

Archer Aviation Inc. NYSE:ACHR

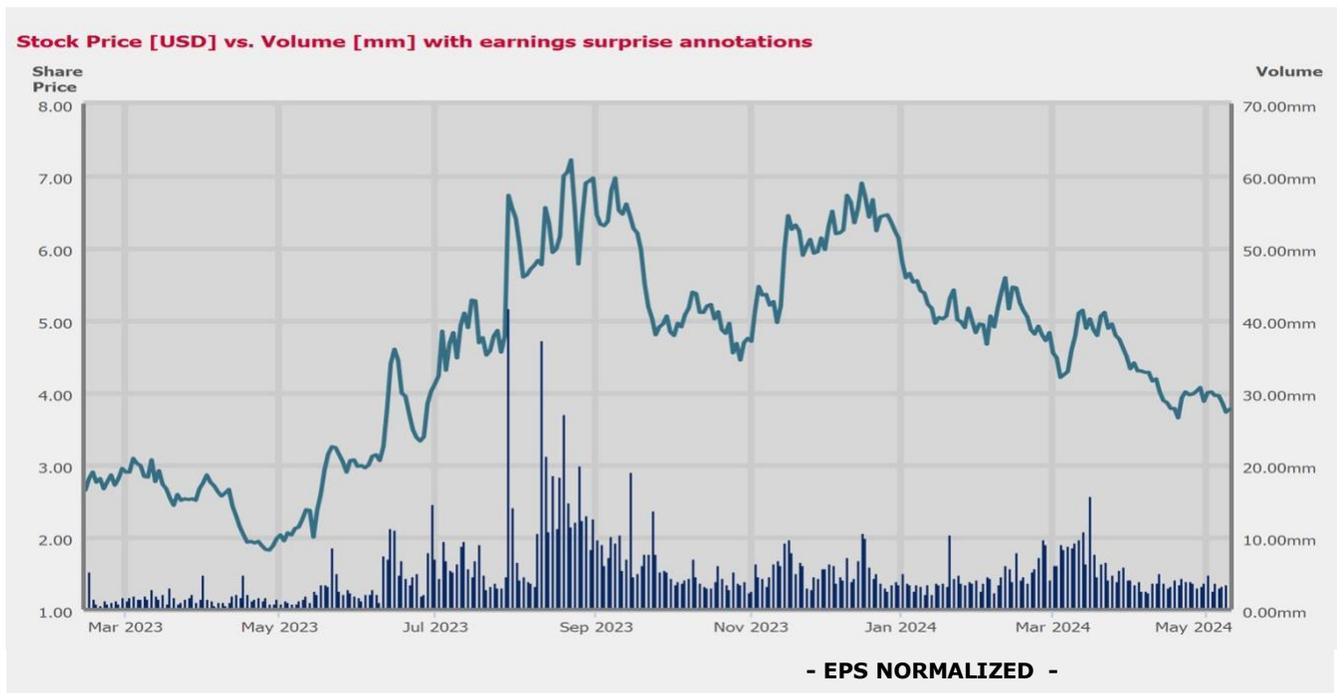
FQ1 2024 Earnings Call Transcripts

Thursday, May 09, 2024 9:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ4 2023-	-FQ1 2024-	-FY 2023-	-FY 2024-
	CONSENSUS	CONSENSUS	CONSENSUS	CONSENSUS
EPS Normalized	(0.28)	(0.30)	(1.18)	(1.17)
Revenue (mm)	0.32	0.97	0.26	5.45

Currency: USD
Consensus as of May-06-2024 1:22 PM GMT



	CONSENSUS	ACTUAL	SURPRISE
FQ1 2023	(0.32)	(0.31)	NM
FQ2 2023	(0.32)	(0.29)	NM
FQ3 2023	(0.30)	(0.22)	NM
FQ4 2023	(0.28)	(0.26)	NM

Table of Contents

Call Participants	3
Presentation	4
Question and Answer	12

Call Participants

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Presentation

Operator

Good afternoon. Thank you for attending today's Archer Aviation Q1 '24 Financial Results Conference Call. My name is Cole, and I'll be the moderator for today's call. [Operator Instructions]

I'd now like to pass it over to our host, Eric Lintell.

Please go ahead.

Eric Lentell

General Counsel & Secretary

Thank you, operator. Good afternoon, everyone, and thank you for joining us today to review Archer's first quarter operating and financial results. My name is Eric Lentell, Archer's General Counsel. On the call with me today are Adam Goldstein, our Founder and CEO; Mark Mesler, our CFO; and Tom Muniz, our CTO.

During today's call, we will be making forward-looking statements. These statements involve risks and uncertainties that may cause actual results to differ materially from those contemplated by the forward-looking statements. For more information about these risks and uncertainties, please refer to our SEC filing under the caption, Risk Factors.

Any forward-looking statements that we make on this call are based on assumptions as of today, and we undertake no obligation to update these statements as a result of new information or future events. During this call, we will discuss both GAAP and non-GAAP financial measures. A reconciliation of certain GAAP to non-GAAP measures is included in our shareholder letter posted on our investor relations website.

And now I'll turn the call over to Adam. Adam?

Adam D. Goldstein

Founder, CEO & Director

Thanks, Eric. At Archer, we remain steadfast in our focus on commercializing our Midnight aircraft. We've designed midnight in pursuit of bringing to market an electric aircraft with world-class design and cutting-edge performance capabilities that will make it the desired air taxi globally.

When I think back to 2019, when I first sat down with Tom Muniz and Geoff Bower, to sketch out a vision for what became Midnight, we were aligned on one single goal, design an aircraft that would capture the market potential as soon as possible, meaning one that is both certifiable and manufacturable at scale, all while being purpose-built to addressing the congested 20-mile to 50-mile automobile commute corridors that gridlock our cities today.

We decided a 12-tilt-6 vehicle was optimal for this mission. And then we built a full-scale 3,500-pound max gross weight 40-foot wingspan aircraft called Maker. We shepherded that aircraft in 2022 and 2023 through the full flight envelope, including transition and high-speed flight. And then used those lessons to form the design of the next evolution, our production aircraft, Midnight. Today, we are flying Midnight nearly every day and benefiting tremendously from all the lessons we learned from Maker.

