cities. It's a very clear and simple business model to focus on the OEM then to for passenger operations with local partners.

Stephen Fitzpatrick, Founder & CEO, Vertical:

I've got one here from David Zazula, again, once at scale, what is your projected breakout of OE versus recurring AM revenue?

Eduardo Dominguez, CCO, Vertical:

So today we're in a whole suite of services. They will include pilot training. They will include [inaudible], battery management and a whole suite of [inaudible] connected services and we would partner with different world leaders, subject matter experts for those to try to minimize our investment. Also the same logic of very tight and good partnerships. Once those services will be developed, we consider that they're going to be a stable stream of revenue for the company, which is going to be very important.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Yeah, I think one of the ways we look at this market opportunity just to echo what Eduardo was talking about. When we think about our revenues as an OEM, a typical airframer, we make a single transaction based on the sale of the aircraft and then some ongoing maintenance. With electric aircraft, one of the key components, the battery system, is required to be refreshed or renewed, exchanged in our case every three to six months. So this will represent a long term relationship with the aircraft owner. This is not something that can be delegated or outsourced to a different organization. The batteries will be a certified



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part of the aircraft and so the maintenance and the delivery of new battery systems throughout the vehicle lifetime will represent a really important revenue stream for us as an OEM.

This is something that, again, is very different to the way the aircraft industry is currently set up. It reinforces the value of our partnership model, where we are selling the aircraft on day one, working in partnership with local operators to bring real value to passengers locally, but then maintaining that long term relationship with them over time. So when we think about this, we think of this as the classic Gillette business model. We sell the razor, and then we just continue selling the razor blades. So it should be a very high margin and value add opportunity for us as an OEM.

Okay. Looking down we've some new, okay. I think Miles Walton has just asked that question. We've got one from Rishika Savjani. "What is the expected average cost of a trip to the consumer?"

Eduardo Dominguez, CCO, Vertical:

Actually, I think as mentioned before, one of the big advantages of our product is going to be a low direct operating costs. That will allow operators to define prices and actually those prices and those markets would be defined by them. We see some markets like New York with high willingness to pay, where actually our product will help them have big profitability. In all the different markets where maybe that willingness to pay is low, they will need to adapt them and lower. However, with greater benefits of the low operating costs, our product is going to be very attractive to them and we make the operations very profitable.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Yeah, I think this is something that came out of our very early discussions with airline partners. When we were asked how we were thinking about the asset optimization or revenue optimization on a per seat basis, it became really clear that there's nobody in the world that knows more about seat revenue optimization than airlines like Virgin and American. This is one of the reasons why we think they're so well placed, become operators of these eVTOL vehicles and already have many decades of experience in optimizing the value of their fleets, group planning and thinking about trip densities and so on.

So to Eduardo's point, we think we're going to have world's leading cost per passenger model. We're going to have the world's largest addressable market through the certification under the EASA standards and then it's going to be to each one of our partners to think about how they want to price and manage capacity and so on. I think this is really one where there's a lot left to work through. To put some numbers in terms of what a typical commercial offering could look like, the trip from Canary Wharf to Heathrow Airport in London, it's going to be about 12 minutes, assuming a 75% occupancy and a 50% operator margin that comes out to about 50 pounds a ticket. It's approximately the same as it happens, JFK to Manhattan, it's going to be about 50 to 60 dollars. I say 60 dollars should be the ticket price from JFK to Manhattan and that's assuming the aircraft isn't full all the time and the operator's making a healthy margin.

One of the beauties of eVTOLs that most of the world is starting to realize is these vehicles are much cheaper to build and much less expensive to operate than a helicopter. It's going to put this kind of air mobility right within the budget of just about anybody that lives in a city, anywhere in the world. There's more coming in, another one from Rashika. What infrastructure is needed at airports and other landing/take off points and who's going to fund this?

Eduardo Dominguez, CCO, Vertical:

Thanks for that question. Our aircraft, by design, is able to operate in most of the airports in the world with the limit of 50 meters wingspan. Actually, the additional infrastructure that needs to be built in those airports is going to be for charging so that the batteries can be charged after each of the flights. In terms



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of air traffic control, I think the key at the airports is going to be the integration of the classical air traffic systems for commercial aviation with the low altitude air space, and actually, we're partnering with leading air navigation service providers like NAS, like Euro Control to make sure that our vehicles would be able to be integrated in that aerospace.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. One from Louis Raffetto. Can you lay out a timeline from certification to actual operations? I can see these are new vehicles in a new market. What about pilot training, aircraft induction by operators, etc. Eduardo, maybe you want talk to them little bit, and then Paul if we can get you back on screen at some point maybe you can talk about the confidence around the certification.

