

From Capsule Concept to Functional Stick Pack

Product architecture, formula development and manufacturer-readiness for a multi-active functional beverage.

STARTING POINT	PIVOTAL DECISION	STAGE REACHED
Functional concept; format not locked	Capsules reconsidered; stick pack selected	Refined prototype; CMO evaluation

THE ENGAGEMENT IN ONE VIEW

- 01

Initial direction
Capsule-oriented product concept
- 02

Architecture decision
Stick-pack platform selected
- 03

Formula development
Physical and sensory risks resolved
- 04

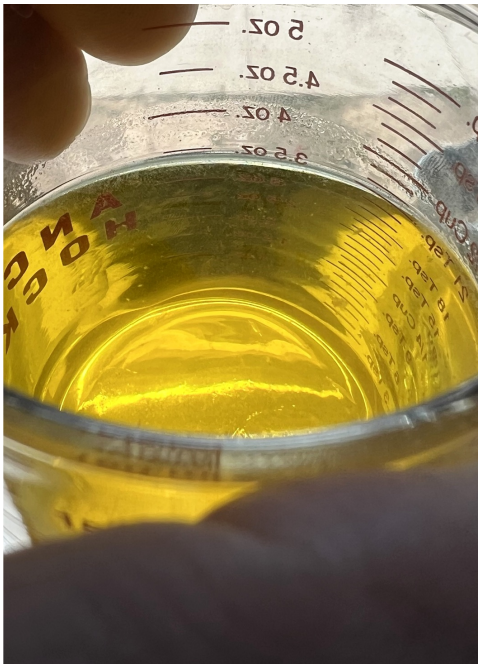
Execution pathway
Prototype and CMO package prepared

WHAT CLS CHANGED

The work determined the right architecture, then translated that decision into a formula, prototype and manufacturer-ready path.

CLIENT OUTCOME

A defined approximately 3.4 g single-serve powder system with physical prototypes, documented ingredient decisions and a technical package ready for commercial manufacturer evaluation.



REFINED FULL-MATRIX PROTOTYPE

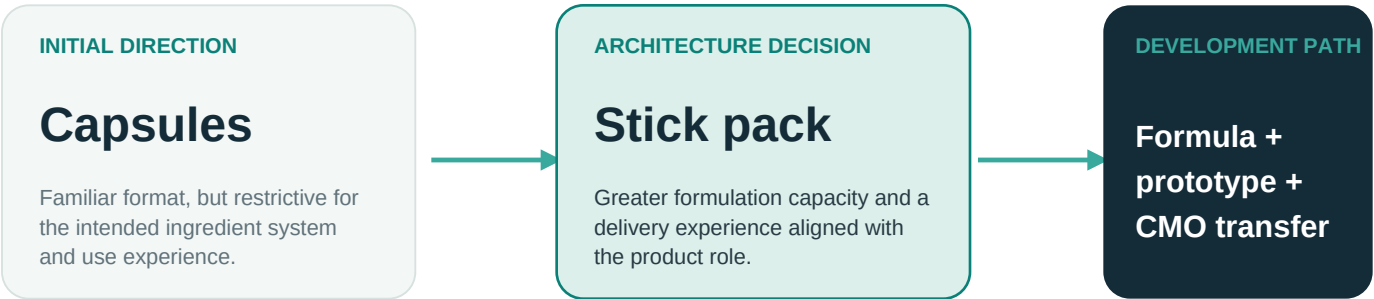
Clear golden/amber appearance

The dosage form was a decision - not an assumption.

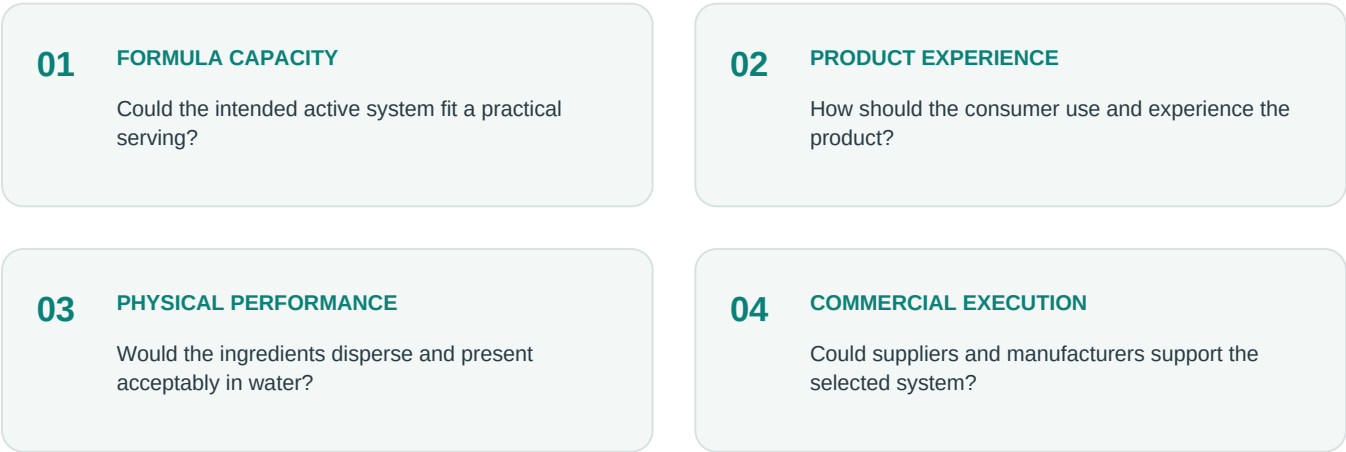
The client arrived with a functional product concept and was leaning toward capsules. CLS first evaluated what the product needed to deliver before locking the format.