In Q1, our flight test team logged over 100 flights, putting us on pace to exceed our goal of 400 flights this year. And we continue to be focused on accelerating the velocity of our flight test cadence, aiming for reaching 10 to 15 flights a day to mimic commercial endurance.

As we continue to expand the flight envelope, I couldn't be more excited to see the aircraft transition in the near future. Midnight has a 6,500-pound max growth weight and a 47-foot wingspan, making it what we believe to be the largest eVTOL aircraft in the industry. We intentionally designed Midnight at this size to maximize payload and provide necessary comforts, such as air conditioning.

I believe that our choice to build a higher payload vehicle will prove to be a differentiator as we commercialize this industry. We are on a path to build 6 conforming Midnight aircraft to be used as part of our FAA certification program. The first of those is in final assembly now and on track to begin piloted flights later this year.

Yesterday, we published a comprehensive video tour of our integrated test lab and production facility in California. Given our progress in engineering the aircraft and on our certification and flight test programs, we decided to move forward with installing our high scale automated battery pack manufacturing line earlier this year. This line is capable of producing enough battery packs to support our planned production ramp in Georgia. I am confident that we are leading the way in the industry with this capability and that our investment there will pay off for years to come.

We have also made similar investments across our supply chain having spent over \$50 million with our suppliers to ensure they are able to achieve our timeline and the production throughput we will need to support our aircraft manufacturing ramp. As these capital expenditures and upfront nonrecurring costs roll off, I expect we will naturally reduce our burn and cash needs meaningfully as we shift into preparing for commercial launch heading into next year.

One key piece of this strategy has been our partnership with Stellantis. As we have indicated, we are evolving our relationship to position Stellantis to be our contract manufacturing partner so that we can take advantage of their proven ability to produce the vehicles at scale, which will in turn reduce Archer's cash outlay necessary to purchase materials and equipment as we start to scale production of our aircraft. We believe this capital light strategy will put us in a unique position to rapidly scale production while minimizing cash requirements.

I'm very pleased with how we have managed liquidity through this period where we have made what should be our most substantial CapEx and nonrecurring investments. Our liquidity and cash position is nearly flat to where it was 1 year ago. As the founder, CEO, and the company's largest shareholder, I am sensitive to when and how much capital we take in as we balance our need and desire to grow with potential dilution.

From the beginning, we have chosen a partner-first approach with some of the world's greatest companies and investors, like Stellantis, United Airlines, Abu Dhabi, and Moelis, who believe in the value of what we are doing and are willing and able to help us ensure we get the capital we need when we need it.

I continue to believe we are massively undervalued relative to the proprietary step change in technology we are creating and will remain opportunistic about how and when we take in capital on our journey to commercialization. I'm lucky to experience the day in and day out progress of making electric aviation a reality. But nothing tops getting to see the emotional reaction people have when they first experience our aircraft, no matter where we are in the world. I'm incredibly excited about turning those moments into an everyday reality.

Just last week, I was in D.C. to celebrate the opening of our D.C. office with Billy Nolan, who prior to coming to Archer was the acting FAA Administrator, and has now transitioned to be our Chief Regulatory Affairs Officer, overseeing a team of industry and government veterans who are working on the important policy and regulatory issues our industry is facing.

While in D.C., I had the pleasure of meeting with lawmakers, the FAA Administrator, Mike Whitaker, and his leadership team, and senior administration officials at the White House to update them on our progress and to discuss the importance of the FAA Reauthorization Bill and the upcoming SFAR.

I'm grateful to Administrator Whitaker and the leadership team for all the progress our 2 teams have made together over the last several months to advance Midnight towards commercialization. Tom will provide more detail on our certification progress, which we've also highlighted in our shareholder letter.

I want to now shift gears and take a moment to touch on the momentum we are seeing from commercializing flying cars all over the globe. There has been a noticeable shift over the past 12 months. Recently, I spent time abroad at the invitation of international regulators and partners, new in prospective,

and I can say what I've witnessed firsthand is that never before had the excitement in demand for urban air transportation been higher than it is today.

The world's cities are growing increasingly congested while alternative transportation options remain challenging to develop and implement, and world leaders have taken note of the potential impact our industry can have on their cities. I'm humbled by the opportunity that Archer and our industry have to contribute to making a difference by ushering in this new era of electric aviation.

Just last month, Midnight made its debut in Abu Dhabi for the inaugural Abu Dhabi Mobility Week, where the UAE government ratified what I believe to be the world's largest unified governmental sign of support for our industry outside of the United States.

As part of that, we signed a landmark framework agreement with the Abu Dhabi Investment Office, ADIO, that sets out their plan to provide us with an unprecedented investment of several hundreds of millions of dollars to accelerate our launch of air taxis in the region.

Our team is proud to be partnering directly with the Director General of ADIO, His Excellency Badr Al-Olama, with whom we've worked closely over the last year to get to this point, under the leadership of His Highness Sheikh Hamdan, who we were proud to host last month in the country's capital city.

Aviation in the UAE, like most other countries, is regulated federally, and we are working in close coordination with the GCAA, the General Civil Aviation Authority, to plan for the safe integration of our aircraft into the airspace across Abu Dhabi, Dubai, and the 7 Emirates.

I want to offer more insight into what these early operations are shaping up to look like. There are existing skilled operators there who have meaningful experience operating aircraft within the complex UAE airspace. Rather than building a new operator to directly compete with local incumbents, we've chosen to take a more pragmatic approach to launching this market through working with commercial leaders there, like Falcon Aviation and Air Chateau.

Falcon, under the leadership of His Highness Dr. Sheikh Sultan of the UAE Royal Family, has decades of experience transporting passengers within and across Dubai and Abu Dhabi via helicopters.

And Air Chateau is one of the country's newest and most forward-leaning helicopter operators, located at the newly announced Al Maktoum International Airport, the future home of Emirates Airlines and soon to be the largest airport in the world.

We remain focused on executing on a partner-first approach, and we look forward to continuing to work with the GCAA, ADIO, and the Department of Municipalities and Transport to enable commercial operations of our air taxis in the country as soon as late 2025.

