



Hindustan Zinc

A legacy of Leadership



Investor/Analyst Site Visit - SK Mine, Dariba



12 June 2024

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Executive Leadership Team



Arun Misra

Chief Executive Officer

Chairman of International Zinc Association (IZA) and Vice Chairman of Confederation of Indian industry (CII), Rajasthan



Krishnamohan Narayan

Deputy Chief Executive Officer

Leader with global experience in chemical industry



Sandeep Modi

Chief Financial Officer

Financial expert with vast experience in metals, mining and power industry



Munish Vasudeva

Chief Human Resource Officer

Subject matter expert with diversified experience in large multinationals



Hugo Schumann

Advisor - Silver Value Creation

Rich Experience in Value creation for capital market



David Finn

Technical Advisor - Geotech

Subject matter expert with 30+ yrs experience in Geotech



Kuldeep Singh Solanki

Director - Exploration

Mineral industry experience in exploration, surface & UG mining operations & mineral resource estimation of gold & base metals



Darin Cooper

Technical Director - Smelters

Subject matter expert with diverse experience in metals & mining industry spanning operations, project & restructuring



Vijay Murthy

Chief Marketing Officer

Leader with diversified and global experience in metals, mining, chemical & cement industry



Anupam Nidhi

Head - CSR

Subject matter expert with diverse experience in the CSR and sustainability spheres



Composition of our leadership team

- Our top **60 leaders embody a remarkable blend of expertise**, featuring a harmonious mix of technical and functional experts and entrepreneurial business leaders
- Our leadership with an **average age below 50 years**, bring a wealth of experience to the table
- Our team has an **average experience of 25 years** in their respective fields
- This leadership cohort reflects a strategic balance, **comprising 55% homegrown leaders** and a substantial representation of lateral leaders from diversified businesses of our size

Hindustan Zinc's Distinctive Competitive Advantage

- World's **2nd largest** integrated **zinc producer** and **3rd leading silver producer**
- Fully integrated **India's only zinc-lead-silver producer** over five decades of expertise in mining and smelting
- **2nd highest zinc R&R base** globally with average grade of over 5% and 25+ years of mine life
- In the first decile of the global zinc mining cost curve, **lowest cost achieved in FY24** in last 3 years
- **75% market share** in India's primary zinc market
- Robust **EBITDA margin of ~50%** backed by operational excellence, technological advancements, cost optimization and strong resource base

- Sustainability leader with **first rank in S&P sustainability** assessment globally, ESG focus with economic prudence
- **50%** power sourcing through **renewable energy sources** by 2026
- **Irreplaceable resource and asset base**, with technologies providing flexibility of running operations based on the market landscape
- Consistently **AAA rated** by leading credit rating agencies
- One of the most valued metal and mining company in India with a **market cap of c.US\$ 30 Bn**



Smelting Capacity

Zinc Smelting
913,000 TPA

Lead Smelting
210,000 TPA

Silver Refining
800 TPA



 Total R&R
456.30 Mt




 Ore production
16.52 Mt



 Metal capacity
1.12 Mt



 Total captive capacity
603.16 MW

India's only Zinc-Lead-Silver Producer & World's 2nd Largest Integrated Zinc Producer and 3rd Leading Silver Producer

World's largest underground mine

Rampura Agucha Mine

Reserves : 44.4 Mt
 Resources : 24.8 Mt
 Reserve Grade : Zn 11.0%, Pb 1.2%
 FY24 Ore Production : 4.93 Mtpa

Sindesar Khurd Mine

Reserves : 40.1 Mt
 Resources : 68.9 Mt
 Reserve Grade : Zn 3.1%, Pb 2.0%
 FY24 Ore Production : 5.65 Mtpa

Rajpura Dariba Mine

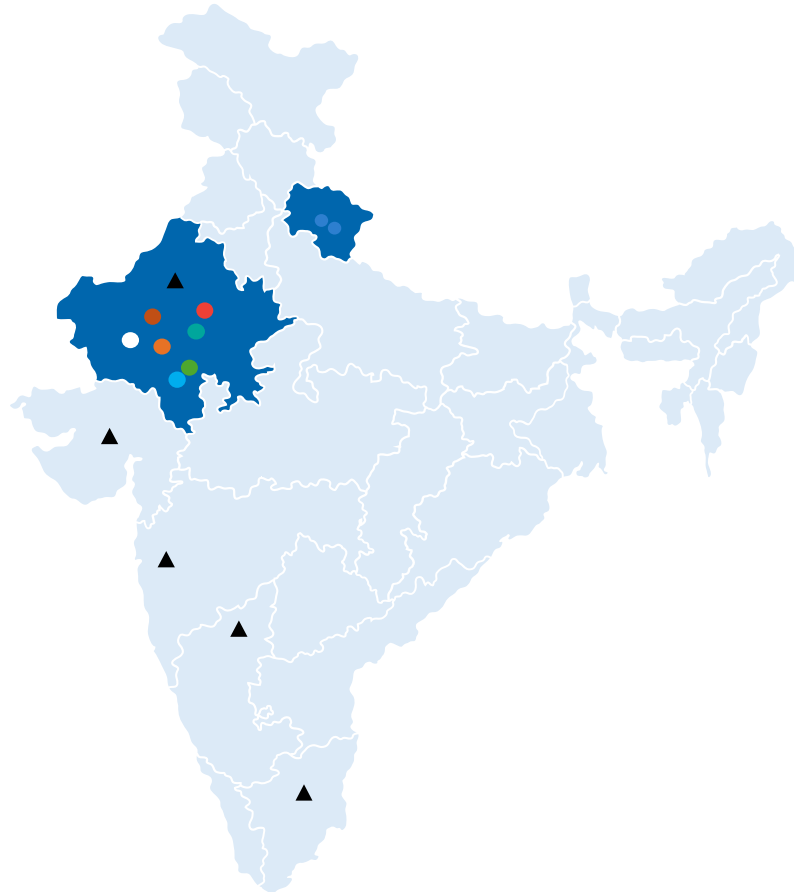
Reserves : 47.1 Mt
 Resources : 40.5 Mt
 Reserve Grade : Zn 5.4%, Pb 1.7%
 FY24 Ore Production : 1.34 Mtpa

