PRODUCT INNOVATION CASE STUDY

Reimagining the Potato Chip.

If Lay's was invented in 2026, with no legacy factory and no legacy assumptions, would we still package it this way?

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Product Investigation

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grams of protective gas needed to ship an egg

A potato chip still needs a balloon. Why?

I stopped asking why.
I started asking what if.

> *“I spent weeks explaining why the bag is full of air. Then it hit me: I was defending a design from the 1960s that nobody had reopened. So I stopped asking why it exists, and started asking how I'd build it today.”*

The bag isn't badly designed. It has just never been redesigned.

What I was really asking:

1. Why does the most fragile food get the least clever packaging?
2. With no factory and no legacy, would I even choose a bag?
3. Which other industry has already solved each of these problems?
4. If freshness is chemistry, why do we still sell it as gas?

02 · THE PROBLEM

The bag is a brilliant 1965 answer.
Nobody has re-asked the question since.

WHY THE BAG EXISTS

- The cheapest barrier that runs at 1,000+ packs a minute.
- Nitrogen does three jobs at once: oxygen, moisture, cushion.
- A big bag is free advertising: shelf presence and “looks full.”

~60% air

You ship and store mostly nitrogen, not chips.

~75 years

Metallised film lingers in landfill for decades.

Single-use

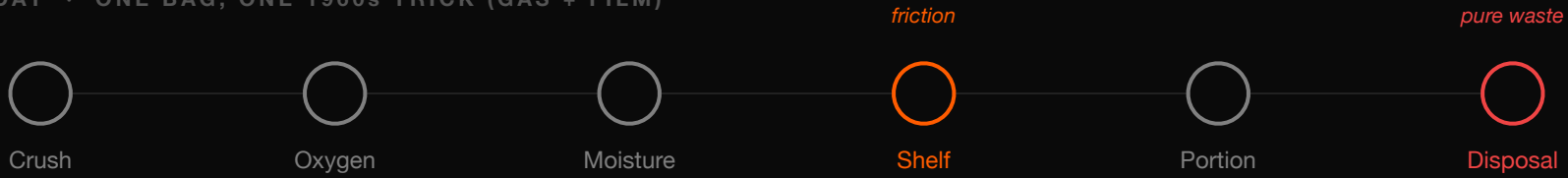
Billions of bags, each used once, then gone.

Chips vs chips

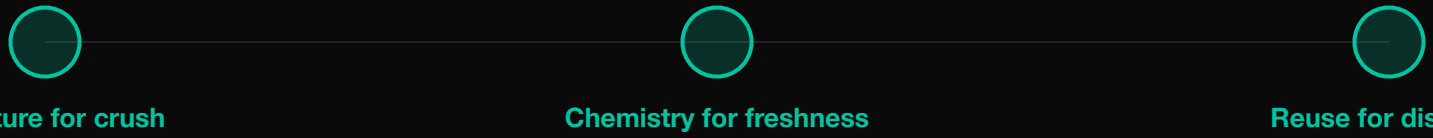
The category only ever benchmarks itself.

What if we designed it from scratch in 2026?

TODAY · ONE BAG, ONE 1960s TRICK (GAS + FILM)



INSTEAD · BORROW THE BEST ANSWER FOR EACH JOB



The question was never “can a chip bag be better?” It is “which industry already solved each job, and who carries it across first?”

Five ideas borrowed from other aisles.

The Egg-Carton Principle

from egg cartons & electronics

Form a uniform chip and nest it in a molded-fibre cradle. Structure protects it, not gas.

The Second Skin

from the steak aisle

A vacuum-skin film hugs a sturdier chip. No headspace, no nitrogen, oxygen excluded by fit.

Freshness from Chemistry

from coffee & pharma

An oxygen-scavenging film and a valve replace the gas pillow. Freshness built into the material.

The Home Vessel

from refill & deposit systems

A durable home canister holds freshness. Dense, near-flat refills replace the single-use bag.

Eat the Packaging

from seaweed film & onigiri

An edible, home-compostable inner layer. The cushioning becomes part of the snack itself.

Not all ideas are equal.

SCORECARD

IDEA	Qual	Cost	Scale	Sust	Adopt
Egg-Carton	●	●	●	●	●
Second Skin	●	●	●	●	●
Chemistry	●	●	●	●	●
Home Vessel	●	●	●	●	●

● Strong ● OK ● Weak

Research changed my priors.

01

The air was never unavoidable.

An egg, the most fragile food we ship, travels with zero protective gas. Structure beats gas. The chip simply never borrowed the idea.

02

“Less air” was never the ceiling.

The steak aisle removes air entirely. Vacuum-skin doubles shelf life versus gas-flush and cuts freight ~12%, with no headspace at all.

03

The hard part isn't the science.

SunChips shipped a perfect compostable bag, then killed it because the crinkle hit 95 dB. The real blocker is sensory and social, not technical.

04

This isn't a materials problem.

Every fix already exists in another aisle. The blocker is that the chip industry only benchmarks chips. It's an org problem, not a physics one.

Start with the egg carton.

The Egg-Carton Principle

Form a uniform, real-tasting chip and nest it in a recyclable molded-fibre cradle. Protection becomes structure, not gas. Build an oxygen-scavenging film in behind it, so freshness comes from chemistry, not volume.

- **Cost** Fibre is near cost parity with foam and offsets gas and freight.
- **Behaviour** No new habit. You still open a pack and eat.
- **Story** “The egg carton for chips” is ownable and unforgettable.
- **Readiness** Every piece is already proven in another industry.

WHY NOT THE OTHERS?

Second Skin

Highest impact, but a chip that survives a vacuum is an unsolved bet. Phase 2.

Chemistry

Great, but invisible and easy to copy. A feature, not a moat. Build it in.

Home Vessel

Needs real behaviour change. Stronger once the brand exists. Phase 3.

Eat the Packaging

The dream, not yet scalable to billions. The north star, not the start.

Best first mover: a premium DTC challenger, not an incumbent. The big bag is exactly what a market leader can't afford to abandon.

A 3-phase pilot to de-risk fast.

Phase 1 0–6 mo

Form & Cradle

- Develop a nesting chip that tastes like a kettle chip.
- Prototype a molded-fibre cradle that passes drop tests.
- Blind taste against a leading kettle chip.

Kill unless: taste parity AND under 30% pack air.

Phase 2 6–18 mo

Freshness & Line

- Add an oxygen-scavenging mono-material film.
- Run a pilot line and a full shelf-life study.
- Limited retail plus direct-to-consumer trial.

Target: 6-month shelf life at under 2% residual oxygen.

Phase 3 18–36 mo

Launch & Scale

- Premium DTC launch, then selective retail.
- Add a refill vessel for repeat buyers.
- Make the scale-up capex decision.

Success: over 40% repurchase, positive unit margin.

09 · FUTURE VISION

The potato chip, 2035.

No wasted air. No landfill bag. No 1960s assumptions.

H1: 2026–28

The nesting chip in a recyclable fibre pack proves the air was always optional.

H2: 2028–31

Freshness moves from gas to chemistry. A refill vessel makes the bag a choice, not a default.

H3: 2031–35

The wrapper becomes edible or compostable. Packaging stops being waste and becomes part of the snack.

The bag was never the best answer. It was just the oldest one.

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