Logbook XR Intelligence (team 7)

Making the circular economy more tangible for industry actors
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Company brief : *How might we influence board members in the energy and battery sector (using XR) in order to manage the end of life of the components of their products ?*

PROJECT BRIEF: Create an interface (via a phone) that would allow users to view their data and interact with it using AI.

Why? To facilitate understanding of the economic impact of recycling and the second life of car batteries.

Users? Company CEOs.

What? Provide a visual, interactive, and intelligent medium to effectively raise awareness.

How? Use a “carrot” to encourage more effective engagement and trigger change.

Carrot here : long-term financial and competitive added value.

Summary :

Persona :

Philippe Marchand
CEO of a large industrial company (5,000 employees, automotive sector)

Problems:
Lack of time and knowledge about **new environmental opportunities**.
Still sees environmental issues as a regulatory constraint rather than a source of profit.
Under pressure from shareholders and the media on CSR (Corporate Social Responsibility).
Finds it difficult to assess the real profitability of initiatives such as battery recycling.

Pains:
Risk of **poor public image** compared to “greener” competitors.
Rising costs of industrial **waste management**.
Slow or ill-informed decisions on new technologies.
Feeling of being “overwhelmed” by **new environmental challenges**.

Goals:
Find concrete opportunities to improve the **profitability of the business**.
Understand how **sustainability can strengthen competitiveness**.
Maintain **leadership position** without taking risks perceived as unnecessary.
Prepare the business for **future regulations** without hindering growth.

Desired Benefits:
Reduce procurement costs through **internal recycling**.
Create an image of an innovative and responsible company.
Attract **investors** who are **sensitive** to sustainability.
Gain a **competitive advantage** through better resource management.

Objections:
“Recycling is an expense, not an investment.”
“I don’t have the internal resources to deal with it.”
“It’s not my core business.”
“Customers won’t pay more for environmental friendliness.”

Context:
Has experienced traditional industrial growth: **productivity, costs, performance**.
Very **rational**, focused on numbers.
Gets most of his information from financial reports and the business press.
Surrounded by a team that **doesn't always dare to contradict his vision**.

Triggers:
A **competitor** announces a **strategic partnership in recycling.**
New regulations require **battery recovery**.
A **profitable investment opportunity** linked to the circular economy.
A clear presentation showing the **financial benefits of recycling.**

Keep in mind :

- Bringing this onto the XR brief (e.g digital passport integration, automated disassembly insights, battery history data) would make the challenge more grounded
- XR experience might bridge the worlds of manager (strategy) and operator (maintenance, disassembly, diagnostics)
- Circularity depend heavily on data availability

Constraints:

- Combining ecology, economy, and technology
- Lack of visualization of materials, energy, and data flow
- Few tools concretely illustrate this circular loop
- Compartmentalization between departments (R&D, production, maintenance, purchasing)

Recycling cost : Dismantling, crushing, and chemical treatment are expensive. The total cost of treatment is estimated at around €1,500 to €2,500 per ton of batteries, depending on the process and location (including transport, as batteries are hazardous materials).

Legislation :

Important recent data (Europe/industry)

EU regulation (Battery Regulation): sets increasing obligations (recycled content targets) and new rules for verifying recycling rates; regulations are evolving to increase recovery and recycled content requirements. Eur-Lex+1

2031 recycled content targets (examples cited in analyses): ambitious targets — e.g., several reports indicate thresholds such as ~6% recycled lithium and 16% recycled cobalt for certain deadlines (example to be verified according to final version of regulatory tables). Reuters+1

Capacity vs. need: Europe has significantly less recycling capacity than will be needed by 2030 — some studies/reports estimate that the EU currently has only about 10% of the capacity required for 2030; many projects are in the pipeline but require funding and skills development. Reuters+1

Industrial examples: European players such as Northvolt are achieving very high recovery rates (reported rates of >90% for certain metals in their plants) and are pushing towards closed-loop models. Le Monde.fr

Market: the lithium-ion recycling sector in Europe is growing (recent estimates: billions of USD and high CAGR towards 2030+), momentum is strong but depends on raw material prices and public policy.