INVESTOR PITCH DECK

Avimetal

Unlocking the Metals That Legacy Smelters Leave Behind

A U.S.-based mineral processing and precious-metals technology company — delivering a complete, modular, end-to-end ore-processing line from raw feed through final refined ingot. Built by scientists, metallurgists, and geologists with decades of combined experience.

The Core Thesis

The next century of metals supply will not come from new mines — it will come from smarter recovery of what's already on the ground. Avimetal exists to make that recovery economically viable, at scale, for any feedstock type.

What We Do

- Design, manufacture, and operate a 14-stage modular processing line
- Process gold ore, PGMs, rare earths, copper concentrate, and e-waste
- Deploy as a fixed plant or fully containerized mobile unit
- Operate with as few as 3–5 technicians per shift

THE PROBLEM

A Structural Crisis in Global Mining

The global mining industry is confronting a convergence of long-term structural forces that conventional capital and conventional technology cannot solve. Ore grades have declined steadily for decades, the capital cost of a new conventional smelter now exceeds **one billion dollars per facility**, and environmental permitting timelines routinely extend to ten years or more. The industry is running out of easy answers.

Declining Ore Grades

Primary ore grades have fallen precipitously across gold, copper, and PGM deposits. The ores that remain economically accessible under conventional methods represent a shrinking fraction of total global resource.

Stranded Legacy Stockpiles

Hundreds of millions of tons of slag, tailings, and historic stockpiles — some accumulating since the late 1800s — contain economically meaningful quantities of gold, silver, platinum, palladium, and rare earths that traditional pyrometallurgy simply cannot reach.

E-Waste Complexity

Urban mining feeds such as printed circuit boards and IC chips contain higher metal concentrations than virgin ore — but in chemically complex forms that require multi-stage hydrometallurgical and electrochemical separation no single legacy smelter offers.

Systemic Recovery Loss

The industry loses 15–20% of already-low recoveries to inefficiency, pays repeatedly for repair, transport, and environmental compliance, and cannot respond to surging demand for the critical minerals powering EVs, defense, and the energy transition.

THE SOLUTION

A Complete Modular Processing Line, Built From First Principles

Avimetal has engineered a complete, fourteen-stage ore-processing line that addresses the full spectrum of challenges — from liberation-grade crushing through final refined ingot — without dependence on water-intensive or chemically wasteful conventional approaches. Every stage is a stand-alone module, combinable or operable independently, giving customers the flexibility to scale capacity without redesigning the plant.

Comminution | **Dewatering** | **Concentration** | **Leaching & Pretreat** | **Recovery & Refining**

The line concludes with a dedicated **Environment Control Module** that captures fumes, treats wastewater, and meets U.S. and EU emission standards out of the box — eliminating the environmental compliance gap that stalls competitors at the permitting stage.

CORE TECHNOLOGY

Proprietary Platforms That Redefine the Economics of Recovery

Cold Fusion Plasma

Extracts precious metals at near-ambient pressure with dramatically lower energy input than conventional smelting. Operates on feedstocks that standard arc or induction furnaces cannot process economically, including complex sulfidic and arsenical ores.

Hot Plasma

Handles refractory feeds and slags no arc or induction furnace can reach economically. Designed for the world's largest untapped resource category: industrial and historic slag piles sitting at legacy smelter sites across the United States, Korea, and the Middle East.

Cyclone Electrowinning

Delivers significantly higher current efficiency and lower energy consumption than conventional flat-plate cells. The cyclone geometry maximizes mass transfer, accelerating deposition rates and reducing the time-per-batch at commercial throughput.

Rotating Electrowinning

Complements the Cyclone unit for feedstocks requiring enhanced mixing at low metal concentrations — particularly valuable in leach solutions derived from e-waste and low-grade tailings.

Cyclone Electrorefining

Provides final-stage purification to commercial specification, producing London Bullion Market-compatible outputs directly from the line without secondary refining.

Together, these platforms allow Avimetal to economically process ores down to **100 g/t** — well below the threshold at which legacy operations shut down.

DEPLOYMENT MODEL

The Containerized Plant: From Weeks to Revenue

For customers requiring rapid deployment, Avimetal offers the entire fourteen-stage line in a fully containerized configuration. Modules ship in standardized forty-foot containers, assemble on a prepared pad in **weeks rather than years**, and can be relocated as ore bodies are exhausted or new opportunities emerge. This architecture fundamentally transforms the economics of small and medium deposits, distressed assets, and time-sensitive contracts.

Standardized 40-Foot Containers

All fourteen modules are engineered to ship in standard ISO containers via any freight mode — sea, rail, or road — reaching remote sites that pipeline or fixed infrastructure cannot serve.