Zawar Mining Complex

Reserves : 42.2 Mt
 Resources : 100.6 Mt
 Reserve Grade : Zn 2.6%, Pb 1.5%
 FY24 Ore Production : 4.03 Mtpa

Kayad Mine

Reserves : 1.3 Mt
 Resources : 5.4 Mt
 Reserve Grade : Zn 5.2%, Pb 0.7%
 FY24 Ore Production : 0.56 Mtpa



Single located largest zinc lead smelter globally

Chanderiya Smelting Complex

Pyrometallurgical Lead Zinc Smelter: 105,000 tpa Zinc and 90,000 tpa Lead
 Hydrometallurgical Zinc Smelter: 480,000 tpa Zinc

Dariba Smelting Complex

Hydrometallurgical Zinc Smelter: 240,000 tpa Zinc
 Lead Smelter: 120,000 tpa Lead

Zinc Smelter Debari

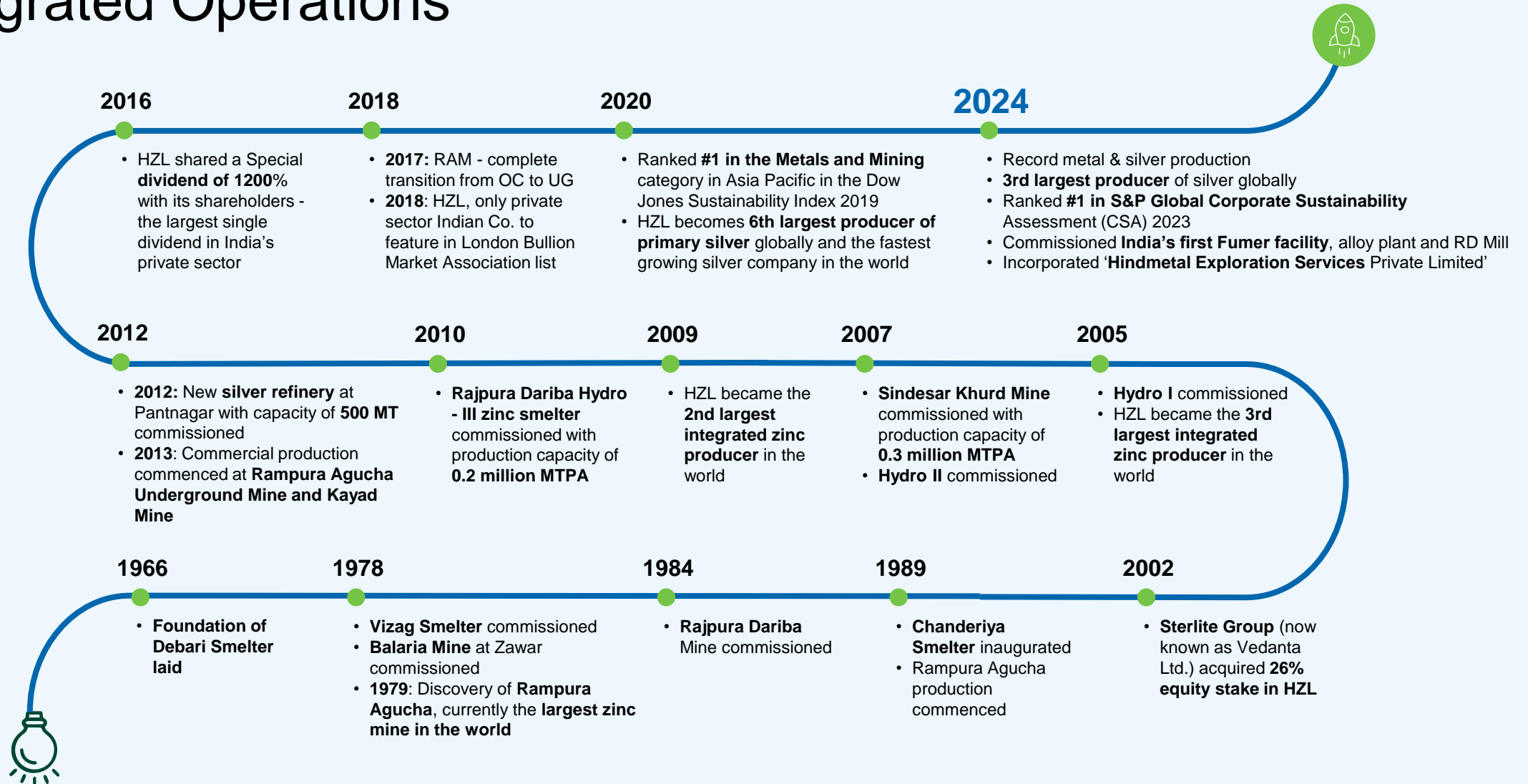
Hydrometallurgical Zinc Smelter: 88,000 tpa Zinc

Pantnagar (100% RE grid power)

Processing & Refining of Zinc, Lead & Silver

▲ Wind Power Generation
 Capacity of around 273.5 MW

Over Five Decades of Expertise in Mining and Smelting Integrated Operations



Hindustan Zinc's Vision, Mission & Growth Narrative

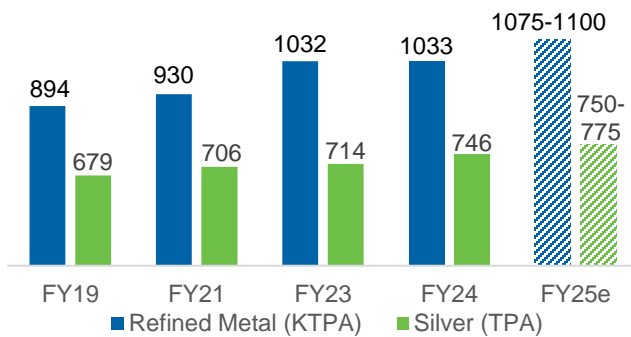
Vision to be the world's largest and most admired Zinc, Lead & Silver Company

