

Joby Aviation - Scaling Before Certification

Internal ID: S&F-STR-332

Topic: Operations Strategy, Risk Management, Corporate Strategy

Industry: Passenger Airlines

Source: Strategy & Finance

Publication date: 5 October 2026

License: Not specified

Decision date and information cutoff: 1 March 2024, end of day Eastern Time

Decision scope: Sequencing commitments for Joby's planned Dayton scaled-manufacturing facility

Case convention: This is an author-created management decision exercise. The role and alternatives are hypothetical; cited company disclosures are historical. It does not reconstruct private deliberations.

The decision

On 1 March 2024, Joby Aviation's leaders faced a sequencing question. The company had announced a large manufacturing plan in Dayton, Ohio, while its electric vertical takeoff and landing aircraft remained in development and FAA certification was still underway.

The announcement described a selected 140-acre site, capacity of up to 500 aircraft per year, and a potential facility footprint of up to two million square feet. Joby said it planned to invest up to \$500 million and that state and local authorities had offered incentives of up to \$325 million. It expected construction to begin in 2024 and the facility to come online in 2025. Each figure was a company plan, ceiling, offer or target-not a completed facility or confirmed source of cash. The site selection remained subject to due diligence, approvals, incentives, permitting and other matters. [S1]

You are a member of a hypothetical Joby strategy committee asked to recommend how the company should sequence its next major manufacturing commitments. Should it preserve the announced path toward scaled Dayton production, or stage major facility and equipment commitments against certification and commercialization milestones? What should happen next, and what evidence would change your recommendation?

The public record does not establish that Joby's board considered these alternatives. It does not disclose the binding project budget, sums already committed, cancellation terms, minimum efficient scale, long-lead equipment schedule or cost of a staged design. Your recommendation must make these unknowns visible.

From prototype to production

Joby was developing an electric aircraft intended to carry a pilot and four passengers. Its strategy combined aircraft design and manufacturing with planned passenger operations. Management argued that vertical integration could improve control and that production scale could lower unit costs. These were strategic hypotheses: the company had not yet demonstrated commercial passenger economics or high-volume aircraft manufacturing. [S2]

At year-end 2023, Joby described 130,000 square feet of California facilities for manufacturing, assembly and flight testing. Its 10-K said it had not constructed a high-volume production

facility. It expected California to support initial low-rate production while Dayton was intended for scaled manufacturing. The final Dayton design and some procurement and manufacturing plans remained in development. The company said production depended on aircraft design, testing, suppliers, facility buildout, staffing and FAA Production Certification. [S2]

The certification path was consequential. In its 21 February 2024 shareholder letter, Joby said Stage 3 was complete, reported 30 “for-credit” pathfinder tests during the fourth quarter and described four conforming manufacturing lines. It also published its own progress chart, as of 15 February:

Exhibit 1. Joby-reported certification progress

Percent complete by certification stage, as reported by Joby on 21 February 2024; Joby / FAA.

Stage	Joby	FAA
1	100%	100%
2	97%	97%
3	100%	100%
4	24%	9%
5	1%	0%

The company cautioned that percentages could fluctuate. These were issuer-reported progress measures, not FAA certification, probabilities of approval or measures of production readiness. Stage 3 completion meant certification plans had been accepted; testing remained. Joby’s 10-K described type certification as an exacting process that often takes five or more years and distinguished type certification from Production Certification. [S2], [S3]

“Four conforming manufacturing lines” also required careful interpretation. Joby described the lines in the context of conformity and quality systems. The statement did not mean the company had four high-volume production lines or could manufacture at Dayton’s announced nameplate capacity. The nearer-term plan included component manufacturing in Dayton; scaled aircraft production was a separate, later step. [S3]

The financial runway and the plant

Joby reported \$1.032 million of 2023 revenue, identified as flight services, against \$473.126 million of operating expenses. Operating loss was \$472.094 million and net loss was \$513.050 million. Net loss included \$86.378 million from warrant and earnout fair-value changes. These reported figures show the company was still investing ahead of passenger-service revenue; they do not measure the economics of the Dayton project. [S2]

At 31 December 2023, cash and cash equivalents were \$204.017 million and short-term investments were \$828.233 million. Together they were \$1,032.250 million. Restricted cash of \$0.762 million was separate. During 2023, net cash used in operating activities was \$313.831 million and purchases of property and equipment were \$30.597 million. Their \$344.428 million sum is simple arithmetic across two cash-flow classifications, not a company-defined free-cash-flow measure or a stable burn rate. [S2]

Joby forecast 2024 use of cash, cash equivalents and short-term investments of \$440-470 million. Management said it expected its resources and future operating cash to support the

company through initial commercial launch in 2025. Those were forecasts, not assurances and not a Dayton construction schedule. The public filings do not establish the company's capacity to fund the full Dayton plan. [S2], [S3]

Exhibit 2. Selected reported financial figures

USD millions unless noted; fiscal years ended 31 December. Historical amounts are reported facts; 2024 amount is management outlook.