Eduardo Dominguez, CCO, Vertical:

We are currently developing all these enablers. We're currently developing our pilot training programs, and we know that in the outcome in the few years, we need to work very hard to bring all those necessary elements for the operation of our planes. What I can say for the deployment of our aircraft for customers, we're going to do that very pragmatically and very progressively. We're going to start with relatively small fleets that are going to be deployed in several customers. We will scale those operations as we learn how to operate those things. So I would expect that in initial years, we would see initial fleets of around 10 to 25 aircrafts being introduced, and then those networks will expand over time as we increase the number of planes that we fly.

Stephen Fitzpatrick, Founder & CEO, Vertical:

I think this is to Eduardo's point, we've been really excited to be able to work with some of the world's leading aircraft operators like American Virgin, GOL in South American new partner, for example and they've placed some really big orders. The orders represent what we believe is the size of the opportunity for those operators in those markets, at least in an initial base.

Obviously, we are going to start introducing it. It won't be that one customer gets all their aircraft and we put sequence into it. To Eduardo's point earlier about how we structure the contracts, taking deposits and so on, we're already in discussions with airlines about the timing of when those aircraft will be delivered and what volumes and talking to them about them booking their slots and staggering those delivery slots with firm orders and deposits.

Stephen Fitzpatrick, Founder & CEO, Vertical:

I think when we come back to the certification timelines and so on, it's fair to say, as Eduardo said, our production run rate looks like 50 aircraft in the first year, 200 aircraft in the second year, and then a thousand there on. We have the time to start ramp up.

Stephen Fitzpatrick, Founder & CEO, Vertical:

So I've got a question online from David Strauss. Who is going to pay for the charging infrastructure and what is the cost to charge the aircraft? Really excellent question. I think I mentioned earlier, my other company that I founded some time ago OVO Energy. We are in the business of electric vehicle charging technologies, that's something that we know a lot about here. One of the key drivers of efficiency for electric aircraft in general, and eVTOLs in particular is the efficiency of the electric motor. The fact that we operate on electricity to mechanical energy conversion in the high nineties, which is [inaudible].

So we need less energy than for kerosene based jet turbines. Also then the energy is cheaper. So the electricity that we use to charge the batteries is actually a relatively really modest part of the cost of flying the aircraft. So it's a really interesting question.



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The charging infrastructure is, again, a relatively modest cost of the overall cost of operating the vehicles. We can land on about 90% of the world's helipads and from that point on all we need is a charging cable. It's a little bit more than 200 kilowatts so it's between a fast charger and ultra-fast charger for electric vehicles. Porsche and some other road car manufacturers have already started rolling out 350 kilowatt ultra-fast chargers for electric vehicles and that would exceed the power problems that we would have. We do have some additional technology that we use in order to actively cool the battery and improve the charging time and also reduce the battery degradation. In terms of who's paying for the charging infrastructure, we think this is again a big part of the conversation about building an entire ecosystem around EV toll and bringing in other commercial partners. We've already had many discussions with some of the world's largest infrastructure investors about where and when this new infrastructure is going to be built, where it's going to be located. Eduardo, you might want to talk just a little bit about some of the conversations we've been having then.

Eduardo Dominguez, CCO, Vertical:

Today, like it was mentioned before, there are few specialized providers on finding a capital solutions and very types that will be required by the different networks and going global, as we are with the customer base, we would also need to partner with big civil engineering and infrastructure companies that will be actually creating some of those dedicated solutions. In some countries like in the U.S. – and there are some discussions as well in Europe -- there is also the point around how much of that infrastructure could be subsidized and how much public money would help be invested in that space. Recently, the United States has agreed to start developing that infrastructure. I will hope that here in the UK and the rest of Europe that will follow.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay, thank you. I think probably fair to say we're already in discussions with several of the world's leading airports in the countries that we've been talking about, some of our partners turning and this is where, again, one of the things we really believe in is open ecosystems. We think eVTOL companies that want to own their own network of landing infrastructure or, or airports, we think it's a much more attractive proposition for infrastructure owners to invest in sky ports, where any eVTOL operator could land rather than being captive. This is something again that we're working through with many different airport owners and infrastructure investors. More on that I think in the weeks and months to come.

