



# Corporate Presentation Hindustan Zinc

June 2015





**1st** Rampura Agucha Largest zinc mine globally

**2nd** Largest zinc-lead miner globally with: **9 million+ MT** of ore production capacity

**4th** Largest zinc-lead smelter globally: **1 million+ MT** of production capacity

*(Rankings calculated from Wood Mackenzie, March 2015 Long Term Outlook)*

A **Journey** towards **Excellence** - **15 million T** Ore Production Capacity;  
& **1.2 million T** MIC production capacity from **Underground Mines**

## Safety

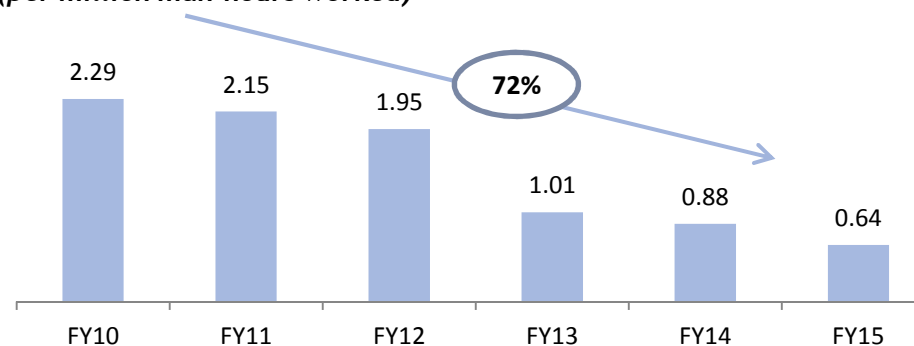
### Zero harm to people, host communities and environment

- Safety cultural transformation journey from reactive to interdependent; engagement with "Dupont"
- Integrated safety organisation structure
- Promoting behaviour based safety
- Focus on hazard identification & near misses

## Sustainability Initiatives

- Zero water discharge
- Adiabatic cooling towers
- Sewage treatment plant as sustainable water source
- Green energy of 309MW
- Bio-diversity conservation

LTIFR  
(per million man-hours worked)



## Safety Pledge during mine safety week



# Portfolio of Tier - 1 Assets



## Rampura Agucha Mine

Reserve : 49.5mt  
Resource : 53.5mt  
Reserve Grade : Zn 14.0%, Pb 1.9%  
Current Ore Capacity : 6.15 mtpa

## Kayad Mine

Reserve : 7.3mt  
Resource : 0.8mt  
Reserve Grade : Zn 9.6%, Pb 1.4%  
Current Ore Capacity : 0.35 mtpa

## Sindesar Khurd Mine

Reserve : 32.2mt  
Resource : 73.9mt  
Reserve Grade : Zn 4.5%, Pb 3.1%  
Current Ore Capacity : 2.0 mtpa

## Rajpura Dariba Mine

Reserve : 9.6mt  
Resource : 47.0mt  
Reserve Grade : Zn 6.4%, Pb 1.6%  
Current Ore Capacity : 0.90 mtpa

## Zawar Mining Complex

Reserve : 9.6mt  
Resource : 74.2mt  
Reserve Grade : Zn 3.4%, Pb 1.8%  
Current Ore Capacity : 1.2 mtpa  
CPP : 80MW

## Chanderiya Smelting Complex

Pyrometallurgical Lead Zinc Smelter:  
105,000 tpa Zinc and 85,000 tpa Lead  
Hydrometallurgical Zinc Smelter: 420,000 tpa Zinc  
Captive Power Plant: 234MW

## Dariba Smelting Complex

Hydrometallurgical Zinc Smelter:  
210,000 tpa Zinc  
Lead Smelter: 100,000 tpa Lead  
Captive Power Plant: 160MW

