

# AICA Engineering Overview

**Document status:** Public engineering overview

**Version:** 1.0

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**Project status:** Early-stage development

## Purpose

AICA is an independent engineering initiative exploring a vertical-mobility concept through a documentation-first process. The immediate purpose is to organize the concept into explicit assumptions, engineering questions, model requirements, and test criteria that can support future physical evaluation.

AICA is not presenting a validated aircraft, a completed propulsion system, or a production-ready design. No public test results or completed prototype are claimed in this document.

## Current status and scope

The program is at an early stage. Current public work focuses on:

- consolidating the project purpose and technical boundaries;
- documenting assumptions that would need to be tested;
- defining a staged development and measurement process;
- identifying research areas in propulsion, stability, instrumentation, structure, and human-centered operation; and
- preparing a responsible path from concept documentation toward prototype validation.

The present materials describe a process and intended direction. They are not evidence that the underlying technology has been validated.

## Engineering philosophy

AICA uses five working principles:

1. Claims follow evidence. Public statements should remain narrower than, or equal to, what repeatable observations support.
2. Simple models come first. Each model should isolate a defined question before system complexity increases.
3. Assumptions are recorded before tests. Expected behavior, operating conditions, measurement methods, and acceptance criteria should be documented in advance.
4. Safety limits remain visible. Hazards, operating boundaries, failure modes, and unresolved questions should accompany development decisions.
5. Results remain traceable. Revisions should connect to calculations, observations, or test outcomes when

those materials become available.

## Development process

### 1. Documentation baseline

Consolidate the concept, terminology, intended use boundaries, known unknowns, and initial engineering assumptions. The output is a reviewable baseline, not a validation claim.

### 2. Model definition

Define a limited model or subsystem, its purpose, expected behavior, instrumentation, operating limits, and test criteria. Work should proceed only when the question and measurement method are clear.

### 3. Controlled bench evaluation

If a model is built, evaluate isolated behavior under controlled conditions. Record configuration, inputs, environmental conditions, measurements, anomalies, and safety observations.

### 4. Review and revision

Compare observations with the documented assumptions. Revise the model, test method, or technical direction according to the evidence. Unsuccessful or inconclusive results remain part of the record.

### 5. Integrated prototype decision

Consider an integrated prototype only after prior work provides sufficient evidence to justify added complexity and risk. Reaching this decision is not guaranteed.

## Engineering roadmap

**Phase | Focus | Current classification | Intended output**

|   |                               |                        |                                                                                   |
|---|-------------------------------|------------------------|-----------------------------------------------------------------------------------|
| 1 | Documentation baseline        | Current                | Defined scope, assumptions, questions, and review standards                       |
| 2 | Model definition              | Planned                | Limited model specification, instrumentation plan, and test criteria              |
| 3 | Controlled bench evaluation   | Conditional            | Recorded observations from isolated subsystem testing, if authorized and feasible |
| 4 | Integrated prototype decision | Conditional            | Evidence-based decision on whether prototype work is justified                    |
| 5 | Prototype validation          | Future and conditional | Repeatable validation work only if earlier phases support it                      |

The roadmap does not promise completion dates, technical success, production, certification, or deployment.

## Transparency and risk statements

- AICA is an independent, early-stage initiative.
- The concept has not been publicly validated.

- Public documentation may change as assumptions are reviewed or new evidence becomes available.
- Vertical-mobility development involves substantial technical, safety, energy, control, materials, infrastructure, and regulatory risk.
- A physical model or demonstration, if produced, would not by itself establish safety, reliability, scalability, certification readiness, or commercial viability.
- Development may be delayed, revised, suspended, or discontinued if evidence, resources, safety constraints, or feasibility do not support continuation.
- This document makes no promise of technical success, financial return, funding outcome, production date, or market availability.

## **Intellectual-property limitations**

Some concept-specific details are not included in this public overview. Public omission does not establish that a design is novel, patentable, protected, feasible, or validated. AICA makes no public claim here regarding patents, patent applications, ownership determinations, freedom to operate, or third-party intellectual-property rights.

Future technical publications may disclose additional information when doing so is responsible and consistent with safety, review, and intellectual-property considerations. Until then, readers should evaluate only the evidence actually published.

## **Document boundary**

This overview covers the independent AICA engineering program only. It contains no token program or investment proposition. Any future token initiative, if considered, would be separate from the engineering program and would require its own documentation, risk disclosures, and review.