Stephen Fitzpatrick, Founder & CEO, Vertical:

We've got a question before from Andrew Lobbenberg, I hope I've got that right. Will pilots need to train on simulators and is anybody planning eVTOL Sims? A really good question, Michael Cervenka, President, Vertical, do you think, can we bring Michael I think for this one?

Michael Cervenka, President, Vertical:

If you can't get me on the screen, I can talk. So, in fact, we're already, we've been running pilot simulators running the real aircraft flight control systems. In fact, we're just next month, we'll have finally completed the build of a certification grade simulator. So this is one that has full 180 degree wraparound capability. Look up, look down, and so we're already doing that and in fact we're in discussions with some of the key training organizations politically around how we do as much of the training as possible.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. In the large aircraft business, after several years, we are still with a duopoly market. Where do you see the eVTOL market heading? How many players are too many in your view in the long term? Is the



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space already getting too crowded? Eduardo, maybe you'd like to answer this one. I think you're well placed to talk about your thoughts on this question.

Eduardo Dominguez, CCO, Vertical:

I think we see a massive number of players. I think there are more than around 300 companies in the world that are trying to develop this type of vehicles. I think the barriers to entry through these type of businesses are lower than in commercial aviation where investments required are much higher. However, we see as well a clear filtering of all those companies and coming to a key group of five to 10 competitors that have actually gone to the next phase, which is gathering the funding and having the right resources to really certify and industrialize these type of products. We believe that some of these companies will fail and eventually in the future, there might be a bit of consolidation, but there is a space for at least a handful of players that will also be defined in different markets around the world.

Stephen Fitzpatrick, Founder & CEO, Vertical:

So just to give you my thoughts, just as the founder, and I looked at the space. If you start to look at the way that the drone market has evolved, you start off with lots and lots of participants, then you end up with lots of consolidation, much, much lower barriers to entry of course but you end up with a pretty classic market structure where you have some larger players that have really good economy of scale. They get into a virtuous circle where they can afford to reinvest in new capabilities and new products.

One of the things I've looked at in Vertical is how capable, how sophisticated a vehicle do we aim to launch? We started off looking at smaller multi rotor craft, unwinged vehicles. They have a much simpler path to certification. They don't have the same transition that we have with our lift and cruises design, but they end up being relatively constrained on their range.

In my view and looking across lots of different markets, the less complex or less value add your product, the easier it is for it to be replicated and you end up in a commoditized market. It's one of the main reasons that we did not take the step that some of our competitors have done, which is to serve folks on an easier market segment, such as cargo and build from there into something more complicated like passenger vehicles. We think it's obvious that the highest value application for these vehicles is carrying passengers. The certification barriers are higher but the risks of that commoditization of the service much, much less. One of the key success factors for us is not just designing an aircraft that we can bring to market that will be successful in the early days of eVTOL, but also building through our supply chain, through our industrial partners, this great learning organization that will help us keep on the front foot. As the technologies improved, we would be able to bring more and more capable, more and more sophisticated vehicles to market.

Stephen Fitzpatrick, Founder & CEO, Vertical:

So if you ask about a number of participants, I think given the regional variations and lots of different mission types that we can see from short, medium, long term, and whether it's the North American or the rest of the world market, I can easily imagine a market where five or six participants are able to operate and perform profitably. We think that the demand that we are seeing for eVTOLs all over the world, leads us think that the whole industry is going to be supply constrained for the rest of this decade.

That when we think about the economics for passengers, there's going to be more than enough passenger demand. We could see some constraints on infrastructure for very high-density operations, for example, intra city, where you have LA, New York, London, and Sao Paulo. Most of the vehicles are flying within one city. I think that kind of business model requires a lot of new infrastructure being built and so it can take some time. It's why we're very focused on the regional intercity market and have designed our aircraft around that opportunity.