## Zinc Smelter Debari

Hydrometallurgical Zinc  
Smelter: 88,000 tpa Zinc

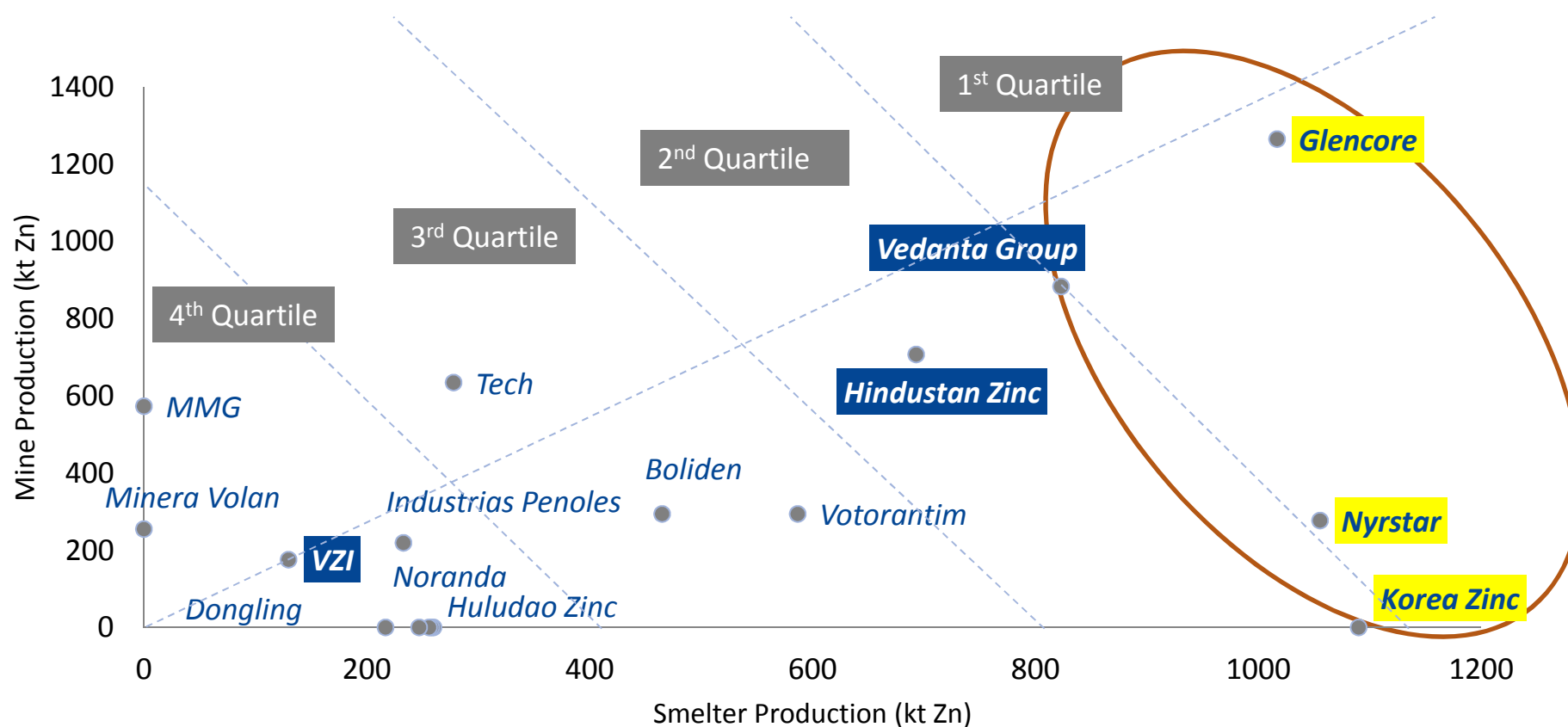
## Pantnagar & Haridwar

Processing & Refining of Zinc,  
Lead & Silver

▲ **Wind Power** Generation Capacity of  
274 MW



# Defining the Benchmark

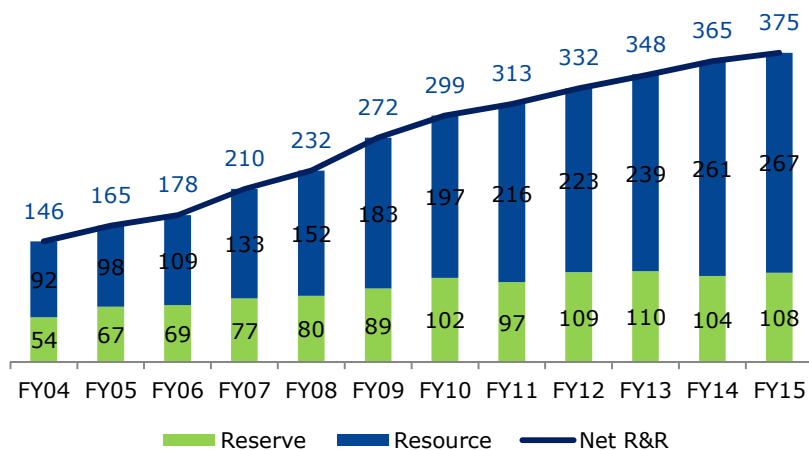