Weeks to Commissioning

On a prepared pad with utility connections, a full Avimetal line can be assembled, commissioned, and producing refined product in a matter of weeks — compressing the typical two-to-five year fixed-plant development cycle to a fraction of its cost and timeline.

Fully Relocatable

When an ore body is exhausted or a tailings pile is processed, the entire plant moves to the next opportunity. Capital does not strand. This is particularly powerful for artisanal-mining formalization and government stockpile-recovery contracts.

U.S.-Engineered Controls

Every module ships with automated dosing, remote monitoring, and U.S.-engineered control systems, enabling a fully staffed plant to operate with as few as three to five technicians per shift — dramatically reducing operational overhead in remote jurisdictions.

MARKET OPPORTUNITY

Four High-Value Markets, One Integrated Platform

Avimetal's technology serves four distinct, high-value market segments, each representing a multi-billion-dollar addressable opportunity with structural demand driven by the energy transition, defense priorities, and the formalization of historically informal mining activity.

Precious Metals Recovery

Gold, silver, and platinum-group metals from primary ore, tailings, and slag — including historic stockpiles sitting unprocessed since the late 1800s. Demand is inelastic; prices are near all-time highs. Avimetal's ability to process sub-200 g/t feeds opens resource categories that no competitor can address.

Rare Earths

The PRG separation platform offers a domestic U.S. alternative to Chinese-controlled rare-earth supply chains for permanent magnets, defense applications, and EV motors. A strategically critical market with active government procurement interest and strong price premiums for non-Chinese supply.

Base Metals Upgrading

The PGM-enriched copper ingot product exemplifies Avimetal's ability to stack recovery economics — combining copper smelting throughput with platinum-group recovery in a single operation, delivering a blended product that commands premium pricing over standard copper cathode.

Urban Mining / E-Waste

Printed circuit boards, IC chips, and industrial e-waste contain metal concentrations that exceed virgin ore — but require multi-stage processing no single legacy smelter offers. Avimetal's line recovers far higher value per ton than incineration or shredding, making e-waste a high-margin feed stream rather than a disposal problem.

BUSINESS MODEL

Three Revenue Channels: Equipment, Joint Ventures, and Toll Processing

Avimetal's commercial model is engineered to generate both immediate capital-equipment revenue and long-tail, royalty-style recurring cash flow — without taking commodity price exposure on the equipment side. The three-channel structure gives investors both near-term revenue predictability and the high-multiple valuation characteristics of a technology royalty business.

1

Equipment Sales

We sell engineered modules and complete processing lines to mining companies, refiners, and government partners. Revenue includes equipment margin plus engineering, installation, and commissioning fees. Drives immediate recognition of capital value.

2

Joint Ventures

We partner with feedstock owners — particularly holders of stranded slag piles and historic tailings — providing technology in exchange for a share of recovered metal revenue. High-margin recurring cash flow. No commodity exposure on the equipment side. Pipeline includes several million tons already under LOI or MOU.

3

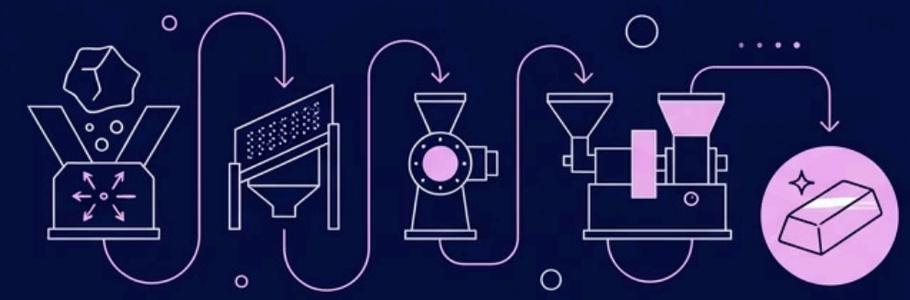
Toll Processing

Company-operated pilot and commercial plants accept third-party feedstock for a processing fee, allowing smaller producers to access world-class recovery without capital expense. Generates revenue from day one of plant commissioning while building a reference dataset for sales.

The three-channel mix produces a financial profile combining upfront equipment revenue, milestone-based JV distributions, and recurring toll-processing fees — providing multiple paths to cash-flow positivity from a single plant deployment.