I recently also spent time in India and I'm more convinced than ever that India could become the largest urban air mobility market in the world, just as it has already become one of the fastest-growing electric vehicle markets. We're proud to be partnered with Rahul Bhatia, one of aviation's greatest pioneers, and his company, InterGlobe.

Through InterGlobe, Rahul founded and helmed the third-largest airline in the world, IndiGo, a nearly \$20 billion juggernaut holding 2/3 of the domestic Indian market, with an extensive in-country and global influence and respect for its innovative approach to customer and operational excellence.

In our sector, we are leading the way with maturing our plans and partners in what I am sure can be one of the largest markets for eVTOL aircraft on earth. So I'm very happy with the work our team is doing there.

I want to be clear that our partnership with InterGlobe is intended to extend far beyond a co-marketing arrangement or simple airport trips. Beyond the airline, InterGlobe is also the country's third largest hospitality player with an extensive real estate portfolio, as well as UPS's JV partner in the region.

As such, this year we are working to finalize a comprehensive JV with InterGlobe, which is contemplated to not only purchase an initial fleet of up to 200 Midnight aircraft to begin operations in Delhi, Mumbai,

and Bengaluru, but also to build out an extensive network of vertiports and service across the country to include fleet operations, maintenance, and pilot recruitment and training.

As you can imagine, InterGlobe also has a deep working relationship with India's Directorate General of Civil Aviation, the DGCA, and our team has spent time planning our approach with the Regulator's Director General, Mr. Vikram Dev Dutt, as well as his broader leadership team to make sure we have a regulatory pathway to launch in India.

UAE and India are just the first of our announced international markets, so look for us to continue sharing advancements here as we near commercialization.

Also, as I mentioned, the global demand for Midnight is clear, and I'm excited for us to share more advancements on the international front here soon.

Of course, a go-to-market strategy is only as good as our product, and I'm excited for Tom to share a deeper update on Midnight's progression. Tom has more experience leading eVTOL aircraft program than just about anyone in the world. Midnight is the eighth full-scale eVTOL aircraft he has worked on, and those aircraft have flown over 2,000 flights combined.

Now that we have over 750 employees at Archer, and given the progress with Stellantis and the contract manufacturing relationship that we are developing, we have elevated Tom to the role of Chief Technology Officer, with 500 engineers under Tom's organization.

As part of that, we have recently shifted the manufacturing, supply chain, and quality departments to fall under a new production leader, Tony Aghazarian. Having spent 23 years at Apple in leadership roles, Tony has deep experience across complex hardware programs. His fingerprints span nearly every major Apple product from the iPhone to the iPad to the Vision Pro, from R&D, prototyping, and contract manufacturing with Apple's many CM partners. I couldn't imagine a better duo than the combination of having Tom running engineering and Tony running production to see our program through to commercialization.

With that, I want to step back and reflect on all the progress we've made to date. Electrification of aviation continues to increasingly emerge into the mainstream every day, which only further motivates my team here at Archer and underscores our collective commitment to pioneering advancements in transportation.

Our valuation today only captures a small fraction of the incredible ambition we have to make sustainable aviation an everyday reality. We stand at the forefront of a transformative era where imagination meets innovation and dreams take flight.

With that, I'll turn it over to Tom.

Thomas Paul Muniz

Chief Technology Officer

Thanks, Adam. This past quarter, my team has successfully achieved an ambitious series of milestones across aircraft testing, FAA certification and manufacturing. From the outset, I've been clear that our strategy has been to keep the design for Midnight as simple as possible, while delivering industry leading performance balanced with safety.

As you know, we decided to do this by partnering with what we believe to be the best suppliers in the aerospace industry rather than take on the cost and risk of vertically integrating every aspect of a novel aircraft program. This pivotal decision continues to pay dividends that are more clear today than ever, as we continue to make rapid progress towards commercializing Midnight.

This is most evident when you look at the strides we have made with our flight test program, our team continues to accelerate the cadence at which we are flying, and as Adam mentioned, I'm incredibly proud that we flew over 100 flights in Q1, and remain on track to exceed our goal of completing over 400 flights this year.

Most importantly, we've safely and steadily advanced Midnight through the envelope expansion phase of its flight test program, and we have now entered the transition portion of the flight test campaign. As a

reminder, transition is the flight regime between hover and cruise, where the aircraft is flying forward with some lift being generated by both the wing and the propellers.

As you recall, our team completed the full transition of Maker a couple years ago, generating invaluable data to support the Midnight aircraft we are flying now.

Over the coming weeks, we will continue to fly Midnight at incrementally faster air speeds until we reach the full transition to cruise flight. We are on track to accomplish the seminal milestone in the near future. In parallel, our flight test team is starting to ramp up test planning and preparations for us to commence piloted flight testing, which we are on track to begin later this year.

On the testing and certification front, this past quarter we significantly ramped up our testing efforts to drive both safety of flight readiness for our upcoming piloted flight tests later this year, as well as our ongoing certification program with the FAA. This past quarter has seen extensive testing across many different facets of the aircraft.

I'll take a few minutes to highlight some of the key initiatives to illustrate the type of work we're doing and the progress we're making. Starting with materials testing. As of this past quarter, we have now completed more than 60% of the FAA 'for credit testing' for composite structural materials.

We also recently completed several structural component level tests to validate our structural analysis methods. This data supports not just our safety of flight efforts for upcoming piloted flight testing, but also our aircraft structures certification effort.

This past quarter, we also successfully completed structural "proof load" testing of the fuselage for the piloted Midnight aircraft, ensuring that the structure can safely withstand the loads we expect it to see in flight.

Moving on to landing gear, the Midnight aircraft has the unique and highly beneficial capability of landing both vertically like a helicopter and conventionally like an airplane. This gives Midnight a distinct operational and safety advantage over other eVTOL aircraft that can only take off and land vertically. This ability provides additional use cases, increased safety of our operations, and increased redundancy to the aircraft platform.

With our partner Mecaer, we recently completed a multi-week test campaign where we functionally tested the landing gear to verify the design can withstand any possible landing scenario anticipated, even for the harshest of imperfect landings. These harsh landing conditions, in part, was defined as limit loads, which are loads that are extremely unlikely from a probabilistic standpoint, but possible by conservative definition.