01

Capacity Expansion

- Roaster of 160 ktpa at Debari: FY25
- UG mine ramp up and debottleneck roasting, leaching & purification operations
- Techno-commercial study to double production to 2+ Mtpa
- Increment in Silver to 1,000 Tonne

Refined Metal Production

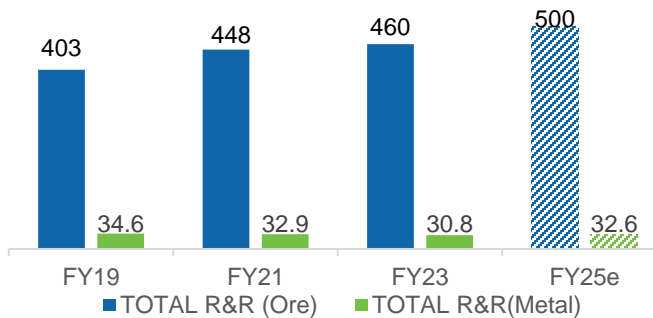


02

Mine Portfolio with long life

- Innovative technology and advanced geophysics for exploration
- Retain existing mining leases and acquire new potential areas
- Upgrade Ore Reserves

Reserves and Resources (million tonnes)

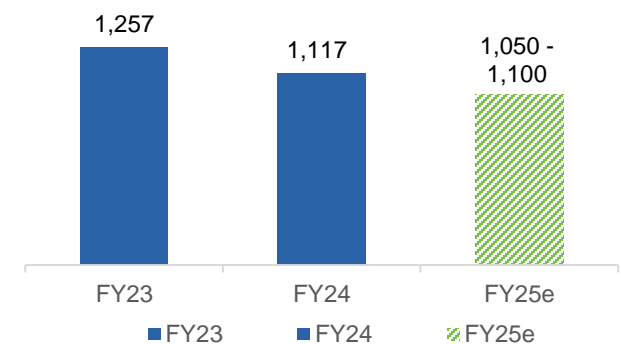


03

Cost Optimization

- Efficient ore hauling, higher volume and grades besides higher productivity through ongoing efforts in automation and digitalization
- 450 MW RE power at a fixed rate for 25 years, providing better cost visibility and predictability: FY26

Cost of Production (\$/t)



Hindustan Zinc's Vision, Mission & Growth Narrative

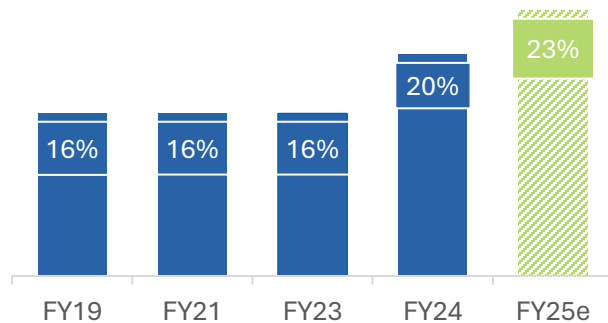
Mission to enhance stakeholder value, be the lowest cost producer & maintain market leadership

04

Expanding VAP Portfolio

- Ramp up of 30 kt Alloy plant
- Forward integration through 510 ktpa Fertiliser plant at Chanderiya: FY26
- Focus on the innovation of new products in lead alloys
- Increased penetration of zinc alloys: Target increase of over 60% in next 3 yrs - Focus on HZDA, CGG, ZAM, zinc dust, EPG

Value Added Product (%)



05

Sustainable Future

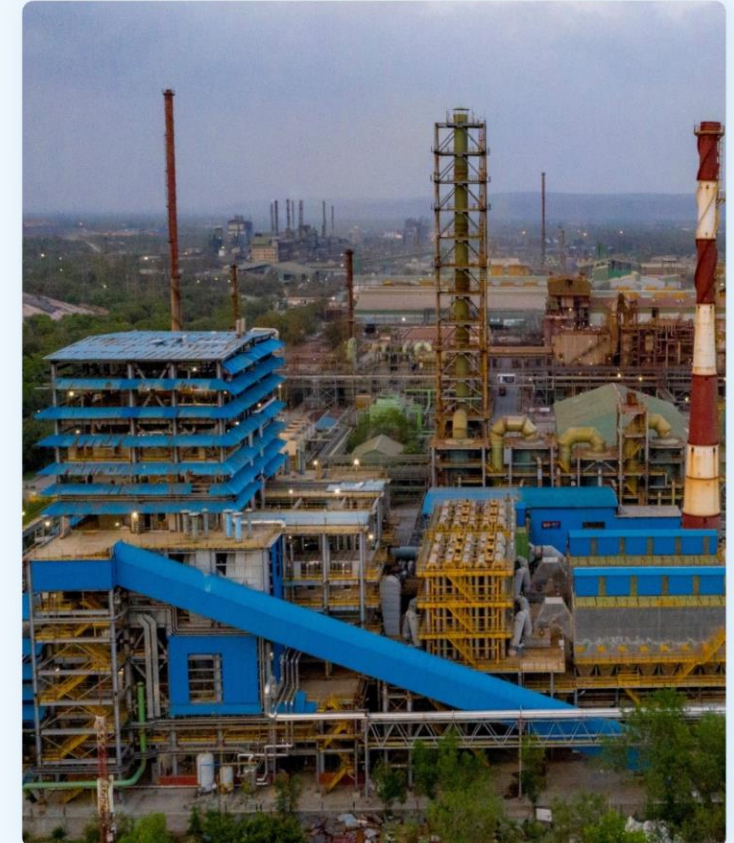
- RE power delivery agreement to cater 50% of HZL's power requirement reducing 2.7 Mt of carbon emissions: **The first power flow commenced in May 2024**
- Commissioned Fumer plant at Chanderiya focusing on waste to wealth
- ZLD plants at Agucha and Zawar