Measure	FY2022	FY2023
Revenue	\$0.000	\$1.032
Operating loss	\$(392.203)	\$(472.094)
Net loss	\$(258.043)	\$(513.050)
Cash used in operating activities	\$(235.925)	\$(313.831)
Purchases of property and equipment	\$(54.890)	\$(30.597)

At 31 December 2023: cash and equivalents \$204.017m; short-term investments \$828.233m; restricted cash \$0.762m.

Management forecast: 2024 use of cash, cash equivalents and short-term investments \$440-470m.

Sources: [S2], [S3]. FY2023 statement amounts converted from \$000s to \$m. Net loss includes non-operating fair-value effects. FY2023 operating cash use and property/equipment purchases are shown separately; their sum is not labeled as free cash flow.

The two readings of these figures pull in different directions. Liquidity may provide near-term runway for certification, component work and planning. But weak current revenue, continued losses and substantial cash use raise the cost of mistiming a large commitment. Conversely, waiting may preserve resources while certification uncertainty falls, but could delay manufacturing learning or leave capacity behind the company's targeted launch schedule. Neither the cash balance nor the announced investment ceiling resolves the question.

A bounded competitor snapshot

Archer Aviation's 29 February 2024 annual filing provides a contemporaneous but limited point of comparison. Archer said construction/buildout had begun at its Covington facility. It described a 350,000-square-foot first phase designed for up to 650 aircraft per year, targeted for substantial completion in 2024. Archer also said an up-to-\$65 million bank credit facility represented a substantial majority of estimated first-phase construction cost and described state/local incentives and its collaboration with Stellantis. [S4]

This shows that another eVTOL developer had begun facility work before aircraft type certification. It does not establish that Joby could match Archer's schedule, cost, productivity or financing. The phase, scope, site, credit structure and partner support differ from Joby's announced Dayton plan. Treat this as context, not a production benchmark.

Your recommendation

Choose one of two hypothetical paths:

Preserve the announced build path. Continue planning and make the next major facility and equipment commitments toward the planned Dayton scale. Support this with certification and manufacturing work in California and near-term component activity. This could protect schedule, supplier readiness and learning, while increasing exposure if certification, aircraft design, demand or funding falls short.

Stage the major commitments. Continue certification, component manufacturing and low-rate process development, but condition defined construction and equipment tranches on observable technical, FAA, supplier, demand and financing milestones. This could preserve capital and allow new information to shape later investment, while risking schedule delay, lost learning, higher staged costs or missed incentives.

These options are not represented as actual contractual choices. Public sources do not identify which investments can be staged, the cost of delay, the terms of incentives, or any cancellation and supplier commitments. Your recommendation may combine elements of the two paths, but specify the next commitment, the information expected before it, and a trigger for proceeding, pausing or revising.

Prepare a two-page decision memo that:

1. Recommends a path and addresses its strongest objection.
2. Identifies which near-term work should continue and which commitment should wait or proceed.
3. Names the technical, regulatory, commercial and financial milestones that should govern the next decision.
4. States the additional information needed on commitments, phasing, lead times, incentives and cash requirements.
5. Defines what evidence would cause you to reverse course.

Discussion questions

1. What information does early Dayton work create, and what spending makes capacity irreversible?
2. How should certification and production approval affect the timing and scale of facility commitments?
3. What do Joby's liquidity, cash use and low revenue say-and not say-about its ability to pursue the full plan?
4. Does Archer's filing change your view of the feasible timing or scale? Which differences limit the comparison?
5. What staged commitments and decision gates would preserve learning and schedule while limiting downside?

Sources and conventions

S1. Joby Aviation, [Dayton facility announcement, Form 8-K Exhibit 99.1](#), 18 September 2023, lines 8-38.

S2. Joby Aviation, [FY2023 Form 10-K](#), filed 27 February 2024. Relevant locators: business p.4 / SEC lines 165-169; certification pp.7-8 / lines 260-293; risk factors pp.17-18 / lines 552-567; results table p.35 / lines 991-1009; liquidity p.36 / lines 1036-1050; cash-flow statement p.49 / lines 1452-1478.

S3. Joby Aviation, [FY2023 results and shareholder letter, Form 8-K Exhibit 99.2](#), 21 February 2024. Stage progress and certification narrative pp.2, 6 / SEC lines 12-15, 47-50; 2024 outlook pp.7, 10 / lines 63-64, 84-85. The release and live webcast were announced for 21 February; the transcript PDF's posting time is unverified and it is not used as evidence.

S4. Archer Aviation, [FY2023 Form 10-K](#), filed 29 February 2024, printed pp.1-2 / SEC lines 244-267 for the facility plan and p.8 / SEC lines 416-422 for certification status.

The cutoff is 1 March 2024, end of day Eastern Time. No later facility, certification, financing, demand or commercial outcomes are included. Dollar figures are nominal USD. Company targets and interpretations are attributed; historical financial statements are reported facts. The announced "up to" amounts are not treated as commitments or offsets. No financial forecast is provided.