Additionally, because Archer is meeting the certification criteria for both helicopter and normal aircraft category landings, Part 27 and Part 23 respectively, we tested each landing configuration twice, once with representative tire spin for conventional landing and once with a static tire for vertical landings.

While we performed this testing to support safety of flight, for the first pilot at Midnight, the test procedures were reviewed and supported by both Mecaer and FAA-designated engineering representatives, or "DERs". Mecaer has established itself as an expert in this area through successful strategic partnerships with many other major aircraft OEMs that supply sophisticated, certified products in the aerospace and defense sector.

The data reviewed indicates that the landing gear met or exceeded the design targets in all cases. Additionally, because this test campaign directly mirrored the testing that will be done for certification credit, there is now a high degree of certainty that Midnight's landing gear will pass the certification testing process.

Another capability of Midnight that we believe will be a differentiator is the high-performance environmental cooling system from Honeywell that we are capable of integrating into Midnight thanks to its size and payload capability.

We're making great progress on the testing certification of this system, benefiting greatly from Honeywell's deep certification experience. Testing is progressing well, and Honeywell is working on safety of flight declaration letters for several system components, indicating that they are safe to fly on the piloted aircraft.

Certification test plans are being completed now with FAA DERs engaged in every step, so all these releases are likely to be final and can be used in our "for credit" testing for certification later this year.

We have tested several environmental control system components in our system integration lab here in California, and we expect to kick off testing of the entire system connected to the rest of the aircraft systems in our Ironbird lab in the coming weeks.

Moving on to batteries, one of the most challenging tests our aircraft will face as part of its FAA Type Certification program is the battery pack drop test. For this test, we dropped Midnight's battery packs multiple times from 50 feet at up to 100% state of charge to simulate extreme impact scenarios.

Not only did the battery packs pass the test, but they remarkably still functioned after each drop. This is a testament to the safety and durability of Archer's proprietary pack design and our choice to use cylindrical cells over more novel cell designs that could have introduced risks into our program.

As a reminder, we announced earlier this year our Space Act agreement with NASA to collaborate on battery cell safety testing and we'll provide an update on this collaboration in the quarters to come.

Lastly, we've made significant progress on environmental and functional testing for many elements of our avionics and flight control system. As a reminder, Midnight is a fly-by-wire aircraft, meaning that the pilot inputs go to a computer where software processes these inputs along with other aircraft information to decide what the engines and actuators should do to achieve the pilot's intent. This makes our aircraft easier to fly and safer for passengers.

This system features components that are sourced from several leading suppliers, including side sticks sourced from Crouzet. These, as with several other components, have deep certification heritage as they feature a design that is derived from what is found on the Airbus A220. We've now successfully completed environmental qualification testing on the side sticks, flight guidance panel, display controller, Wi-Fi and LTE data link, audio processor, navigation systems, transponder, and radio altimeter.

On the process side of certification, this past quarter we finalized additional issue papers with the FAA covering needs of compliance for our battery as well as occupant protection, enabling us to finalize our methods of compliance and test plans.

Last week we had a productive face-to-face meeting with the FAA administrator and aviation safety leadership in Washington, D.C. They reiterated their support for certifying and implementing new advanced air mobility aircraft like ours and shared that the SFAR, which contains the operational rules for all of the industry, remains on track to be published as a final rule later this year.

This is great news as this effort remains right on schedule based on the target the FAA set about 2 years ago. The FAA team also reiterated that our airworthiness criteria is on track to be published this month in the Federal Register.

On the manufacturing side, we are advancing the integration of the first Midnight aircraft that will be used for piloted testing at our integrated test lab and manufacturing facility here in California. Primary structural parts and assemblies for the next 2 flight test aircraft are in production across our supply base, along with many other system components.

This past quarter, we also issued purchase orders for some long lead items for our first production aircraft to be built in 2025, which signals our confidence in our design maturity and manufacturing readiness.

As we announced earlier this week, our battery pilot line has been completed at our California lab and manufacturing facility. This state-of-the-art line is where we will build the batteries for the piloted test aircraft, we will use for certification testing and where we will build battery packs for the first several years

of production. This high-volume manufacturing line will be capable of ramping up to 15,000 battery packs per year.

This is a great example of how our strategy to choose simple, robust designs optimized for safety and manufacturability is setting us up to have a scalable product and business.

We also remain on track to complete construction of our high-volume manufacturing facility in Georgia later this year. We have now completed 2 of the most challenging phases of construction, grading of the site, and pouring the foundations. Because of the topography of the site, we had to move roughly 450,000 cubic yards of dirt to balance the site. This required our team to navigate through large deposits of rock that required blasting.

Now that the foundations are complete, our team is focused on standing up the exterior walls, which are on track to be completed in June. We shared some photos of this latest progress in our shareholder letter today.

Construction is scheduled to wrap up this fall, and we expect to receive our occupancy permits and start assembly of the first Midnight aircraft in this facility before the end of the year.

As you can see, all of the building blocks that we've been working on for the past few years are coming together. From flight testing to certification to manufacturing, all in support of our North Star goal of getting to commercialization as quickly and efficiently as possible.

Mark Mesler

Chief Financial Officer

Thanks, Tom. As you can see from what Adam and Tom have discussed and what we have disclosed in our shareholder letter, we are making tremendous progress across all the key areas.

I have previously discussed in detail how our operating expense structure during this phase of the commercialization process includes nonrecurring investments to key suppliers to enable the development and manufacturing setup of many of our Midnight components.

We have also discussed that approximately 80% of our parts are sourced from the existing aerospace supply base. Recall that we believe that strategy allows us to execute our product development process with lower operating costs by allowing us to avoid the ongoing structural spending that would be necessary to develop those other technologies ourselves.

Additionally, once we transition into the commercial manufacturing phase of our program, we will not have to build out manufacturing capability, capacity, and headcount to manufacture at scale the components that we are sourcing from our mature aerospace supply base. And that capital light strategy is further supported by our joint goal with Stellantis for them to be our contract manufacturing partner for our Midnight aircraft.