Stephen Fitzpatrick, Founder & CEO, Vertical:

Eduardo I can't wrap up this section without letting you have an opportunity to talk a little bit about perhaps whether or not you think given Airbus's announcement yesterday, you used to run the UA business at an Airbus. Why did you come to choose to work at Vertical?

Eduardo Dominguez, CCO, Vertical:

I celebrate the announcement that was made yesterday. I think we need to be gentleman in competition. I think it's also a validation, I think such a company that is a world leader on helicopters and is taking the step to move to eVTOLs, that means that there's a real market that is coming there.

My choice was quite easy: the right team, the right strategy and the right product. I believe that in this type of vehicles the wings are very important, and can be a differentiator on own performance, and this is why I decided to join this great company.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. So I think it's time to wrap up on commercial. If there's any more commercial questions that you wanted to bring in. Again, we'll have a little bit of time towards the end of the presentation I hope just to wrap up any other questions. So I'm going to hand it over to Vincent Casey, we're going to hear from him a short video and then we'll be back for more Q&A.

## **Business Model – Vinny Casey**

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### Slide - Introduction

My name is Vinny Casey, and I am CFO of Vertical Aerospace.

As you have heard from Michael we have a superior aircraft. Paul has shown you why we are confident on our path to certification and Eduardo has talked through our route to market and the real momentum in our conditional pre-order book. I will talk through how these are all driving our asset light approach and putting us on a path to an expected \$1.4 billion of adjusted EBITDA in 2026.

### Slide – Three Phase Development & Commercialisation Plan

We have a three phased development programme over the next four years. On the following pages, I will talk through how our funding requirements and commercialisation strategy bring down our net funding costs to a level that we believe none of our competitors can match.

The three phases are not sequential and can be flexed as required, however let me step through each one from left to right.

Phase one is our design and certification programme. Funding will support the continued build out of our world class engineering team, further development of our proprietary battery and rotor technology and the ongoing milestones of our certification programme.

From 2023 onwards, phase two will enable us to scale production to meet growing demand for our aircraft. We plan to build an assembly facility with an expected annual capacity of 1,500 aircraft and expandable to 3,000 aircraft.

In phase three, we will build out our commercial platform further, including delivering our aftermarket services and R&D to drive range and passenger variants.



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What this means is that after Phase one we will have a certified aircraft. Phase 2 a full-scale assembly facility and phase 3 and fully built out commercial platform.

### Slide – Capital Requirements through Commercialisation

Here, I am going to set out more granular detail on the funding for each phase.

The key point here, looking at the net funding requirement on the right-hand side, is that we expect to require less than \$250 million to certify the VA-X4, develop a manufacturing facility to meet and exceed our current conditional pre-order book and further build out our organisation.

This is based on what we believe to be conservative assumptions which I will now talk through.

Through to the end of 2022 the capital plan is focussed on phase 1, the certification program. From 2023 our funding requirements increase across all three phases as we invest in our state of the art assembly facility. This expenditure is partially offset by pre-delivery payments from our customers.

These deposits have been based on the assumption that during the 18 month period prior to certification we will attract down payments to secure production capacity, on a consistent basis as large airframers today. We expect to announce more orders in the near term and as a result these would increase accordingly.

The net effect is that our gross funding requirement of around \$500 million is reduced by half through a mix of existing cash, pre-delivery payments and gross profit contribution.

What this bridge illustrates is firstly that our partner ecosystem model is expected to lower capital expenditure and secondly our focus on selling aircraft to established players is expected to begin generating real near-term earnings and cash flow at the earliest opportunity. This provides the platform for further growth from 2024 onwards.

### Slide – Strong Visibility on Costs

The chart on the left shows a breakdown of the unit costs of the aircraft.

Our partnership approach also gives us real visibility and certainty on costs, relying on tier 1 aerospace suppliers. As CFO, I feel great than Honeywell, who have been certifying avionics systems for decades, are proving our software - compared to developing the code internally ourselves with the inevitable cost and overrun uncertainties, particularly in a post 737 MAX environment.

On the right, the chart shows the split of costs between operating expenses and COGS.

We expect our operating expenses to fall significantly as a percentage of revenue from 2024 onwards as production volumes are scaled.

We believe this visibility, combined with the conditional pre-order book, provides significant operating leverage to maximise profitability.

