UNIVERSITY OF SHEFFIELD · SELSA

Creating value propositions

Why someone should choose your idea over what they do now

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BEng (Hons) MSc (Sus) MSc (Des) PhD FIFST AMIMechE

3 November 2026

What we'll cover

1

Why value matters

My story: the outsider in every room

2

What a value proposition is

Who it's for, and the language each room speaks

3

Value propositions and strategy

How big companies decide what gets funded, and one real story

4

Build, test and pitch your own

Most of the session: you do the work

PART 1 OF 4

Why value matters

From: what we'll cover → **To: my story**

Part 1
Why value matters

Part 2
What a value proposition is

Part 3
Value propositions and strategy

Part 4
Your turn

But first, who am I?



Dr Yianni Alissandratos

Innovation and digital manufacturing engineer

Board advisor and fractional CTO

What I do now

- Own the technical capability roadmap for Digital Manufacturing Outputs
- Lead engineering strategy for data, automation and AI in new product development
- Build circular economies around liquid waste: reduce, reuse, recycle

Along the way

- Two start-ups and a patent in continuous-flow bio-chemical reactors
- FDF Product Innovation of the Year 2023
- FDF Engineer of the Year
- RNA vaccine “factory in a box” in the RAEng Museum of Innovation
- IFST Fellow and Policy Committee member
- IMechE FDEC member
- Taught robotics and automation at Brunel
- Taught Design and CAD at KCL
- Built and managed 3 labs and 1 pilot plant at Cranfield

fdf AWARDS food and drink federation 2023 WINNER

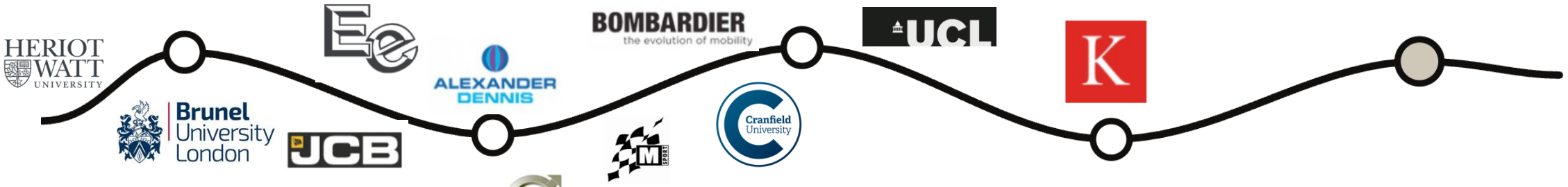
fdf AWARDS food and drink federation 2023 WINNER

fdf AWARDS food and drink federation 2022 FINALIST

Royal Academy of Engineering

HOW I GOT HERE

My career, as a spec sheet



2006–2013
Mechanical

EDUCATION

BEng (Hons) Mechanical Engineering, Heriot-Watt

MSc (Sus), Heriot-Watt

EXPERIENCE

- Mechanical–manufacturing engineer

Mechanical engineering consultant

2013–2015
Design

EDUCATION

MSc Advanced Engineering Design, Brunel

EXPERIENCE

Managing Director & Chief Design Engineer

Research Assistant, lecturing

2016–2019
Bioprocess

EDUCATION

PhD Bioprocessing, Cranfield

EXPERIENCE

Laboratory H&S Manager

Founder & Director of Engineering

Contract research consultant

Post – Doctoral Researcher

2018–2020
Vaccines

EDUCATION

EXPERIENCE

Research Associate, Manufacturing Process Control, King's College London

Co-PI, Impact Accelerator grant for COVID-19

Today
Industry

EDUCATION

Certified AI Diploma

EXPERIENCE

Senior principal innovation & digital manufacturing engineer

Board advisor and fractional CTO

THE SAME CAREER, TOLD AS VALUE

As my career grew, so did my relationship with value

Step 1

Execute it

2006–2013 · Mechanical engineer

Turned someone else’s spec into parts that fit and lines that kept running.

Step 2

Implement it

2013–2019 · Consultant In Process Design and Scaleup

Turned processes into value others could run

Step 3

Manage it

2020 · R&D leadership

Managed the people, so value propositions matched the R&D strategy.

Step 4

Communicate it

Today · Industry and board advisory

Communicate value to the people who fund it: boards, partners, investors.

SO WHAT CHANGES AS YOU CLIMB?

The higher you climb, the more your job is communicating value

Level	Communicates value to	In the language of
Engineer	Their lead	Specs, tests, results
Lead	Their manager	Delivery, time, risk
Manager	Directors	Cost, capacity, KPIs
CEO and board	Shareholders	Growth, returns, strategy

The **audience changes**, so the **language has to change**.

How good are we at it? Let's find out.

BEFORE ANY IDEA: YOU

Whatever you pitch, you are 99% of the value.