As we are working through this period of significant supply chain build out and test aircraft manufacturing, I wanted to provide an update and some transparency on how to be thinking about our quarterly spending profile. Recall that our current quarterly spending profile is made up of our core expenses for ongoing operations in addition to nonrecurring investments with suppliers to establish Midnight supply base, and materials expenses to build our first 6 conforming midnight test aircraft.

Our total non-GAAP operating expenses for Q1 of '24 were approximately \$89 million. About \$17 million of that amount was made up of non-recurring investments with suppliers and material expenses for Midnight aircraft. Backing out those nonrecurring and material expense amounts yields about \$70 million to \$75 million of normalized quarterly run rate core expenses to operate the business, or about \$280 million to \$300 million of annualized run rate spending. That level of spending is our core structural operating spending that will persist through 2024 and into 2025.

As we complete the build-out of our supply chain and finalize the manufacture of our 6 test aircraft, we expect to see nonrecurring investments and mature expenses start to tail off in late 2024. Within that

context, we're always remaining highly disciplined with our spending to get to commercialization in the most capital efficient way possible.

We ended Q1 '24 with approximately \$523 million of liquidity, which included \$406 million of cash and cash equivalents on our balance sheet combined with the remaining approximately \$117 million of debt and equity proceeds available under various capital arrangements. We also have another \$6.7 million of restricted cash. Specifically, quarter-over-quarter, cash decreased by \$59 million from \$465 million to \$406 million.

Switching to expenses, on a GAAP basis, total operating expenses for Q1 '24 were \$142.2 million, which included approximately \$48.3 million of non-cash equity-related expenses, including \$40.7 million of stock-based compensation and \$7.6 million of warrant expenses.

Non-GAAP operating expenses, which are a proxy for cash expenses, but they don't include non-cash equity-related expenses, were \$89.1 million, and within our estimates range of \$75 million to \$95 million.

As I outlined earlier, we incurred approximately \$17 million of nonrecurring costs and material expenses with our suppliers during the quarter as we continue to build out our supply chain for Midnight and procure parts for the manufacture of our 6 conforming Midnight aircraft that we will use for FAA for credit flight testing. Within that context, for Q2 2024, we anticipate total non-GAAP operating expenses of \$80 million to \$95 million.

One final note, capitalization and liquidity have always been and continue to be a top priority for us. The strength of our liquidity is driven from a number of factors, including one, our capital-light approach to commercialization. For example, we are leveraging the existing aerospace supply base for the development and manufacture of 80% of our parts, allowing us not to have to invest in R&D resources and people and capital to manufacture all those components.

The impact of this strategy is also manifesting itself in the construction of our high-volume manufacturing facility in Georgia, where we are only investing \$65 million in the construction of the factory that will enable capacity of up to 650 aircraft per year. As a reminder, that \$65 million is being financed for a factory loan with favorable commercial terms with our Georgia banking partner, Synovus.

Two, our business model, where we will be selling aircraft from our approximate \$3.5 billion backlog, allowing us to get periodic predelivery payments to help fund working capital for inventory purchases as we get closer to commercial production of aircraft, similar to the \$10 million PDP that we received from United on the first 100 aircraft last year. We fully expect to announce further PDPs as we continue to mature our commercial arrangements with operators.

And finally, three, by the strong partnerships we have forged with well-established companies, especially with Stellantis. Stellantis has and continues to be a great operating partner. We also believe there are other partners with manufacturing, commercial, and other strategic interests that have similar capabilities to support Archer on our journey to leading the sector into commercialization.

In summary, it is these factors that put us in a position to continue to opportunistically and favorably capitalize the company as and when we need to.

And with that, operator, we will now open it up for questions.

Question and Answer

Operator

[Operator Instructions] Our first question is from Edison Yu with Deutsche Bank.

Xin Yu

Deutsche Bank AG, Research Division

The international opportunities are clearly gaining a lot of momentum. Can you give us a sense how we should think about the business model economics for places such as UAE or India? And what would you say is a realistic range for the amount of aircraft you can place there in the early years?

Adam D. Goldstein

Founder, CEO & Director

Edison, this is Adam. So yes, I think you are correct. We are very excited about the international opportunities and even the entire GCC or the Middle East. We haven't given any specific guidance on specific fleet sizes, but maybe here's a way for you to think about it. One is the region is very leaned in. And so I have increasing confidence that the GCC will be one of the first places that we deploy aircraft in the world. And we've talked a lot about the UAE specifically on that note. As you look across the entire GCC, we actually believe that the market will be much bigger than people think. You can see this happening in the airline industry. So the region built 3 of the largest and most revered airlines, Emirates, Qatar, and Etihad. But where I really get excited about the volumes is more on the India side. And so I continue to believe that India has the potential to be one of the largest eVTOL markets in the world. And so we're working with InterGlobe to set up all those operations. So we'll start producing aircraft out of the factories in Georgia as soon as next year. But there's definitely opportunities also to build local facilities. And there's a lot of excitement for us to do that there as well.

Xin Yu

Deutsche Bank AG, Research Division

And just to follow-up to that, I know you mentioned hundreds of millions of support from the UAE. Can you give us a sense of what that might look like in terms of, is that you need to do something to make that happen? Is it milestone-based? And how -- or when that would start flowing through?

Adam D. Goldstein

Founder, CEO & Director

Yes. So I'll share some more specific details on that in the coming months. But it's a multi-year agreement. And it's focused on us reaching scale in the region and with our base being in Abu Dhabi. It's a comprehensive framework agreement. And it's intended to make this move of ours very economically attractive and for us to accelerate things like subsidizing aircraft and operations and really enticing us to bring engineering to the region. The timing of investments specifically will be tied to our ramp up of activity there.

Operator

Our next question is from Andres Sheppard with Cantor Fitzgerald.

Andres Juan Sheppard-Slinger

Cantor Fitzgerald & Co., Research Division

And congratulations on the quarter. Adam, I want to maybe build on that UAE and India markets question. I'm curious as to your vision as to entry into these markets, maybe I'm less interested, obviously the potential there is massive given the infrastructure and the market. But just more curious on kind of how you see the potential to enter those markets in the near term. And I guess, is there an opportunity to enter either of these markets without a TC? Would that be something that would be feasible? Just trying to understand.