Road Ahead

450 MW Green power additions

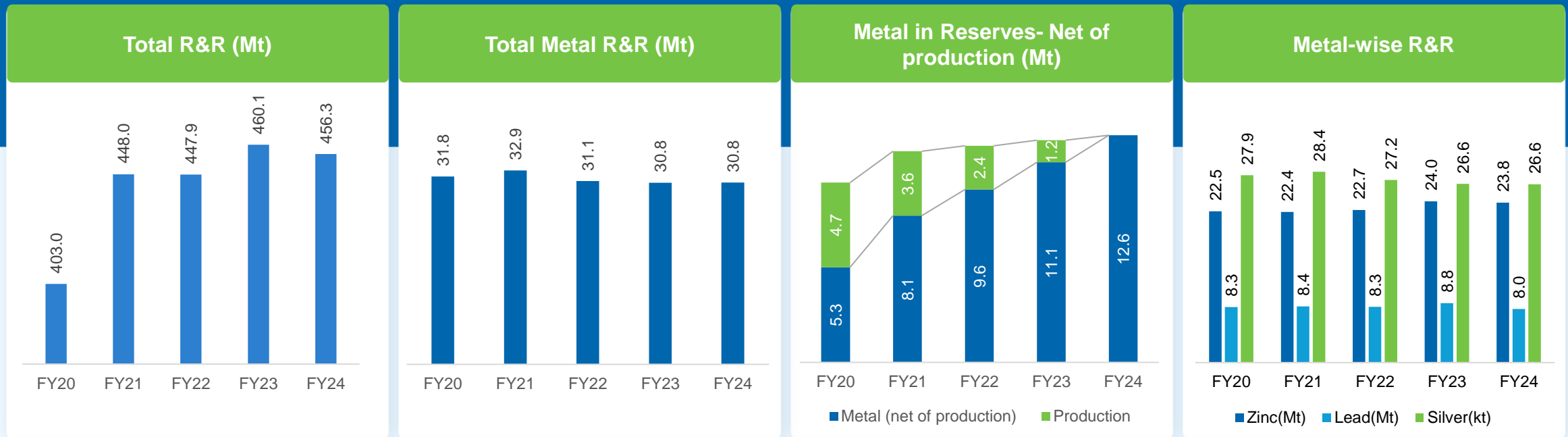
USD 1 Bn investment towards climate change initiatives

100% Mechanised charging at Zawar



2nd Highest Zinc R&R Base Globally with 25+ Years of Mine Life

Increasing the longevity of the mines for business continuity and sustainable value accruals has been a key strategic priority for Hindustan Zinc. With a total R&R of 456.3 Mt and a metal content of 30.8 Mt, the Company maintains an overall mine life of 25+ years.



Key Highlights

With a focused approach towards exploration, we have **added ~2.5x metal reserves** as compared to FY20 end, on a net of production basis

Total R&R is up by c.35% in last 5 years, that is an incremental ore of 118 Mt, considering production of 65.1 Mt of ore in this period

Total Ore Reserves: 175.1 Mt (net of production of 16.5 Mt) in FY24, as against 173.5 Mt in FY23

World's 3rd Largest Silver Producer & India's Only Silver Producer



Growth

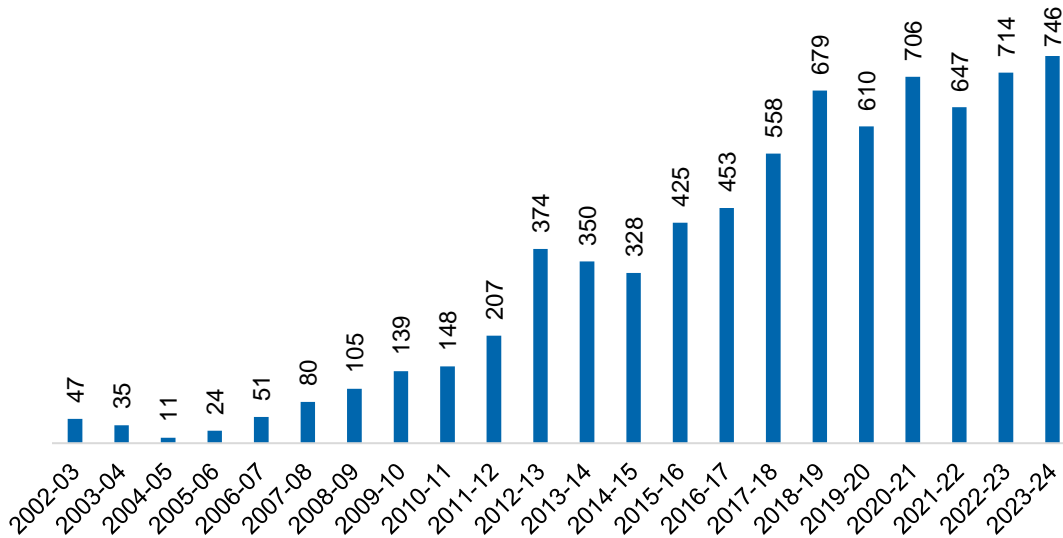
Silver production grew over 2x in last 10 years and 15x in last 2 decades. With FY 2023-24 production of 746 MT, the production increased by c.5% y-o-y