### Slide - Exceeding \$1BN EBITDA in 2026

Here, you can on a slide, and aggregating all the building blocks in this presentation, of why we are confident of exceeding \$1bn adjusted EBITDA in 2026.



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On the top left, you can see that our already agreed conditional pre-order book equates to the majority of our available production through to 2027. This means that our revenue targets, on the chart immediately below, are projected to be already covered over this period.

Moving to free cash flow on the bottom right. We only need to sell just under 100 aircraft a year to be cash flow break even and our total investment is recovered through the sale of around 300 aircraft in aggregate. This is over four times covered on consummation of the existing pre-order book and means we would be cash flow positive from 2025 onwards.

Top right EBITDA illustrates the significant operational leverage in the business with confidence of \$1.4bn Adjusted EBITDA by 2026.

### Slide – Attractive Valuation

I am going to recap this slide, setting out where all of our work over the last few years puts us relative to our peers.

We have successfully flown full scale prototypes, which has developed our capabilities and provided invaluable learnings incorporated into the design of the VA-X4.

We have the largest conditional pre-order book, providing momentum to the business, insights and learnings from our partners and good visibility on expected revenue.

Our partner ecosystem optimises our capital plan resulting in a significantly lower gross funding requirement, and their experience providing certainty on costs.

Bringing this all together, we believe we are valued modestly based on our expected strong earnings and cash flows.

That brings me to the end of this final section, and I welcome any questions for me or the team as a whole.

### **Q&A – Vinny Casey**

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay, great. So we've got lots of questions here again. I've got Vinny Casey, CFO, Vertical literally right next to me, who's here to answer. The first question from David again at Barclays. How is it possible to require so much less capital than your peers? Is the future upside being offered to suppliers in exchange for higher levels of cost sharing in the front end?

Vinny Casey, CFO, Vertical:

Well, thanks David. And I have one. This is a really good question of one of the key differentiators of our business model. A lot of capital requirements are driven by two things. The first is our pure play OEM model. Simply, we're not investing in customer operations to drive demand for our own aircraft. And the second is a result of the industrial partnership approach to better certify the aircraft. No further upside is being offered to the suppliers, primarily Honeywell and Rolls Royce. And their real motivation is this: use Vertical as a route to market in this emerging space. And indeed, upon our selection, particularly with Honeywell and Rolls, has very much been a two-way process. Mike and the team have worked hard to secure these partners to demonstrate the capability of the company.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Yeah, so I think... It was an excellent answer, Vinny Casey, CFO, Vertical. The one thing I would say, I think there are lots of different companies exploring the space. There are lots of different, wonderful



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engineering teams. I actually think Vertical's got this great combination of real expertise and experience and credibility and engineering, but also a really disciplined business model. And I've seen other companies in this space think that they're going to maintain a higher gross margin over time, or they're going to be able to generate more additional profits over time, by driving down costs and not paying the supplier margins. I think the opportunity of the eVTOL is just huge. I think there's a massive opportunity to bring this really novel technology to passengers all over the world. And I think working with industrial partners like Rolls, like GKN, like Solvay, we believe that this is not just a lower-path to certification, but it's a much faster route to scale. And rather than us building and sourcing all of our subsystem components ourselves, working within an existing aerospace supply chain means that we're going to be able to hit that scale much, much faster. Does it come with sharing some of the margin or the value that's going to come from building and selling these vehicles? Yes, of course. But we're delighted to be in partnership with these organizations. And actually we think that over the longer term and working with the likes of Rolls Royce, Honeywell, GKN, Solvay, and Microsoft, it's going to help us keep pace with the development of these underlying technologies and ensure that our aircraft are the most capable eVTOLs on the market.

Stephen Fitzpatrick, Founder & CEO, Vertical:

So, another question just in. How much is the total investment expected to bring the export to market? And how does it break out between you and your supply chain partners?

Vinny Casey, CFO, Vertical:

Yep. So I think this question is really getting to how much are we developing and what is coming from some of the technology developed by our big partner ecosystem? So, including this year as we finish 2021, our total investment required for what we see as phase one of the build-out, the certification program, is around about \$250 million. Pretty uniform spend through to the end of 2024. We estimate that our partner investment in technology between our leveraging exceeds \$500 million. This results from a really compelling return on capital for Vertical.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Got a question from Joe Gill. Do you envision leasing as a key element in the eVTOL ecosystem as a means of generating funding and demand?