Adam D. Goldstein*Founder, CEO & Director*

Yes. So I'll start and then I'll hand it over to Tom to talk about on the certification side. And I'll start with the UAE. So first is we've done a lot of analysis with our partners and with the government on the UAE to identify dozens of routes, which make a lot of sense for us to commercialize the region. And so our plan right now is to launch with initial intracity routes in Abu Dhabi as early as next year, and then quickly expand to flights between Abu Dhabi and Dubai, and then expand from there. And of course, looking at across all 7 Emirates as well.

So there's several kind of factors that we look at. One is the ecosystem there. It's been incredibly supportive. So we are not going to go compete with local operators there who are well established. We are going to partner with them. And so we've announced several of those partnerships, one with Falcon Aviation and the other with Air Chateau, both which have placed orders for midnight aircraft.

With Falcon, they've also announced their first [bird] reports. One is in Dubai at the Atlantis Hotel in Palm Jumeirah, and the other is in Abu Dhabi on the Corniche. And both have operational helipads today. So it's not like there's a huge gap of time that would take to launch there. And so this obviously unlocks the intracity routes, but it also helps unlock the service between the Emirates as well. And we'll be sharing more on those specific routes too.

The next category to think about is really on the investment side. And so we've had big support from the investors as well. So Abu Dhabi sovereign wealth fund Mubadala has been an early Archer investor, and we've seen big support from them, but also support from other sovereign wealth funds within the region, and Abu Dhabi Investment Office, ADIO as well. We are -- we announced that agreement, the landmark framework agreement that covers hundreds of millions of dollars of investment to accelerate our plans in the UAE. And I believe we're the only ones in the sector to announce a deal like that. And that comes with actual capital from the government to help us become operational.

The other side is really on the government commitment. So in the UAE, we've had the opportunity to show Midnight to His Highness Sheikh Hamdan bin Mohammed bin Zayed of the Abu Dhabi royal family, and His Highness Sheikh Hamdan bin Mohammed Al Maktoum, the Crown Prince of Dubai, and another -- a number of other members there in the ruling family. And so we've seen a huge amount of support from -- really from the entire government there as well.

I'll have Tom, just answer some of the certification timeline questions as well.

Thomas Paul Muniz*Chief Technology Officer*

Yes, absolutely. So one thing to keep in mind is that the state of design for the aircraft is the U.S., right? That's the country where we're based. And the framework that we're using to certify has been put together by the FAA. So as Adam said, even with that being the case, we're seeing interest really across the globe from different regulators, and the GCAA and UAE is one of those. So we've been engaged with them, and we're still engaging to talk about where we are in the certification process. Our north star is that we'll only put a safe airplane into market, and we're very aligned with the UAE GCAA on this. And honestly, wherever in the world we're aligned on that. We think the process we're marching down with FAA is really clear, and we're continuing to execute on that. So I can't tell you exactly when we'll be to market in UAE or U.S. or any other country. But what I can tell you is that we'll be ready to bring a safer aircraft to market as soon as next year.

Andres Juan Sheppard-Slinger*Cantor Fitzgerald & Co., Research Division*

Tom, maybe just to follow-up on that, I guess would you see a situation where you could enter and operate in these markets without a type certificate? Not that you wouldn't obviously get that, just in the event of a potential delay in that process, could there be a possibility to enter these markets without yet having that type certificate?

Thomas Paul Muniz

Chief Technology Officer

Sure. So obviously, I can't speak for the regulators that are in charge of that. But what I can say is we continue to execute the CERT program that the FAA and us are working towards. And as other regulators push to bring aircraft like ours into their ecosystems, into their countries, they can leverage the data that we are gathering for that CERT effort. So certainly, there will come a point where we feel our craft is safe and ready to launch and there will be a time that the FAA agrees and they've reviewed the data and so other regulators kind of need to determine their own mechanisms for making the same conclusion.

Andres Juan Sheppard-Slinger

Cantor Fitzgerald & Co., Research Division

Maybe just one last one for Mark. So you incurred, I think you mentioned the stock-based comp and a one-time expense. Should we consider that into future quarters as well? Or in other words, should we be thinking about that? Is that resolved? Or is there any other expenses that you could incur, I guess, throughout the year?

Mark Mesler

Chief Financial Officer

Yes. With respect to stock-based comp, Andres, our typical run rates in that \$25 million to \$35 million range. So I think that's the range you could consider going forward.

Andres Juan Sheppard-Slinger

Cantor Fitzgerald & Co., Research Division

Congratulations on the quarter again.

Operator

Our next question is from Savi Syth with Raymond James.

Savanthi Nipunika Prelis-Syth

Raymond James & Associates, Inc., Research Division

I was just kind of curious as you were building these aircraft, and any insights and learnings as you build kind of the next certification aircraft versus your first Midnight build?

Thomas Paul Muniz

Chief Technology Officer

Yes, that's a great question. Savi, this is Tom. Yes, we're learning a ton building these first conforming aircraft. So I think it's really 2 categories of things. The first is putting the aircraft together and learning about essentially the design and the assembly process of the aircraft. So if you remember, because of the strategy we've taken, our manufacturing outside of batteries and electric engines is really just final assembly. This is integrating all of the LRUs we get from suppliers, big aerospace companies we always talk about. So certainly, there's some learnings there. Those are just kind of the usual type things. So this is like the eighth different aircraft that have gone through the integration process score. And here at Archer, we get better and better at that every time.

But one thing that I think is important to keep in mind is we're not just building 1 aircraft here. Building this fleet is really teaching us how to set up a scalable manufacturing process and overall production system. So a lot of learnings are also coming from that side. So things like setting up our manufacturing execution system that collects data as we build this aircraft, how that ties in implements all of our safety processes and our quality manual. So all of these things are really critical to both put us in a position to scale manufacturing and get our production certificate with the FAA to enable us to ramp up here in the coming years.

Savanthi Nipunika Prelis-Syth

Raymond James & Associates, Inc., Research Division

And then maybe, Mark, just the Boeing with kind of adjustment this quarter. Could you kind of give a little color on what that was? And do we -- is that kind of fully settled? Do we expect kind of more going forward?