The true value in a value proposition is that you are the one doing it. People fund the person as much as the idea.

1

What value do you bring to the table?

Your skills, your evidence, your track record: the reason it's you.

2

What level do you want to talk at?

Engineer, lead, manager or board: pick the room, then speak its language.

Answer these two first, and everything else you say becomes more convincing.

PART 2 OF 4

What a value proposition is

From: a career told as value → **To: who it's for, and the language each room speaks**

Part 1
Why value matters

Part 2
What a value proposition is

Part 3
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WHAT IT IS in Business Terms

A clear statement of why a **specific person** should choose your thing over **what they do now**.

Not a slogan OR a feature list.
It applies to a **product, a process change, a research project, a community service** or even **YOU, in an interview**.

Four parts

1

Who

One specific customer or beneficiary. Never “everyone”.

2

Problem

The pain or need, in their words, not yours.

3

Alternative

What they do today, and why yours beats it. Often the rival is “do nothing”.

4

Evidence

Why they should believe you: data, a test, a pilot, a quote.

LET’S TEST THIS

Which one gets funded?

PITCH A

“Our new 2,000 L bioreactor line: 90% faster changeover, automated clean-in-place, ±0.05 pH control, GMP-ready.”

PITCH B

“Lets a vaccine plant switch products in two days instead of three weeks, so it can respond to an outbreak.”

LET'S TEST THIS

B gets funded.

Why? A lists the kit and names nobody. B names who, what changes, what it beats and why it matters.

SPECIFICALLY

Who	What changes	What it beats	Why it matters
A vaccine plant	**Two days**	**Three weeks**	**Outbreak response**

A's numbers aren't wasted: they become B's evidence.
Next: how to turn Pitch A into Pitch B, not for every receiver, but for **your network**.

WHY B WINS: BREAK IT DOWN

How to turn Pitch A into Pitch B: not for every receiver, but for your network

A's spec (unfundable)	Who in your network	What they need to hear
"90% faster changeover"	Plant director	Switch to a new vaccine in two days, not three weeks
"Automated clean-in-place"	Operations and QA	No manual cleaning between batches: shifts back, less contamination risk
"±0.05 pH control"	Bob in finance	Fewer failed batches, so less product written off
"GMP-ready"	Board and regulator	Approved faster, so we can respond to an outbreak

How to change it: name the receiver, ask "so what?" until you reach what **they** measure, then keep the spec as your **evidence**.

THE ONE IDEA

Value is defined by the receiver, not the specification.

Your spec

Your action list as an engineer:
flow rates, tolerances, materials.



What Bob in finance hears

Cost, payback, risk.
Translate your spec into the value he perceives.

YOUR STAKEHOLDERS ARE YOUR NETWORK

Who is your stakeholder?

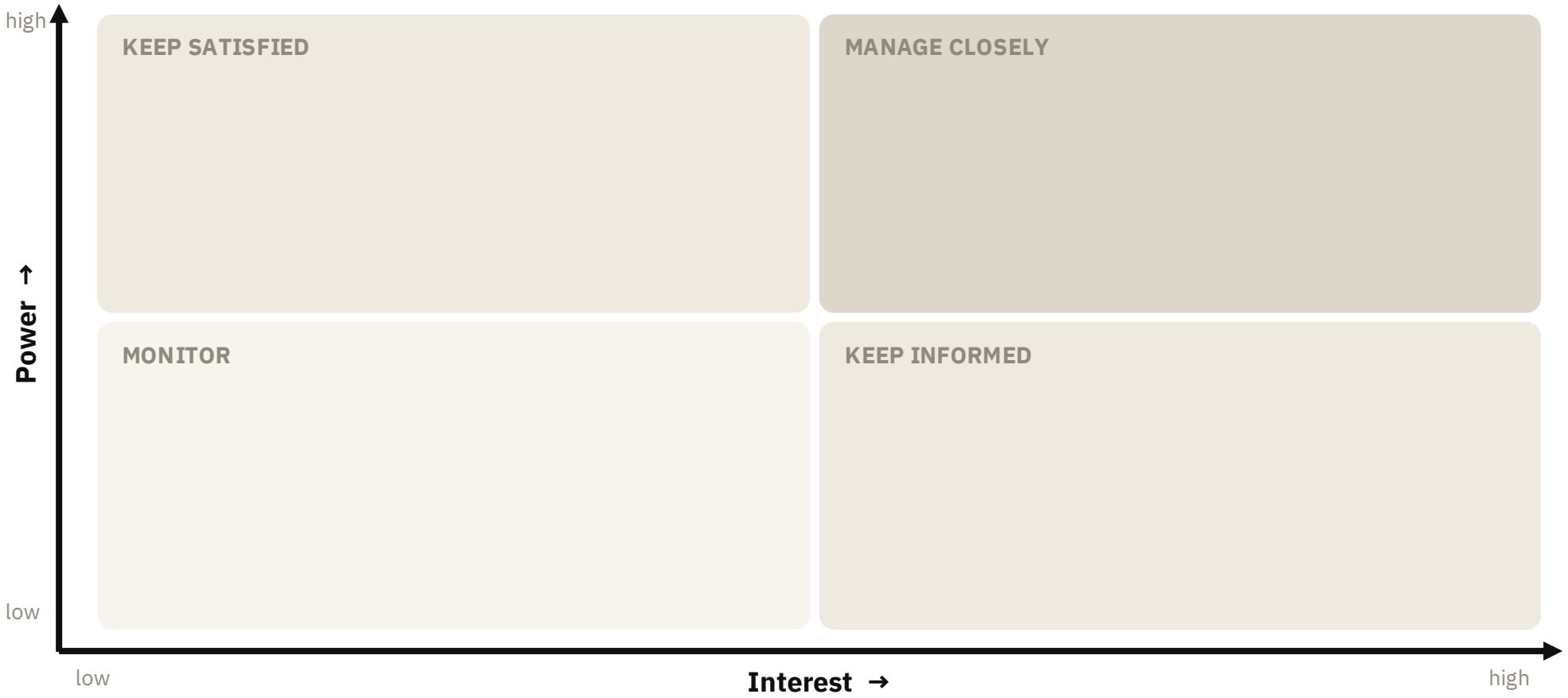
Stakeholder	What they value	What they'll ask you
Operator or end user	Safer, easier work	"Does this make my shift easier?"
Engineering manager	Reliability, delivery	"Will it work, and on time?"
Bob in finance	Cost, payback, risk	"What does it cost, and when do we get it back?"
QA, H&S, regulator	Compliance, safety	"Is it safe and validated?"
Sponsor or board	Strategy, reputation	"Why this, and why now?"
Community	Local impact	"What's in it for us?"