Vinny Casey, CFO, Vertical:

Yeah, this is indeed one of the real benefits of our partnership with Avalon. And beyond just averaging that commercial outreach and the resell of the aircraft is working with them to develop an aircraft as a service model. And I think this would be dependent upon the type of customer. There are going to be some like American Airlines, where the ticket price for an eVTOL aircraft is much less than what they're used to, and they could fund this aircraft on a balance sheet. But I think when we get down into smaller modes of transportation and smaller local operators, the leased aircraft as a service model where we're bundling up the aftermarket aircraft services, battery replacement, leasing, all into one simple proposition is going to be pretty compelling.

Stephen Fitzpatrick, Founder & CEO, Vertical:

This is something, again, I think it's our partnership with Avalon and working hand-in-hand with such an entrepreneurial partner in the aircraft finance space has really helped us to shape our thinking on this. One of the key advantages of working with Avalon, their partnership platform with their network of customers, 150 airlines, many of whom are in emerging markets where the world's largest cities are located, therefore, the world's most attractive markets for eVTOL. The classic model for airlines in those countries is to finance the aircraft on a lease basis rather than an own basis. So I think this is where we have started an accelerator, I'm thinking on the global opportunity, earlier on, earlier than some of our



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peers, simply because we're now getting access to such a great partnership ecosystem through the Avalon release-finance platform.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Another question from Miles Walton. You're scaling the manufacturer to two to four times the unit volumes of some of our peers. Why are their unit expectations and yours so different?

Vinny Casey, CFO, Vertical:

Stephen Fitzpatrick, Founder & CEO, Vertical, it might be useful to bring you on around the scaling end.

Michael Cervenka, President, Vertical:

Yeah, sure. So I think the first thing is... Actually, all of this Stephen talked around: the art of certification, the partnership, the OEM model really deeply gives us the ability to scale our deployment faster than the other company. From a specific manufacturer, then, the question is how do we capitalize on that real market mover opportunity? And this again is really where those key partnerships are critical. So, in essence, Vertical is going to be assembling the battery system and the overall final aircraft, but all of the component manufacturing, all of the other subsystem manufacturing, commissioning, testing, and so on, is done in our supply chain. And so that massively reduces the challenge that we face in ramping up production. And we're really relying on top-tier, areas-based companies that have decades of experience in manufacture, and huge capabilities to enable us to do that.

Vinny Casey, CFO, Vertical:

Yeah. So just my thoughts on this, I think there's two parts to this: the demand and the supply. But Michael has very eloquently talked to our ability to scale up the supply much faster based on the supply chain that we've been able to build and the industrial partnerships that we've been able to build, not just in terms of their certification capabilities, but also ramping up their production, and leveraging their production capabilities. But then also on the demand side, taking that decision early on that we wanted to be an OEM, not an operator of these vehicles, means that we've been able to work with partners from all over the world. Like when we think about scaling our operations or scaling the demand for the aircraft, we're able to work with multiple partners and multiple suppliers in parallel, starting small, as we said, in each market, but then scaling on and taking advantage of the really transformative economics of the eVTOL. And so we're confident in predicting the higher demand of these vehicles. We are not having to, in every market we go to, negotiate on our own local regulations, local permitting, build local demand, build our brand, build passenger confidence. Working with some of the world's largest airlines, like Virgin, like American, is going to really accelerate, we believe, the passenger acceptance and uptake the demand of the vehicles. So I think the production manufacturing volumes that we are forecasting, they really spring from the belief that partnering both in the design and certification of the aircraft, and in the operations in the commercialization of the aircraft, is the right way to do it. Then we don't need to capture all of the value ourselves. There's more than enough in eVTOL ecosystem for us to share it with our partners. And we focus on building the most sophisticated, most capable vehicles, and reinvesting that to keep pace with the improvements in the underlying technology in the decades to come.