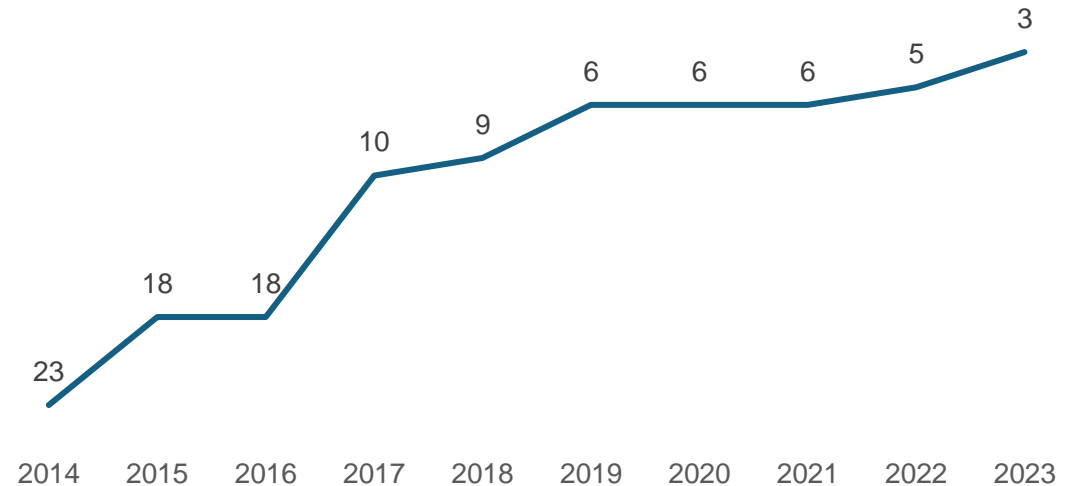
Global Leadership

Hindustan Zinc is India's only silver producer and is now the 3rd largest silver producer globally as per the World Silver Survey 2024 by The Silver Institute

Silver Production (MT)



World Silver Survey - HZL's Ranking



Sustainability Goals 2025



Sustainability Leader with First Rank in S&P Global Sustainability Assessment

S&P Global

Ranked #1 in Metals and Mining sector at S&P Global Corporate Sustainability Assessment (CSA) 2023*

Top 1% S&P Global CSA Score

Secured the **top 1% ranking** and featured for the 7th consecutive year



Recognized with **leadership band scores of A-** in Climate Change and Water Security by CDP (Carbon Disclosure Project)

S&P Global

Platts

Recognized at the **S&P Global Platts Metal Award 2022** by 'Industry Leadership Award - Base, Precious & Specialty Metals' Award and 'Corporate Social Responsibility' Award



Received '**Leadership in HR Excellence**' prize from the Confederation of Indian Industry (CII) National HR Excellence Award

Hindustan Zinc is amongst the top 10 CSR companies in the Country



Education

Nand Ghar, Child Care Centres, Shiksha Sambal, Unchi Udaan, Jeevan Tarang



Sustainable Livelihood

Samadhan, Sakhi, Microenterprises, Zinc Kaushal



Women Empowerment

Sakhi



Community Asset Creation

Rural, Education, Health & Water Infrastructure, Creating Model Villages



Health, Water & Sanitation

Swasthya Sewa, Drinking Water through RO/ATMs/Tankers, Company-run Hospitals & Sanitation



Sports & Culture

Zinc Football Academy (through Vedanta Zinc Football and Sports Foundation), Rural Sports & Culture Initiatives, Anil Agarwal International Cricket Stadium



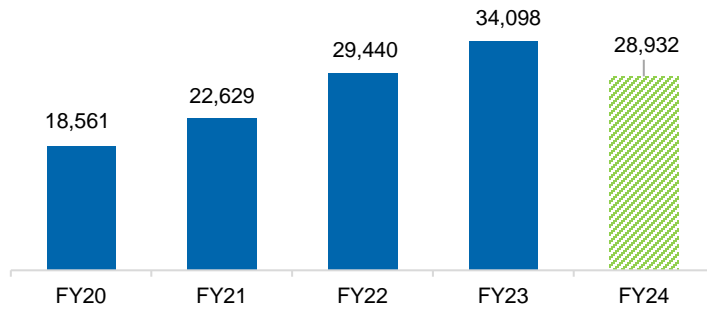
Environment & Safety

Sewage Treatment Plant (through Zinc India Foundation), Miyawaki, Plantation Drives, Community Safety

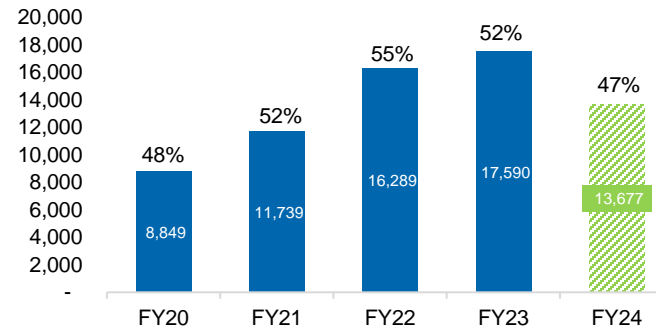
Delivering Robust EBITDA Margin

Backed by Operational Excellence, Technological Advancements, Cost Optimization and Strong Resource Base

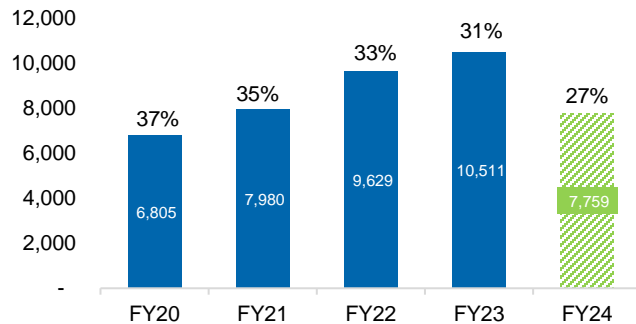
Revenue (incl. other operating income) (INR Cr)