One project, six value propositions – and no you can't have a one fits all here, that's why you need to map your key stakeholders

Next: stakeholder mapping, to position each one.

EXERCISE · STAKEHOLDER MAPPING

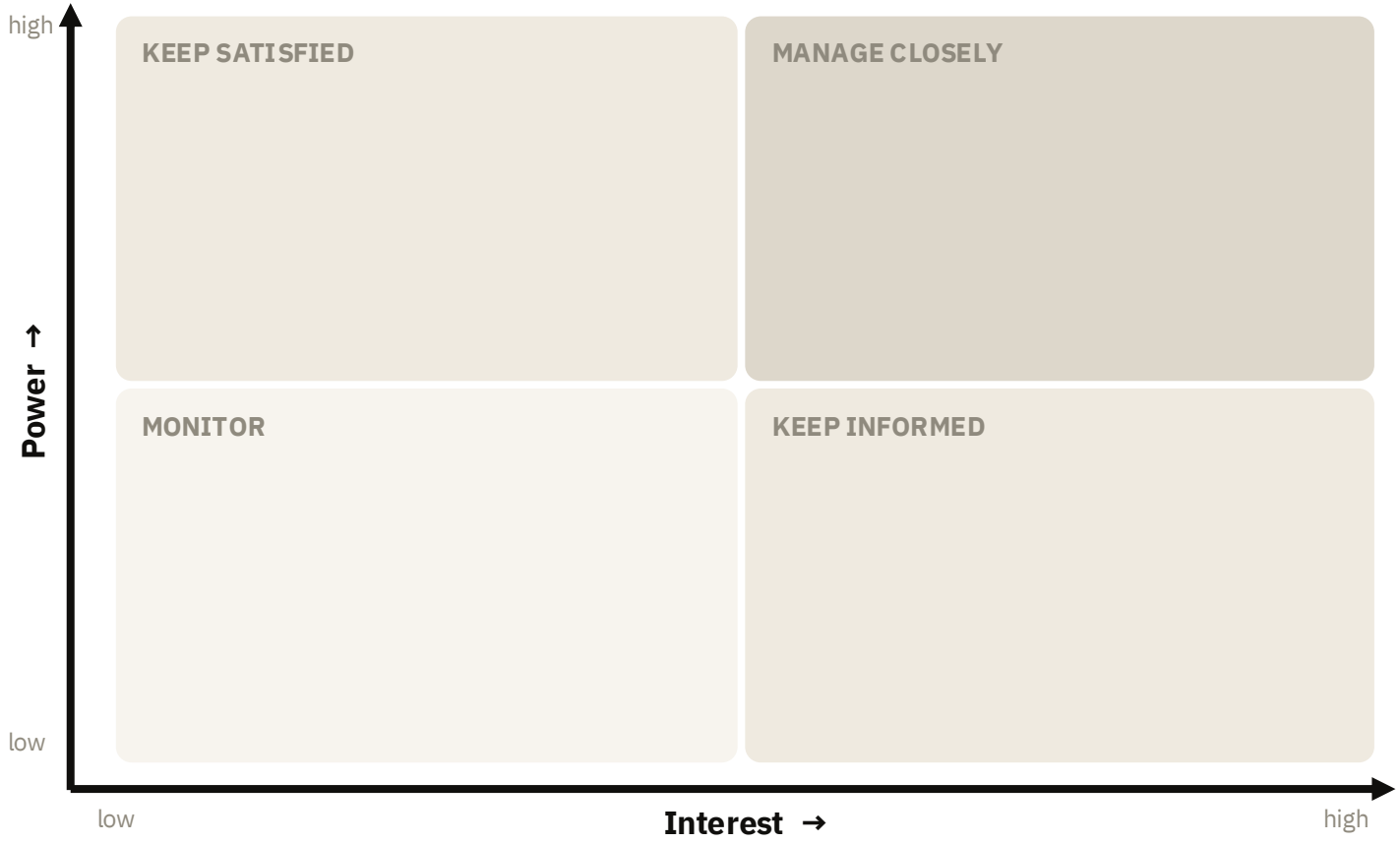
Map the network: where does each one sit?



