



KRN ALLOYS PVT. LTD.

STRATEGIC PARTNERSHIP PROPOSAL

— CIRCULAR PM ECOSYSTEM

Transforming Sintered Scrap into Strategic Advantage.

A closed-loop metallurgical framework to recover stranded capital, drastically reduce raw material costs, and elevate ESG compliance for Tier-1 PM Manufacturers.

THE INDUSTRY CHALLENGE

Scrap isn't just waste. It is stranded capital.



Loss of Raw Material Value

Sintered scrap, green rejection, and machining chips contain high-grade alloyed metals. Selling this as low-value commercial scrap results in massive capital erosion for Tier-1 manufacturers.



Mounting ESG & Disposal Pressures

Global OEMs are mandating strict Scope 3 emission reductions and circular economy practices. Traditional disposal or low-grade recycling no longer meets modern sustainability metrics.



Margin Compression

As global virgin metal prices fluctuate, the inability to efficiently re-utilize internal waste streams directly suppresses bottom-line profitability.



The Hidden Cost of PM Manufacturing.

The Closed-Loop Recovery Protocol.



Retaining Intrinsic Alloy Value.

Traditional scrap melting severely degrades high-value alloying elements like **Molybdenum, Nickel, and Copper**. Our proprietary reprocessing algorithms and precise atomization lines ensure total metallurgical retention—converting waste back into precision powder at a fraction of virgin carbon costs.

5-15%

TYPICAL PM WASTE

Lost via green scrap & sintered rejects daily.

~75%

ENERGY SAVED

Massive Scope 3 emission reduction vs virgin metals.

100%

ALLOY RECOVERY

Zero loss of your critical elemental integrity.



Scrap Collection

Your sintered parts, green scrap, and chips are securely collected.



Advanced Reprocessing

Proprietary reduction and atomization revert scrap to elemental powder.



Quality Validation

OES and PSD validation ensures compliance to OEM virgin specifications.



Seamless Re-integration

Production-ready powder is returned, slashing raw material costs.

THE ULTIMATE STRATEGY

The Hybrid Supply Ecosystem.

Reprocessing scrap is just the beginning. To achieve unparalleled cost-efficiency without ever compromising on metallurgical integrity, KRN pioneers the **Hybrid Supply Ecosystem**.

Phase 1: Scrap Optimization

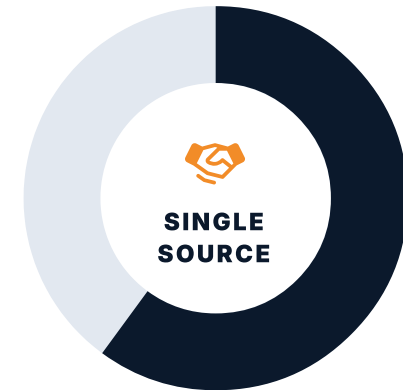
We prove our metallurgical competence by successfully recovering your waste stream, delivering immediate, verifiable cost savings to your procurement team.

Phase 2: Unified Blending (The Upgrade)

We seamlessly integrate KRN's ultra-premium **Virgin Metal Powders** alongside your reprocessed material. By engineering a custom hybrid premix, we act as your single-source partner—drastically lowering your total blended cost per kg while guaranteeing 100% dimensional stability.

OPTIMIZED HYBRID BLEND

COST VS. PERFORMANCE RATIO



 KRN VIRGIN POWDER

 REPROCESSED SCRAP

The Mathematical Advantage.



Stop downgrading your high-value alloys.

When Tier-1 PM manufacturers sell sintered scrap as standard HMS (Heavy Melting Scrap), they permanently lose the premium paid for expensive alloying elements. KRN's Closed-Loop ecosystem prevents this value destruction.



100% Alloy Premium Retention

Volatile metals like **Molybdenum (Mo), Nickel (Ni), and Copper (Cu)** are entirely preserved in our reduction process, unlike traditional scrap melting.



~75% Carbon Footprint Reduction

Virgin powder atomization generates significant CO₂. By upcycling existing matrices, we bypass the primary smelting phase, delivering massive Scope 3 emission cuts to OEMs.

DIRECT BOM COST REDUCTION

Achieved by integrating a 30% reprocessed / 70% virgin hybrid blend into your existing tooling.

15-25%

~12%

AVERAGE PM WASTE

The industry standard volume of green & sintered scrap generated per cycle, now fully recoverable.

Zero

QUALITY DEVIATION

Rigorous OES and PSD validation guarantees identical flow rate, AD, and green strength.






ANNEALING
FURNACE

EXECUTION CAPABILITY

Built for Tier-1 Scale.

INTEGRATED CAPACITY

 FERROUS PM	5,500 MTPA
 NON-FERROUS	1,000 MTPA
 AIR ATOMIZED	800 MTPA

TOTAL GLOBAL SCALE **7,300** MTPA

Executing a closed-loop system requires massive infrastructure and uncompromising operational discipline. KRN Alloys operates at the forefront of the global PM supply chain.



100% PHYSICALLY SEGREGATED LINES

To guarantee absolutely zero cross-contamination with our virgin powder production, we operate strictly isolated milling, reduction, and atomization lines dedicated entirely to scrap recovery.



TÜV SÜD ISO 9001:2015 CERTIFIED

Strict, digitally traceable batching ensures your proprietary scrap alloys are securely processed and retained without deviation.



ADVANCED IN-HOUSE LABORATORY

OES, PSD Sieve analysis, and Pilot Sintering presses validate the hybrid blend's final performance before it ever leaves our facility.



Let's close the loop.

Initiate a risk-free **Pilot Recovery Program**. Send us a sample batch of your sintered scrap, and let us prove the metallurgical and financial viability of the KRN Hybrid Ecosystem.



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