Mark Mesler

Chief Financial Officer

Yes, that's fully settled [obviously]. Recall that that was a series of agreements that we had with them for the technology resolution arrangement we had with them. There was a final true-up mark-to-market adjustment that we had to make as that period ended in February, so we're -- you won't see any more of that. That's the last adjustment we had to make.

Operator

Our next question is from Austin Moeller with Canaccord.

Austin Nathan Moeller

Canaccord Genuity Corp., Research Division

Just my first question here. How much cash do you expect to use on building the additional Midnight prototypes needed for certification? And how does that compare to the \$520 million of existing liquidity?

Mark Mesler

Chief Financial Officer

Austin, this is Mark. So we haven't disclosed what the cost of each of those aircraft are. I mean, they're early essentially prototype builds. However, the cost of those is fully contemplated within the \$520 million liquidity going forward. So we're pretty comfortable there.

Austin Nathan Moeller

Canaccord Genuity Corp., Research Division

And just to follow-up, on the certification process, how many flights do you think you'll need to conduct from now through 2025 to generate the data either needed for Type Certification or for the FAA pilots to feel comfortable with getting on board and doing their own flight tests?

Thomas Paul Muniz

Chief Technology Officer

Yes, absolutely. So as you referenced, there's kind of 2 categories of flights there. So there's the company testing. That's what we do ourselves to gather data to prove to ourselves that the design is safe. And then there's FAA pilots or designees flying a post TIA. TIA is an acronym, stands for Type Inspection Authorization. That's basically the gate that enables the FAA to start flying on the aircraft. I don't have an exact number of flights or hours for you, but what I can say is for this fleet of 6 aircraft that we're building, each one has a very specific set of test objectives to go gather, and they're sequenced quite logically into bins of objectives and things. In terms of orders of magnitude, we're talking about hundreds of hours of testing here, if not into something like 1,000 hours of testing across these activities.

Operator

Our next question is from Josh Sullivan with Benchmark.

Joshua Ward Sullivan

The Benchmark Company, LLC, Research Division

Just to follow-up on the cash question there, what are the large tent poles left for the cash need ahead of certification? And you gave some corridors there during the comments, but when do you think cashes peaks?

Mark Mesler

Chief Financial Officer

What was the last part of that, Josh?

Joshua Ward Sullivan

The Benchmark Company, LLC, Research Division

Just when do you think the cash outlays peak heading into certification?

Mark Mesler

Chief Financial Officer

To recall, I mean, consistent with what we discussed in the past, the big buckets through this period are the nonrecurring costs with our vendor base, the materials to build out the aircraft, and some of the CapEx that has gone into building out our production facility here in California, as well as the Covington, Georgia facility. I think you can think about it as these cores that we're in right now are the peak spending quarters with respect to building out those that functionality and those capabilities. So the guidance that I provided in the \$80 million to \$95 million range. As we sit here today and our models show that we are sort of at our peak spending rates right now, we've -- given the current construct of the company and where we are. I think that answers -- I think it materially answers what you're asking.

Joshua Ward Sullivan

The Benchmark Company, LLC, Research Division

And then just as far as, you know, the cadence of recognizing the AFWERX-related contracts, when should we see kind of that revenue really ramp?

Adam D. Goldstein

Founder, CEO & Director

Josh, so over the course of this year, there are a lot of programs that we have slated to recognize. They range from anywhere from flight tests to training work to simulator work. And so we are receiving different payments a long time. Last, I think, fourth quarter, we received a few million dollars. And I think this year we've already received some additional cash as well. And so it'll be lumpy that'll come through there. But in order of magnitude, I think it'll start to increase as we go forward through to the end of the year.

Operator

We have a question from Bill Peterson with JPMorgan.

William Chapman Peterson

JPMorgan Chase & Co, Research Division

I'd like to ask, what remains to be achieved before the full transition and I guess what does near future mean? Does that mean you expect this within the current quarter, the third quarter? And then on piloted flight testing it does appear, at least relative to maybe this time last year you are delayed relative to that prior expectations. It was supposed to be even in early '24 or maybe first half now, it's later this year. So I guess, what has led to the delays? And what gives you confidence you'll be able to do piloted testing before the end of the year? What are you doing to train pilots and get ready for that?

Thomas Paul Muniz

Chief Technology Officer

Yes, absolutely. Bill, this is Tom. So first part of your question with regard to transitioning the first Midnight aircraft, just to give you some context or set the stage on that, we transitioned to Maker for the first time a couple of years ago, and it took us a little under 12 months to get through that, which I was super happy with. I think the team did great. Midnight, we started flying in October, 6 months or 7 months ago, and you're asking for a little more precision on the date. We're getting pretty close to transition, so I'm confident it'll happen in the coming couple months here. So really excited about the progress there. Learning a lot, ramping up flight testing in general.

Your question regarding piloted flight testing. So basically, safety comes first, and we're taking thoughtful, methodical steps here, working towards that milestone of the engineering team that we have 500 or so folks, the vast majority are all working towards that goal. And so if you look at our shareholder letter, you can see the aircraft coming together, you can see pictures of the Ironbird. We're getting deep into testing, talked about getting safety of flight declaration letters from suppliers, and doing our own testing. So everything's coming together to make that happen this year.

Would I like it to be faster? Absolutely. But do I think we're doing a great job? I think we're doing awesome. So we'll fly when it's safe to fly and when we're ready, but feel super good about the progress.

Adam D. Goldstein

Founder, CEO & Director

Bill, this is Adam. Just to add a little color on there. This is the progress of starting a flight test campaign, going through the full flight envelope, including transition, is something all of the aviation companies have to go through. This is not a unique thing to Archer. And so I know it gets talked a lot about with Archer because the difference between Maker and Midnight, they physically look different, even though they're both a 12-tilt-6 configuration. We use the same aero model. We use largely the same flight control schemes. So everyone's going through the same thing. And so I actually believe the progress we have has been quite incredible transitioning Maker within less than 1 year. And we'll transition Midnight even faster than that. And so I know that's not necessarily as easy to understand with some of the programs. We just happen to be very transparent about it. And so we are -- you should expect to see a lot of flight test content. And we're really excited about where that program is today.