One tab = one stakeholder. Write the name, stick it where they sit.

EXERCISE · STAKEHOLDER MAPPING

Map the network: where does each one sit?



THE NETWORK · THE VACCINE PLANT

Write each one on a blue tab and place it.

- Plant director
- Bob in finance
- The board
- Regulator (MHRA)
- QA team
- Operators
- Engineering and maintenance
- Health and safety
- Procurement
- Bioreactor supplier
- Health authority customers
- Wider business
- Local community
- Public health bodies

Missed anyone? Add a tab.

Map the vaccine plant: where they sit, what they value

	Low interest	High interest
High power	**Keep satisfied** **Bob in finance** · fewer batches written off **Regulator** · a validated, compliant process	**Manage closely** **Plant director** · capacity, switching speed **Board** · outbreak readiness, reputation
Low power	**Monitor** **Wider business** · no disruption to other lines **Local community** · jobs, site safety	**Keep informed** **Operators** · fewer cleaning shifts **QA team** · less contamination risk

PART 3 OF 4

Value propositions and strategy

From: who your stakeholders are → **To: Learning from a real example**

Part 1
Why value matters

Part 2
What a value proposition is

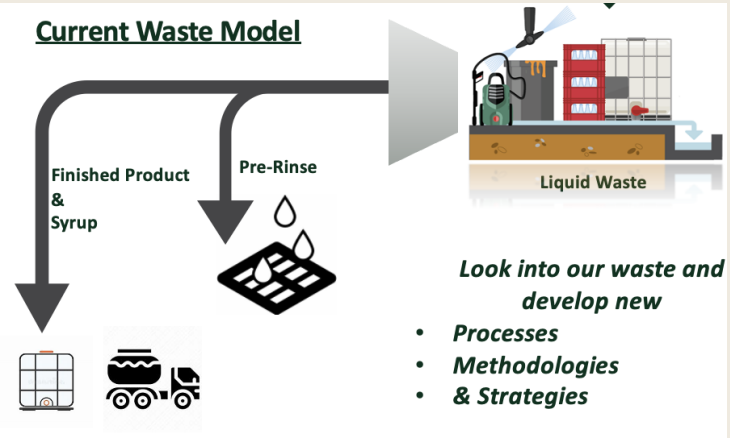
Part 3
Value propositions and strategy

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Your turn

From a waste problem to a circular economy

WHERE WE STARTED · STAGE 1

"Our waste is full of chemicals. Let's recycle them."



1 audience (R&D) · **1 idea** (a technology) · **0 value felt**. Waste goes down the drain or into a tanker, and we pay for it.

4 pitches + 2 months' groundwork

WHERE WE ENDED

A closed loop: water back to the plant, sugar into new markets

1 **Water**
recovered, cleaned and returned to the plant

2 **Sugar**
recovered as a syrup for new markets

3 **Energy and co-products**
from whatever is left over

Watch the full story: IMechE webinar, From Effluent to Asset →

Same waste. Same technology. A different value proposition, and a whole network behind it.

FROM PRACTICE: A REAL STORY

Full story: IMechE webinar, From Effluent to Asset →

Waste valorisation: three pitches, three noes

STAGE 1 · PITCHED TO R&D

“Our waste is full of chemicals. Let’s recycle them.”

SHOT DOWN

- “A partner owns it”
- “Not worth it”
- “Sugar is cheap”

Missing: a **who** and a **problem**. A technology looking for an owner.