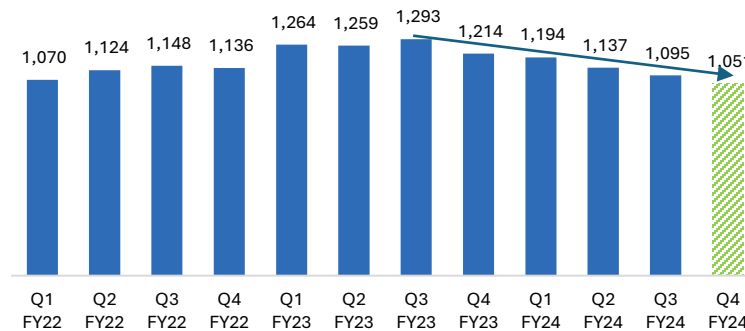
EBITDA (INR Cr) | EBITDA margin %



PAT (INR Cr) | PAT margin %



Zinc COP (\$/T)



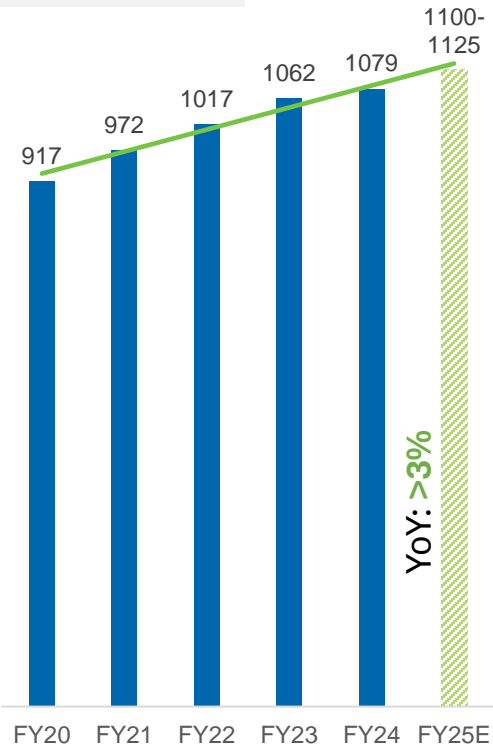
Key Highlights

- **First decile** of the global zinc mines cost curve
- **Sustained cost reduction** for 5 consecutive quarters with a cumulative improvement of c.\$240/t
- **Enabling Factors:** Better grade, softened input commodity prices, better linkage coal availability and utilization, improved operational efficiency, key contract transformation strategy, transforming operations through automation & digitalization

Showcasing Industry Leading Operational Performance

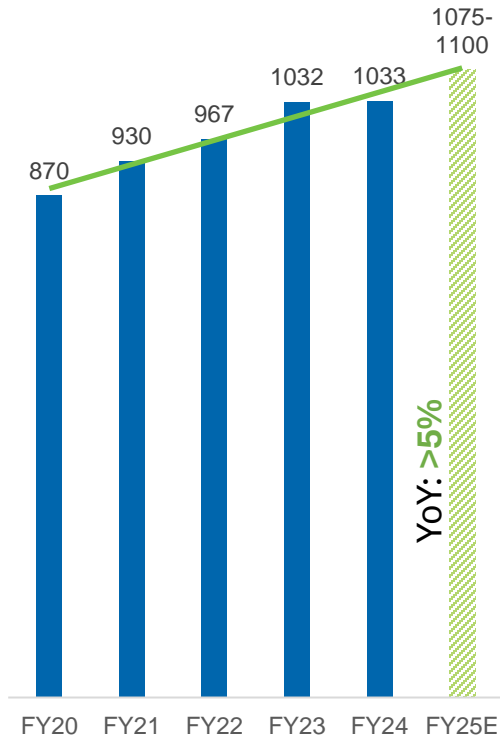
Mined Metal (kt)

CAGR: 4.2%



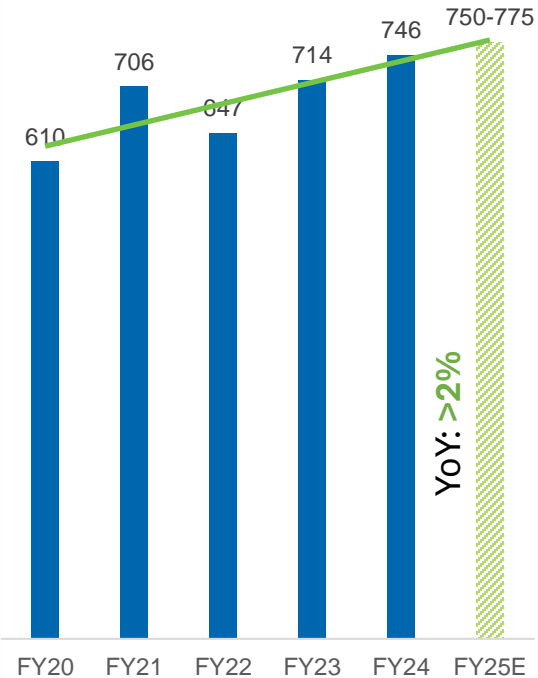
Refined Metal (kt)

CAGR: 4.4%



Silver (MT)

