MANUFACTURING – E-WASTE OPTIMIZATION

A Better Mix. A Better Margin.

Simulation tools increased recovery rate — and total material value.

OVERVIEW - E-waste recycler that sources electronic waste, processes it to extract precious metals, and sells the high-grade output for further refining. The company is focused on optimizing its material mix to maximize profitability, as it is currently not profitable and is striving to reach profitability through better decision-making in its operations.

CHALLENGES

- The company faces challenges in sourcing electronic waste and determining the profitability of purchased lots.
- The company struggles with deciding whether to process or sell purchased lots for optimal profitability.
- The business was not profitable, and previous attempts to increase volume led to higher costs and reduced profitability.
- The complexity of mixing different lots for optimal outcomes involves billions of permutations, which cannot be managed manually or with Excel.

SOLUTIONS

- Implementing Palantir Foundry to run simulations and identify the most profitable mix scenarios.
- Using machine learning to analyze production data and optimize the pyrolysis plant feed rate.

TECH STACK - Palantir Foundry is used to run simulations and optimize material mixes.

OUTCOMES

The use of Palantir Foundry has enabled the identification of optimal mixes, potentially increasing profitability by 30% to 60%.

The platform provides clarity and confidence to buyers, improving supplier relationships and decision-making.

The potential increase in profit margins by 30% to 60% is significant for an industrial company with typical margins of 5% to 10%.

Initial results indicate that mixes are around 60% more profitable than previous methods. The simulation has increased the average profit per dry metric tonne from $500 to $800.