STAGE 2 · PITCHED TO FACTORY LEADERSHIP

“When we extract them, we get our water back.”

THE FACTORY PUSHED BACK

- “No space for water”
- “Water is cheap”
- “What do we do with the filtrate?”

Missing: a **problem**. Nothing imminent in the factory, and the **evidence** didn’t fit the plant.

STAGE 3 · PITCHED TO ESG

“We halve our water ratio and save money.”

“GREAT. BUT WHY?”

- “Pumps can do that”
- “We already reuse CIP water”
- “Water is cheap”

Missing: a **why**. It was a good idea, but water is cheap, so why bother?

STAGE 4

Switch the conversation, then pitch again

FIRST, THE GROUNDWORK

A couple of months campaigning on **the value of water**:

- A talk at the FDF
- Brewing industry engineers
- Numerous academic institutions
- Industry partners and their ESG strategies

Watch the full story: IMechE webinar →

THEN, THE PROPOSITION

For **plant leadership** facing **drought risk and rising effluent costs**, we get more from the existing **clean-in-place system**, moving our water ratio to **best in class**, and it delivers the **water target in our ESG strategy**.

FOR THE ENGINEERS

Builds on kit they already run, added to the back end of their CIP project.

FOR LEADERSHIP

The why: local proof, future communities, and the directors' ESG targets, Best in Class Water Ratio

APPROVED

LITMUS TEST

✓ Who ✓ Problem ✓ Alternative ✓ Evidence ✓ Why

WHERE STRATEGY MEETS VALUE PROPOSITIONS

Ladder your value proposition up to the strategy

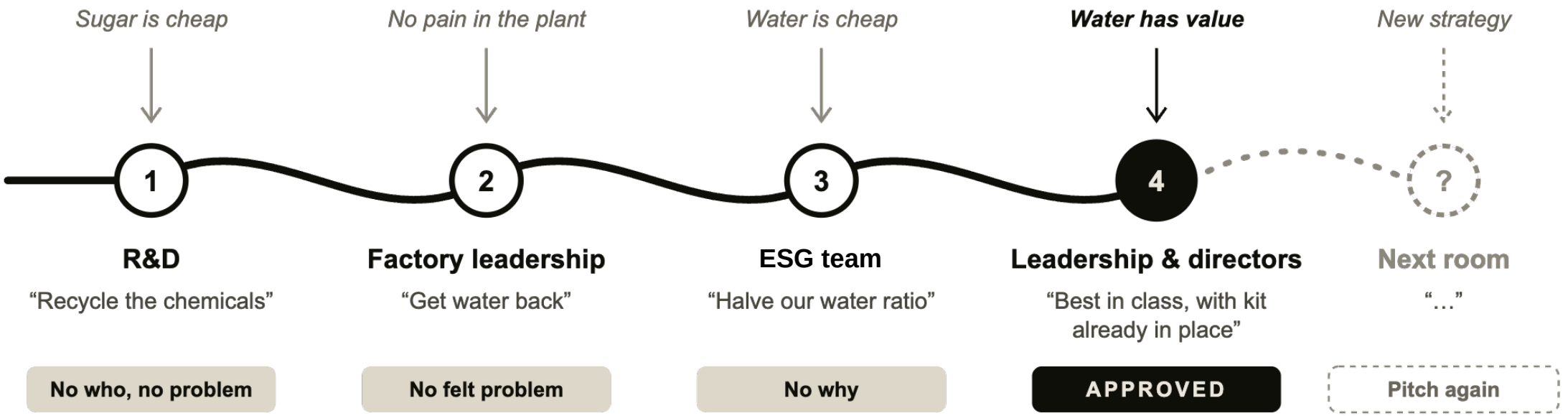
STRATEGIC PRIORITY	**A healthier planet**
TARGET	**Cut the water used per litre of product**
PROJECT	**Waste valorisation: recovering water from process waste**
VALUE PROPOSITION	Get more from technology already in place, move our water ratio to best in class, support local communities and future-proof us against drought.

If you can’t draw this ladder, Bob in finance won’t fund it.