Stephen Fitzpatrick, Founder & CEO, Vertical:

We've got time for a couple more here. So let me just go through. Would you detail your prepayment schedule and specifically what percentage is due on delivery? So David, on the last part of that, I can tell you what percentage. We hope to receive a hundred percent of the payment upon delivery. So I'm not sure if that answered the question. But in terms of the prepayment schedule, as Eduardo mentioned, we're already in discussions with some of our customers now about timelines through which they will need to start placing deposits to start booking delivery slots. So, the first 50 in the first year, 200 in the second year. We are already seeing that we've got strong demand from customers to be at the front of the queue they come off the production line. We can't really go through the full payment schedule at the moment, but



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I would say as we reduce the number of steps we need to take to get to certification, so the closer we are to certifying the aircraft, the bigger the prepayment schedule will become.

Stephen Fitzpatrick, Founder & CEO, Vertical:

I think we'll leave it there for the business model questions. I think I've seen a few questions that have come in, but they're really quite close to some of the questions we've already answered. We've got just a little while longer, maybe 10 minutes more, for some general questions. And so I'm going to just go back to that. We had a question come in about confidence on the timeline for 2024 certification. So, maybe Paul, if I could ask you just to address what's your degree of confidence in the 2024 certification timeline?

Paul Harper, Head of Certification, Vertical:

Okay, yeah. We've got a lot of confidence in that timeframe. Certification is a process that is well understood. At the end of the day, we are essentially light aircraft with some specific complexities. If you look at... We've been working on this for three years already. In those three years in that timeframe, those sorts of developments and certification timeframes are certainly recognized in the industry. On top of this, there's a huge amount of excitement within the CAA in supporting us. The CAA themselves have restructured their certification directly with specific support around eVTOL aircraft. And they have been wonderfully clear in signalling their intent with their detail as to what's expected of us. Those are areas that we said that are a bit over and beyond a typical light aircraft. We've partnered with industry-leading experts in those fields: Rolls Royce for the power train, Honeywell for the avionics and flight controls. That really does let us leverage their expertise. And they've been working on this for years as well. Yeah, we are really, really confident with that timeframe.

Stephen Fitzpatrick, Founder & CEO, Vertical:

Okay. Then it looks like we've got another question come in, if you're wanting to.

Unnamed audience member:

So the question is, I think you also stated and you answered before, but where will you establish the factory? And what shaped your decision-making around it?

Vinny Casey, CFO, Vertical:

Ah, excellent question. So, we based the company in Bristol. It's the UK's, if not Europe's, leading talent cluster and technology cluster for aerospace engineering. We're surrounded by 300 of the world's most innovative and successful aviation and industrial engineering companies. So we've got a really good baseline in Bristol as the home of the factories, where the design office is and where our current facilities are. We are in discussions with three other countries about locating a production facility in their countries. And this is the kind of advanced engineering and manufacturing energy transition technology that most countries are clamouring to have more investment in. So, we've got lots of good opportunities on the table. I expect we're going to be locking down the location of our production facilities in the coming months and wherever that will be. As I said, we've got access to amazing talent right here on our doorstep in Bristol, but also some really motivated other participants. So it's something we're hoping to be able to share in the coming days.

Stephen Fitzpatrick, Founder & CEO, Vertical:

I think that's probably bringing us to the end. If anybody has any last questions, we can stay. Otherwise, it may be time to wrap up. I see that just about everybody has made it all the way through the entire presentation. So I really appreciate everybody's interest and their attention. I said it before, just to recap, I think what we're going through right now is the most exciting time in aerospace in the last 67 years, since the jet engine really transformed the capabilities of aircraft and opened up the world to a whole new means of transportation. We are about to see the same thing on a smaller scale, but we were talking about vehicles that will have a range of 100 to 120 miles. It's going to carry four passengers at high speed



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and safety. But over the coming years, we are going to see eVTOLs get bigger. They're going to get faster. Their range is going to get better. And it's really going to help transform how people that live in cities connect with their local neighbourhoods and in the surrounding cityscapes. So we are super excited to be on this journey. We've been doing this now for six years. We're really excited about taking the company public. We're really proud to build such a great partnership ecosystem in our industrial partners, also in our commercial partners. And I think there's a real validation from experts in the aviation sector about our approach on building a company that's very, very focused as an OEM on building the world's most capable, safest eVTOLs. So I thank you very much for your time, and we're going to end the presentation there. If anybody has any specific questions they'd like to follow up on, we'd be delighted to host more one-on-one analyst conversations or indeed respond by email or by video call. So, thank you very much for your time, everybody, and we wish you a good day.