William Chapman Peterson

JPMorgan Chase & Co, Research Division

And knowing you have a lot of go-to-market opportunities and overseas opportunities now, it does feel, at least at a glance, that some of your DoD efforts appear to be either deemphasized or in any case, it'd be good to get an update on the \$142 million program. I think in the second quarter last year, you'd expect them to deliver an actual aircraft to the DoD. Are you still planning that? I guess, can you just update us on the milestones of the DoD? And how should we think about the opportunities with the DoD this year and maybe next year?

Thomas Paul Muniz

Chief Technology Officer

Sure. So we submitted all the paperwork necessary to begin the delivery process to the DoD and expect to have our military airworthiness in June, and then delivery afterwards. But that being said, we are balancing the priorities of the entire program. And in the near term, we actually believe we'll receive more cash from DoD programs that are not flight test related. So for example, there's \$5 million to \$10 million of payments that we can receive from the DoD that are related to other items, to testing items, to training items, simulator work. So we'll kind of take it as it comes. But I think those are the -- we're really trying to prioritize where a lot of the dollars will come from. And a lot of them are coming from some of those other items.

William Chapman Peterson

JPMorgan Chase & Co, Research Division

If I can just sneak in one more, one of your peers talked about having a kind of full-scale testing capability. I guess, in terms of your testing for, for credit, do you have the tooling you need? Or do your suppliers for your parts and systems have the test capability? Or do you need to access third parties? Just trying to get a sense on your test capabilities, whether it be in-house or through partners to -- for your, for credit testing programs?

Thomas Paul Muniz

Chief Technology Officer

No, we have everything we need. Obviously, a nice advantage we have is that we've got this broad range of suppliers and all the capabilities and relationships they have. So we're leveraging all of those, but today we're executing nothing specific. No needs.

Adam D. Goldstein

Founder, CEO & Director

Bill, let me give you -- this is Adam. I'll give you just a little bit of color. So an example that Tom talked about was the inceptors, right, the side sticks. Those are made by a company called Crouzet, which builds side sticks for some of the large aviation programs. Our side sticks are very similar to the side sticks used on the A220. So Crouzet has 4,000 people that work there. So you think about if we were to do that in-house, we would have, I don't know, 5 people, 10 people that did that. So we get to leverage a company like Crouzet that has 4,000 people to go help do this. So we have everything in place that we need in-house, as well as partnership with our investors, or with our partners on the supply base. You can see the progress, as we are we show in the shareholder letter, the buckets keep increasing where we're showing you things in progress. And the stuff that's moving really fast and going really well. Especially, comes from the stuff that our partners are doing because they have been through this process, many, many times with very similar parts over many programs over many decades. So hopefully that gives you a sense for where this is at. Actually, I think this is the part of the program where we are most excited, where we will accelerate. And who knows, maybe be the first one to actually get through it.

Operator

We have a question from David Zazula with Barclays.

David Michael Zazula

Barclays Bank PLC, Research Division

Tom, I just wanted to dig in a little bit into the battery drop testing, whether there was anything unexpected or anything particularly learned during the battery drop testing? Any feedback you've gotten from the FAA on the test, and then when you expect to transition to for credit testing on that one?

Thomas Paul Muniz

Chief Technology Officer

Yes, absolutely. So as we talked about in the shareholder letter and earlier in the script, battery drop testing went really well. So just to paint the picture, we take our whole battery pack. It's like a 300-pound assembly. Drop it from a crane. It's actually at 55 feet because we have to account for drag and the kind of rigging that guides the aircraft down. And then it has to impact concrete on the ground and not have anything catastrophically fail. And so we did several drops. After each drop, the battery pack, we were really surprised, continued to function, meaning we could log on, get data. It was still working. So huge confidence booster for our team. That was one of the harder tests for us to pass. So really great risk reduction for us getting through that.

To be clear, that was for our own testing. So now we have all the data that we need to do it for credit testing. So as I mentioned earlier, we've advanced some of the issue papers around this topic and sort of teed up quite well to do the for credit testing with a lot of confidence that we'll be able to get through it here in the coming months.

David Michael Zazula

Barclays Bank PLC, Research Division

I know we're up against time, but maybe quickly on the battery production. My simple math is that that's enough for 23 batteries per year for everything coming out of Covington. So is that the plan to be able to support additional facilities on your part? Could you potentially be a battery outsourcer? I guess, what's the need to have that level of capacity from a battery facility?

Thomas Paul Muniz

Chief Technology Officer

Yes, that's a great question. So several thoughts. The first thing is a lot of the automation that you see there is really driven by safety and quality versus production volume. So that production line is really similar to what you'd see in a state-of-the-art automotive plant, supporting automotive levels of production. But we need that robustness and quality control to be set up for building safe batteries for a safe aircraft and to get our production certificate to be able to build these things ourselves. So we need repeatability. We need all that traceability. And that's what that system gives us. It also gives us the ability to scale, absolutely.

So one thing to keep in mind is when we're in production, we don't need battery packs just for new aircraft coming off the production line, but also for the fleet that's going to be out there in service needing battery replacements once, maybe twice a year. So that's the reason why, if you do that math, it looks like more battery packs than 650 aircraft per year. Hopefully that makes sense.

Operator

We are out of time for questions, so I will pass it back to Adam Goldstein for closing remarks.

Adam D. Goldstein

Founder, CEO & Director

In closing, our strategy is paying off. From the outset, we've been clear that our approach is to keep the design of Midnight as simple as possible while delivering industry-leading performance balanced with safety. We're accomplishing this by partnering with what we believe to be the best suppliers in the aerospace industry. This capital light strategy continues to pay dividends that are more clear today than ever as we continue to make rapid progress towards commercializing electric aviation.

I want to take a moment to step back and appreciate not only the progress we at Archer are making, but all the progress across the entire industry. Our partner, BETA, recently demonstrated a piloted transition flight in Vermont. Our neighbors, Joby, recently announced their final airworthiness criteria with the FAA, as we expect to also do so shortly. The electrification of aviation continues to increasingly emerge into the mainstream every day. Thank you for joining us.

Operator

That concludes today's call. Thank you all for your participation. You may now disconnect your line.

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