A PROPOSITION IS NOT A SNAPSHOT

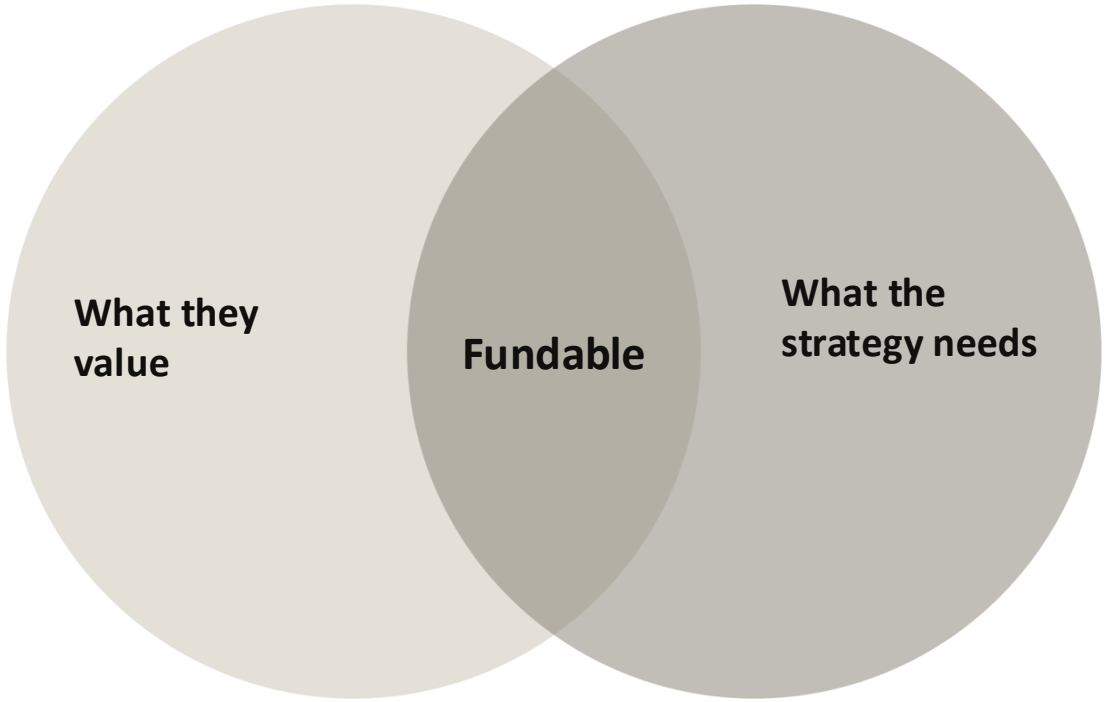
It’s a live, breathing thing

THE BUSINESS KEEPS MOVING — strategy · values · priorities →



Same technology every time. The business changed, so the proposition had to. It always will.

Value vs corporate strategy



Only the user loves it? It gets **admired**.

Only the strategy needs it? It gets **ignored**.

Both? It gets **funded**.

Four engineering traps

Leading with features

Watts, tolerances and materials before anyone knows why they matter.

“Everyone” as the customer

If it’s for everyone, nobody feels it’s for them.

Ignoring the alternative

Switching costs time, money and risk. “Good enough” usually wins.

No evidence

A claim without a test, a number or a user is just an opinion.

FORMAL PROCESSES EXIST

Some functions force you to speak their language

The room	How they judge value	The format they use
Corporate, FMCG, manufacturing	Strategic fit, payback, risk	Stage-gate business case
R&D and innovation teams	Need, approach, benefit per cost	NABC (SRI International)
Research funders, defence	What's new, impact, risk	Heilmeier Catechism (DARPA)
Start-ups and investors	Customer fit, market, traction	Value Proposition Canvas, pitch deck
Product and marketing	Who it's for, how it's different	Positioning statement (Moore)
Customer-obsessed product teams	The customer's outcome first	Amazon's PR/FAQ, "working backwards"

Positioning statement: our four parts, fill in the blanks

THE TEMPLATE THEY HAND YOU

For **[target customer]** (= Who) who **[need]** (= Problem), the **[product]** (= Solution) is a **[category]** (= Solution) that **[key benefit]** (= Evidence).

Unlike **[main alternative]** (= Alternative), our product **[key difference]** (= Why it beats it).

Geoffrey Moore’s positioning statement, used by product and marketing teams everywhere.

NABC: the same four parts, in R&D’s language

N Need

“What is the customer’s important need?”

= Who + Problem

Cups: The SU bar manager pays for a single-use cup with every drink and is behind on sustainability targets.

A Approach

“What is your unique approach to meeting it?”

= Your solution

Cups: A £1 deposit-return cup, washed on site, returned at any SU bar.

B Benefits per cost

“What are the benefits, and what do they cost?”

= Evidence

Cups: Lower cup spend and less waste; a four-week pilot measures return rate and washing cost per cup.

C Competition

“Why is that better than the alternatives?”

= Alternative

Cups: Compostable cups still cost on every serve; a 20p charge annoys students and changes little.

From SRI International. If you can fill in our four parts, you can fill in NABC.

PART 4 OF 4

Your turn

8 min

Build one together

17 min

Draft your own

15 min

Stress-test and rewrite

15 min

Pitch in 60 seconds

WHY THIS CASE?

Reuse and deposit return are a real, growing industry

THE LAW IS COMING

A UK deposit return scheme for plastic bottles and cans launches in October 2027.