COMPETITIVE ADVANTAGE

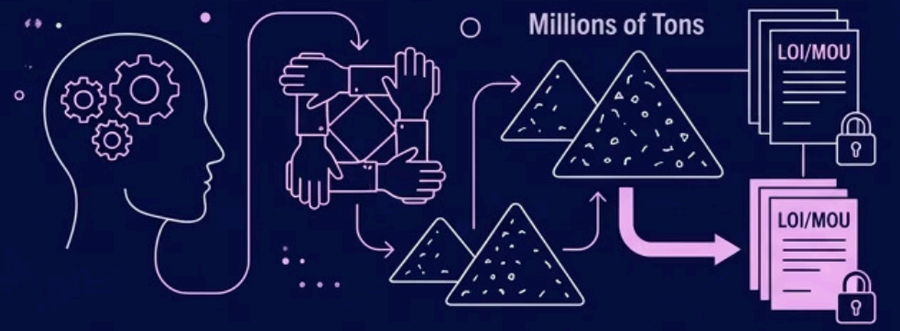
Four Pillars of Defensibility



INTEGRATED 14-STAGE LINE — ONLY SINGLE-VENDOR SOLUTION FROM CRUSHER TO REFINED INGOT, NO COMPETITOR MATCHES FULL SCOPE.

PROPRIETARY TECHNOLOGY — PLASMA PLATFORMS AND CYCLONE-ELECTROCHEMICAL REACTORS PROTECTED BY ENGINEERING KNOW-HOW AND GROWING PATENT PORTFOLIO

CONTAINERIZED SPEED — DEPLOYMENT IN WEEKS VS. YEARS, LOCKING IN OPPORTUNITIES COMPETITORS CANNOT REACH IN TIME



SUPPLY PIPELINE — DEEP U.S. METALLURGICAL TEAM WITH ESTABLISHED RELATIONSHIPS AND MILLIONS OF TONS UNDER LOI/MOU WITH FEEDSTOCK OWNERS

Avimetal's competitive position is not dependent on any single advantage. The integration of a complete processing line, proprietary technology platforms, containerized deployment speed, and an irreplaceable feedstock supply pipeline creates a compound moat that grows more defensible with each plant commissioned and each joint venture signed. Competitors who close one gap cannot replicate the others without multi-year investment and the team relationships that took decades to build.

FINANCIAL HIGHLIGHTS

Phase-One Economics: Compelling Returns at Conservative Assumptions

Avimetal's operating economics are compelling even at conservative ore-grade assumptions. A single five-ton-per-day line processing feedstock at 500 g/t gold generates **monthly revenue in the millions of dollars** at current gold prices, with gross margins above fifty percent after all variable costs. Higher-grade feedstocks — of which several million tons are already under letter of intent or MOU — scale these economics by an order of magnitude.

$250K

Phase-One Capital

Initial capital required to commission a fully operational phase-one processing line, including equipment, installation, and commissioning.

>50%

Gross Margin

Achievable at conservative 500 g/t gold feed, after settlement, electricity, labor, flux, and trucking costs are fully accounted for.

3×

Phase Expansion

Phase-two and phase-three capital each approximately equal to phase one — three tranches of ~$250K produce a multi-ton-per-day commercial plant with payback measured in months.

Months

Payback Period

At current gold prices and contracted feedstock grades, the payback period on phase-one capital investment is measured in months rather than years.

Several million tons of feedstock are already under letter of intent or MOU with stockpile owners — providing a contracted supply pipeline before the pilot plant is commissioned.

PILOT PLANT & ROADMAP

From Pilot Validation to Regional Commercial Deployment

Phase 1 — Pilot Plant

Commission full 14-stage line at commercial-relevant throughput. Generate independent recovery and economic data. Build investor and customer due-diligence reference. Activate toll-processing revenue from day one.

Phase 2 — Commercial Plant & Containerized Units

Deploy first regional commercial plant. Launch containerized mobile units for tailings and government stockpile contracts. Execute signed and pending feedstock joint ventures. Scale field-services and engineering team.

Phase 3 — Rare Earths & Battery Metals

Expand into rare-earth separation and battery-metals processing as those markets mature. Pursue government procurement relationships for domestic critical-mineral supply chain. Build multi-plant, multi-continent operating footprint.

1 2 3

The Team

Avimetal is led by **James Gim**, founder and CEO, supported by a U.S.-based core team of scientists, metallurgists, geologists, and process engineers who collectively developed the company's proprietary plasma, electrochemical, and modular-plant technologies. Commercial relationships span the United States, Korea, and the Middle East.

The Ask

Avimetal is raising growth capital to commission the pilot plant, complete containerized-line certification, and execute on signed and pending feedstock joint ventures. Proceeds fund pilot construction and commissioning, initial feedstock working capital, engineering and field-services team expansion, and intellectual-property protection.

We invite qualified strategic and financial partners to join us in building the recovery infrastructure the next era of metals supply will be built on.