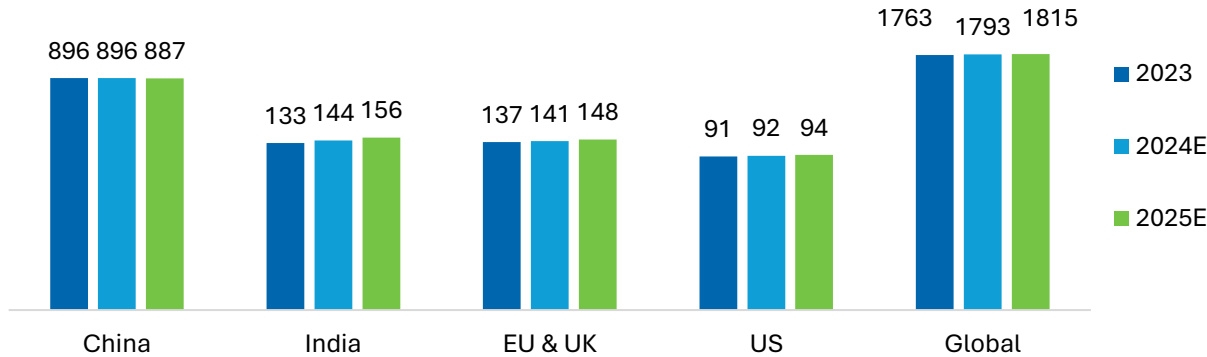
CAGR: 5.2%



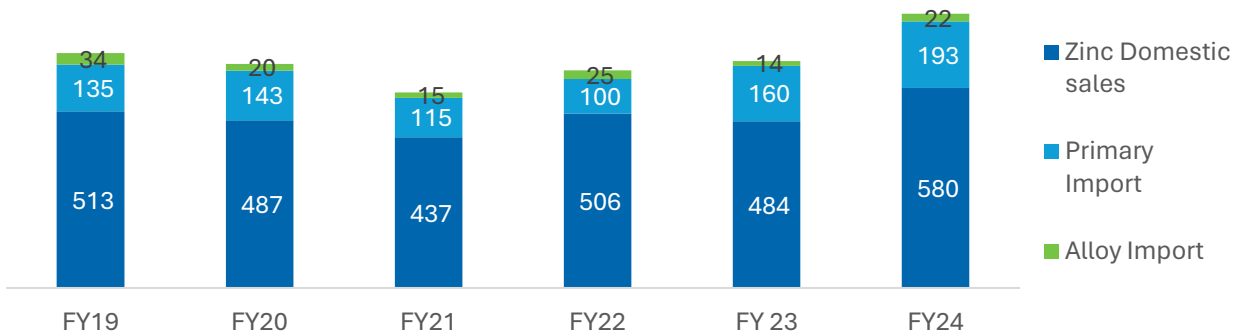
- Hindustan Zinc's production has grown at an industry leading **CAGR of over 4% in metal & 5% in silver in last 5 years** and is poised to ascend further in a similar trend. Strong growth is planned for FY25, building on the steady momentum achieved at the end of FY24.

Capturing 75% market share in India's primary zinc market

Steel Demand Forecasts (Mt)



Zinc Consumption in India (kt)



Zinc Demand Outlook

- Global zinc demand is expected to recover, and domestic zinc demand is expected to remain strong owing to the efforts to upgrade India's infrastructure and manufacturing output in the election year and impressive automobile sales
- The finished steel consumption is forecasted to grow across all major economies, except China, which is expected to see a marginal dip
- On a global level, steel demand is expected to be up by 1.2% in FY25. India is a major contributor for this growth with an expected growth of 8.2% in FY25

ESG Focus with Economic Prudence: Renewable Power Update

Hindustan Zinc entered into Power Delivery Agreements (PDA) with Serentica Renewable India Private Ltd (SRI4PL and SRI5PL) for Dariba (200 MW) and Chanderiya (250 MW) plant locations respectively. SRI4PL & SRI5PL are part of Serentica group which is developing ~4GW of Renewable Energy across multiple states to provide round-the-clock power to industries.

Salient Features of the Project

- Solar project is being constructed in Rajasthan
- Wind Project is being developed in Maharashtra
- Power flow through ISTS network and delivery to HZL through the dedicated transmission lines
- Higher reliability flow of power from ISTS network



Project Updates and Milestones

- Land acquisition and statutory approvals are on track
- Transmission connectivity secured
- OEM, EPC & vendor partners tied-up and construction activity at site under progress
- Phased completion and commissioning starting from Q1 FY25 through Q1 FY26



Inverter Control Room



Modules installed at site



Equipment foundation



1st wind turbine installed

Growth Project Update



New Roaster at Debari

Roasting is an essential part of the process of producing saleable zinc in hydrometallurgical smelters. The new roaster at Debari will enable Hindustan Zinc to attain long term sustainable operations making it future ready for 1.2+ million tonne refined metal.

Production Capacity
160 ktpa

Hindustan Zinc Fertilisers Private Limited:

Hindustan Zinc's DAP/NPK Fertiliser Plant at Chanderiya aims to support farmers' needs through production and sale of DAP fertilisers currently being imported and to better utilize sulphuric acid generated in operations through production of fertilisers, making the country future-ready. This will contribute to the environment circuitously, enabling us to fetch right margins.

Production Capacity
510 ktpa

Product
DAP/NPK Fertiliser

Status Update

Project progress is on track with commissioning being targeted by Q3 FY25

Status Update

Project progress is on track with the completion being targeted by Q2 FY26

Update:

- Moving forward, Hindustan Zinc, along with technology partners, is evaluating & finalizing recycling projects - converting waste into wealth.
- Further, Hindustan Zinc has appointed strategic partners with proven capabilities for undertaking conceptual design for 2X growth plan. It is under progress and details of the same will be announced post completion.

Strategic Growth via Focused Separate Companies

HINDMETAL EXPLORATION SERVICES PRIVATE LIMITED

Hindmetal Exploration Services Private Limited was formed with the **objective of developing an exploration strategy through a focused vertical**. The subsidiary's objective is to explore, discover, develop and tap mineral resources, including strategic minerals, deep seated minerals and offshore minerals, through systematic exploration of all types of mineral deposits.

The subsidiary will collaborate with government bodies, private enterprises or any other organisations for joint ventures, partnerships, or research initiatives in the field of exploration

HINDUSTAN ZINC ALLOYS PRIVATE LIMITED

Given the foreseeable demand for alloys in the near future and its vision of growth, the Company has set up a new state-of-the-art facility for manufacturing of zinc alloys through melting and casting operations. The Company has now set up a **new melting and casting facility of 30 ktpa zinc alloy**, which will help in attaining sustainable operations, and in achieving benchmark performance. This new facility is equipped with technologically advanced machines and was commissioned in FY 2023-24.