England, Scotland and Northern Ireland. Retailers, brands and venues are already planning for it.

IT WORKS ON CAMPUS

UCL East's 2025 trial: £1 deposit, 79% of cups returned.

Only 15% of customers still chose a disposable cup. York, Manchester and Sussex run schemes too.

IT NEEDS ENGINEERS

The hard part isn't the cup. It's the system.

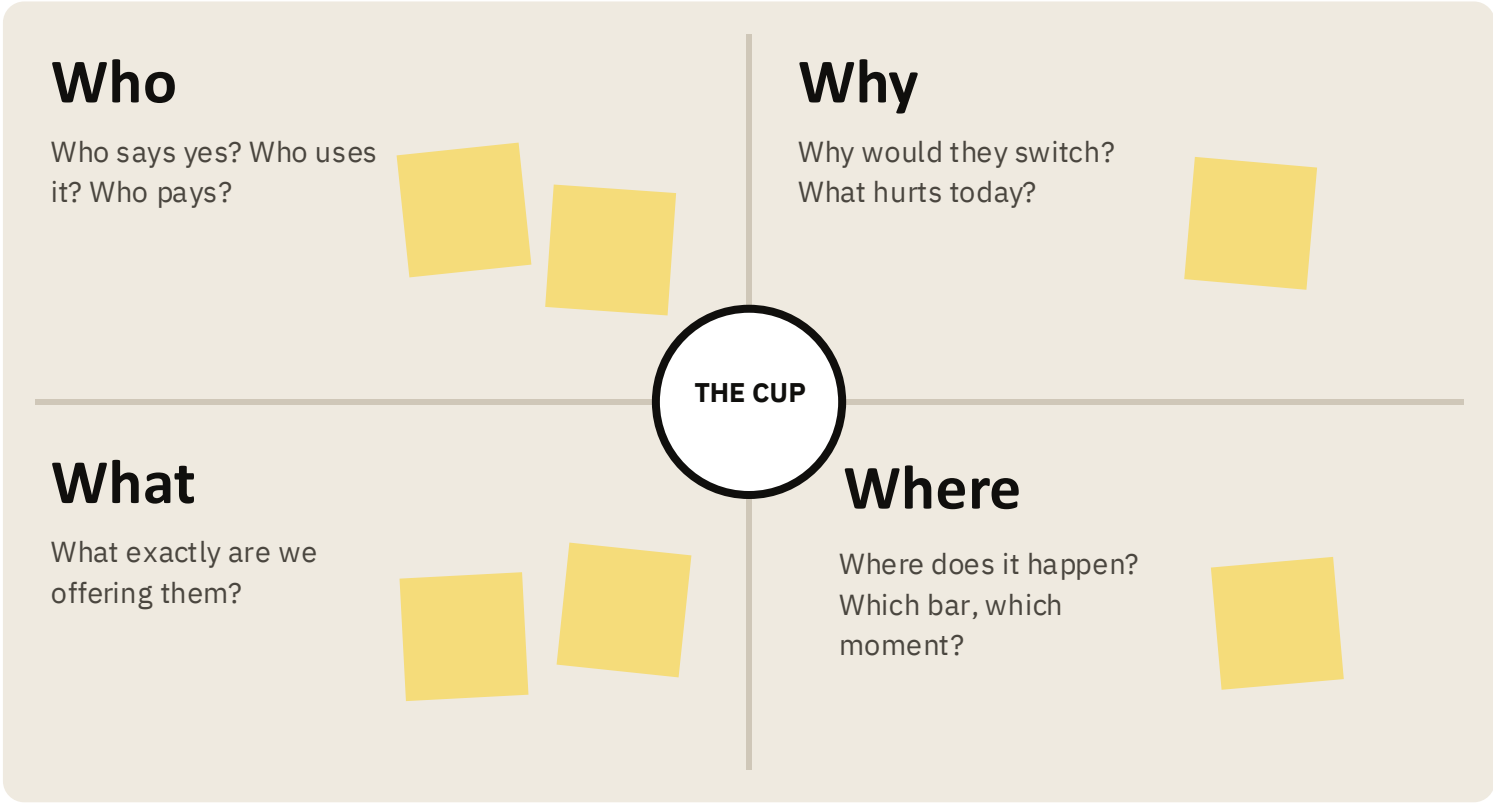
Return points, washing, tracking, logistics and data. Plenty of companies are competing to build it.

Sources: UK Government DRS update; UCL "Return-to-Earn" case study, 2025.

WARM-UP · 3 MINUTES · POST-ITS

The reusable cup: who, why, what, where

No wrong answers yet. Get everything on the wall.



INSTRUCTIONS

1. Every team takes a pad of post-its.
2. One idea per post-it: short, in capitals.
3. Stick it in the box it belongs to.
4. 3 minutes, then we read the wall together.