DECISION LENS

Product role > functional requirements > dosage form > ingredient system



WHAT THE DECISION HAD TO RECONCILE

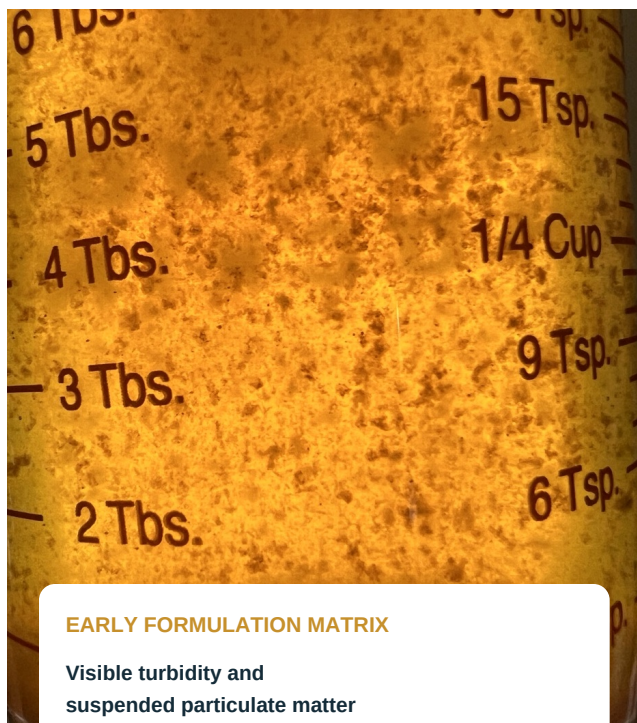


WHY THIS MATTERS

Selecting a format too early can force compromises in dose, ingredient choice, sensory performance or manufacturing. Architecture moved that risk assessment ahead of detailed formulation.

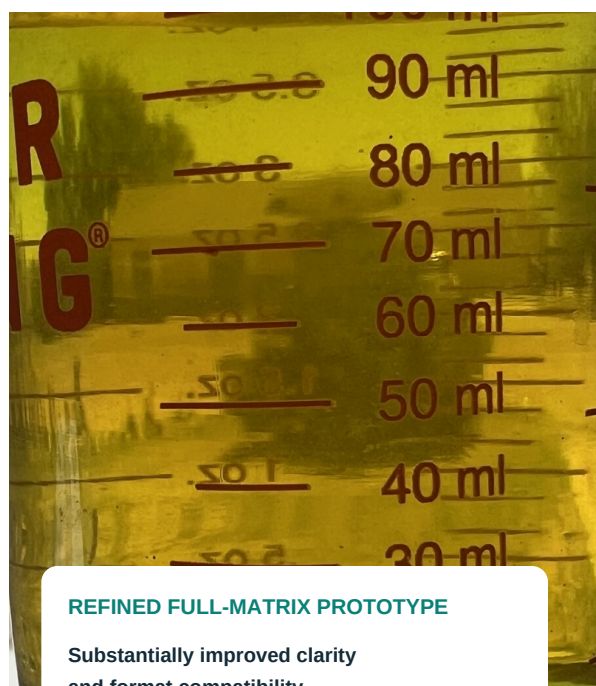
The formula had to prove itself in the glass.

An ingredient list can appear workable on paper while failing as a finished system. Bench evaluation exposed physical incompatibilities that required sequential technical decisions.



EARLY FORMULATION MATRIX

Visible turbidity and
suspended particulate matter



REFINED FULL-MATRIX PROTOTYPE

Substantially improved clarity
and format compatibility

SYSTEMATIC DEVELOPMENT RESPONSE

1 Identify risk

The early matrix contained more than one plausible contributor to poor physical performance.

2 Reduce uncertainty

A poorly soluble mineral component was removed; the original botanical remained problematic.

3 Refine the system

The botanical was replaced with a standardized, format-compatible alternative and the full matrix was reevaluated.

This was not a cosmetic adjustment. Ingredient selection had to satisfy functional, physical, sensory and manufacturing requirements simultaneously.

A decision-ready body of work - not just a formula.

The final value was the connection between product strategy, ingredient behavior, prototype evidence, supplier requirements and manufacturing execution.



HANDS-ON FULL-MATRIX DEVELOPMENT

Ingredients were weighed and evaluated as a complete system to assess physical behavior, sensory performance and active compatibility.

Image edited solely to obscure ingredient- and supplier-identifying information.

WHAT THE CLIENT COULD MOVE FORWARD WITH

- Defined single-serve product architecture
- Approximately 3.4 g formula and preparation basis
- Physical prototypes with structured observations
- Documented substitutions and rationale
- Supplier and branded-ingredient requirements
- Manufacturer evaluation and transfer package

CLS SCOPE ACROSS THE DEVELOPMENT SYSTEM



THE RESULT

From capsule-oriented concept to a defined, prototyped stick-pack system ready for commercial manufacturer evaluation.

CLEAN LABEL SUPPLEMENTS

Supplement Product Architecture | Formulation | Compliance | CMO Transfer

This case study is based on a real engagement. Client identity, positioning, formula quantities, suppliers and manufacturers have been withheld or generalized.