HINDUSTAN ZINC FERTILISERS PRIVATE LIMITED

Through Hindustan Zinc Fertilisers Private Limited, the Company aims to set up a state-of-the-art phosphatic **fertiliser manufacturing facility with capacity of 510 ktpa at Chanderiya**, to boost performance and ensure sustainability in operation. The fertiliser plant aims to support farmers' needs through production and sale of DAP fertilisers, which are currently being imported, and to better utilise the sulphuric acid generated in operations through production of fertilisers, making the country future-ready. The project is targeted to be completed by FY 2025-26.



Hindustan Zinc has strategically expanded its operations by establishing **5 distinct subsidiaries and RE power under group captive scheme**.

This focused approach allows the Company to tailor its strategies and resources to meet the unique demands of each market segment effectively.

Implementing Technological Advancement and Innovation



Tele-remote operations

Additional production in drilling by utilizing automation features and tele-remote operations of production drills during shift changeover duration; tele-remote operations of loaders helps in maintenance of consistent feed to mills through shaft during shift changeover



Advance Process Controls

To address difficulty in flotation process due to constantly changing feed characteristics, Advance Process Control system introduced. It maintains a stabilised circuit operation while optimising process performance to maximise recovery



Innovations

- Silver promoter used for enhancing Ag recovery
- Predictive maintenance, condition-based monitoring & real-time reliability health index of critical assets
- Drone based solutions



Key takeaways



1.2 Mtpa metal at US\$ 1,000/t cost;
Growth plan for **2 Mtpa metal**: under development



Silver expansion: Target of reaching **1,000 MT** intermediately (Fumer route) & **1,500 MT** with 2 Mtpa metal



Exclusive focus on Recycling: Potential of recovering 1 Mt metal & 3 kt silver



2nd highest zinc R&R base globally with average grade of c.7% and 25+ years of mine life



75% + market share in India's primary zinc market
Focus on VAP: Alloy plant commissioned & Fertilizer plant project in progress - making India self-reliant



50% + power sourcing through renewable sources
Sustainability leader with first rank in S&P Corporate Sustainability Assessment globally



Profitability

- **Zinc Volume: 1.2 Mn MT**
- **Silver: 800 MT**
- **Zinc LME: 3000\$/T**
- **Cost: 1000\$/T**
- **EBITDA: \$2.7 Bn**

Irreplaceable resource and asset base delivering **consistent margin of c.50%**

Consistently **AAA rated** by leading credit rating agencies

India's most valued metal and mining company with **industry leading shareholder returns**

Then & Now

Conventional drill rig



Electric locomotive operation



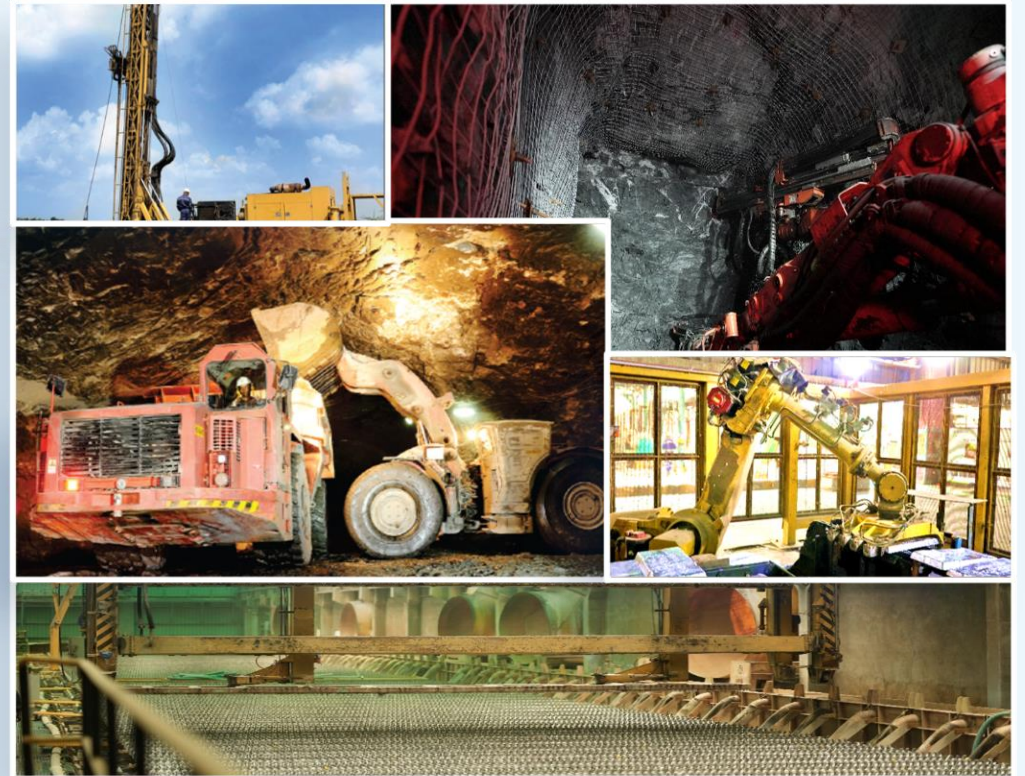
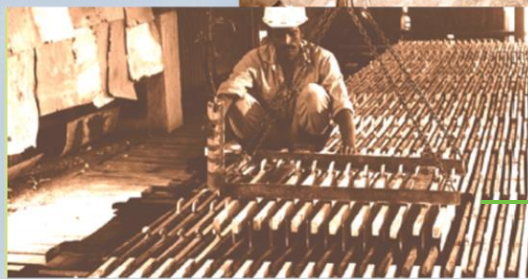
Drilling by hand-held hammer



Mucking by auto loader



Manual cell house



Modern drill rig, drilling machine, LPDT, hi-tech cell house, robotic operations