Next: we turn the wall into one value proposition.

BUILD ONE TOGETHER

Reusable cups at the Students' Union

A student team wants a deposit-return reusable cup in every Students' Union bar and café. Today, every drink goes out in a single-use cup.

Part	Your answer
Who	?
Problem	?
Alternative	?
Evidence	?

Reusable cups at the Students' Union

Part	The real answer
Who	The SU bar or commercial manager, who signs it off. The sustainability officer, who can fund it.
Problem	Paying for a single-use cup with every drink, overflowing bins, and falling behind on the SU's sustainability targets.
Alternative	Compostable cups (still a cost on every drink), a 20p cup charge, or doing nothing.
Evidence	A four-week pilot in one bar measuring return rate, washing cost per cup and cups lost. Benchmark: UCL East got 79% back with a £1 deposit.

WORKSHOP 1 · 20 MINUTES

Draft your team’s value proposition

> For **[specific customer or beneficiary]** who **[problem or need]**, our **[solution]** delivers **[outcome]**, unlike **[current alternative]**, and we know this because **[evidence]**.

Service project? Write a second line for whoever funds or approves it. They need a different reason to say yes than the people you serve.

EXAMPLE · A FINISHED DRAFT

The reusable cup team’s proposition

For the **SU bar manager**, who **pays for a single-use cup with every drink and is behind on sustainability targets**, our **£1 deposit-return cup scheme** delivers **lower cup spend and less waste**, unlike **compostable cups that still cost on every serve**, and we know this because **a campus trial got 79% of cups back**, which our four-week pilot will confirm.

FUNDER LINE For the sustainability fund: every returned cup is a single-use cup avoided, visible on campus and measured from week one.

No project yet? Pick a case

PROCESS · CHEMICAL

Heat recovery on a dairy pasteuriser

A retrofit heat exchanger cuts the gas the line burns. The site manager is judged on uptime, not energy bills.

ELECTRICAL · SOFTWARE

Predicting generator failures in a hospital

Vibration and load data flag backup generators likely to fail their monthly test. Estates already run fixed-interval servicing.

SERVICE · CIVIL

Flood alerts for one Sheffield street

Low-cost river-level sensors text residents. The residents don’t pay; a community fund and the council would.

WORKSHOP 2 · 15 MINUTES

Swap and stress-test

Play the customer, Bob in finance, or the sceptic for another team. Ask these three, then hand it back.

1 **Why would I switch?**

2 **What’s the evidence?**

3 **What does it cost me, including risk and hassle?**

WORKSHOP 2 · STEP 1 OF 2 · 15 MINUTES

Stand up, pitch, get grilled

No moving tables. Each team stands where it is and pitches to the room; another team grills it.

1 **Stand and pitch: 60 seconds**
The whole team stands at its table. One person speaks; the room listens.

2 **Get grilled: 3 minutes**
The grilling team stays seated and plays its stakeholder, using the three questions.

3 **Note what you couldn't answer**
That gap is what you fix in the rewrite. Next team stands.

THE THREE QUESTIONS

1 · Why would I switch?
2 · What's the evidence?
3 · What does it cost me, including risk and hassle?

WHO GRILLS WHOM

A pitches → **B** grills as **Bob in finance**

B pitches → **C** grills as **the operator**

C pitches → **A** grills as **the sponsor**

WORKSHOP 2 · STEP 2 OF 2 · 5 MINUTES

Fix the one thing you couldn’t answer

Back at your table. Don’t start again: rewrite the weakest line of your sentence.

INSTRUCTIONS

1. Sit back down at your table.
2. Pick the one question you couldn’t answer.
3. Rewrite only that line of your sentence.
4. Choose who will give the final pitch.

Stumped on “Why switch?”

Your **alternative** is weak. Name what they do today and why yours beats it.

Stumped on “Evidence?”

Add **one number, test or pilot** that would prove it.

Stumped on “Cost?”

Your **who** may be wrong. Pitch to the person who pays, or lower the risk.

Five minutes, then every team stands up again for Workshop 3: the final pitch.

WORKSHOP 3 · 7 MINUTES · FINAL PITCHES

60 seconds, in this order

0–15 s
Who and their problem

15–35 s
What changes for them

35–50 s
Why it beats today

50–60 s
Your evidence

The spec comes last, only if someone asks.

INSTRUCTIONS

1. The whole team stands at its table.
2. One speaker, 60 seconds, using the rewritten sentence.
3. Teams go in order: A, then B, then C.
4. No questions: one piece of feedback from me, then the next team.

TAKE ONE THING AWAY

Before you describe what you built, say who it’s for and what changes for them.

More resources

Website **dryianni.com**

LinkedIn **linkedin.com/in/dr-yianni-alissandratos-phd-fifst-2aa0a071**