Source: Wood Mackenzie Long Term Outlook Report, March 2015

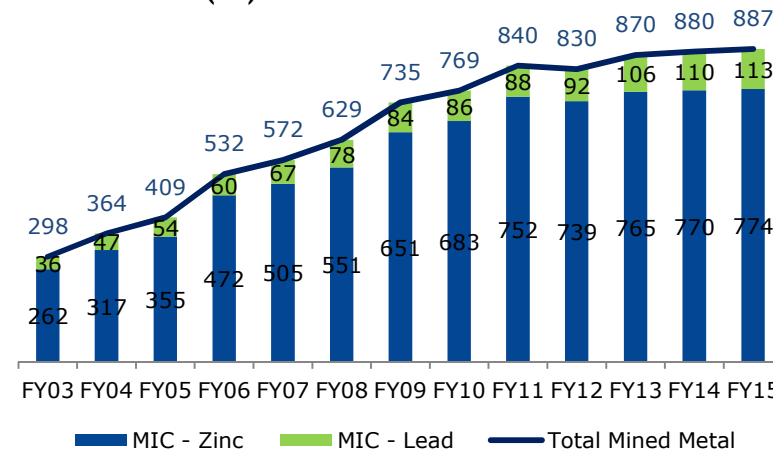
# Strong Track Record of Growth



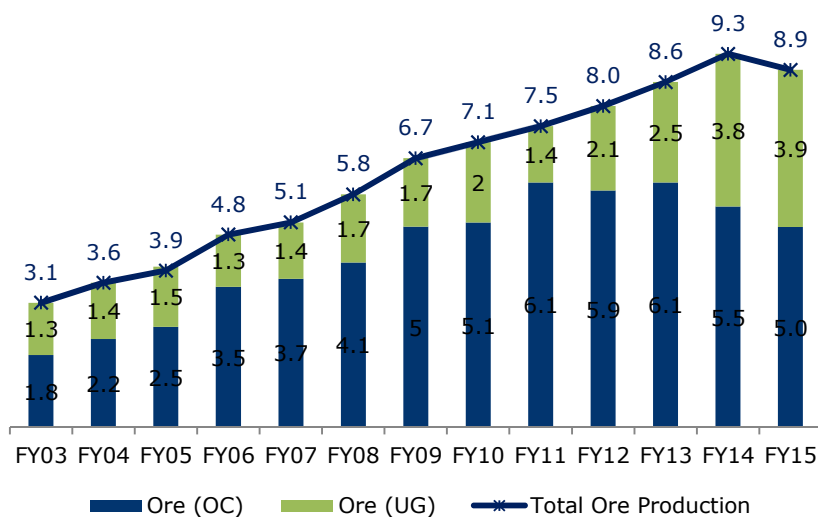
## Reserve & Resource (mt) - 2.5X Growth



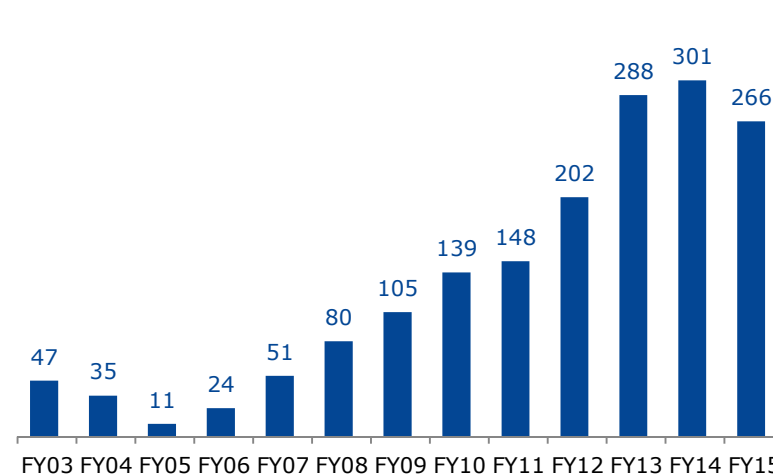
## Mined metal (kt) - 3X Growth



## Ore Production(mt) - 3X Growth



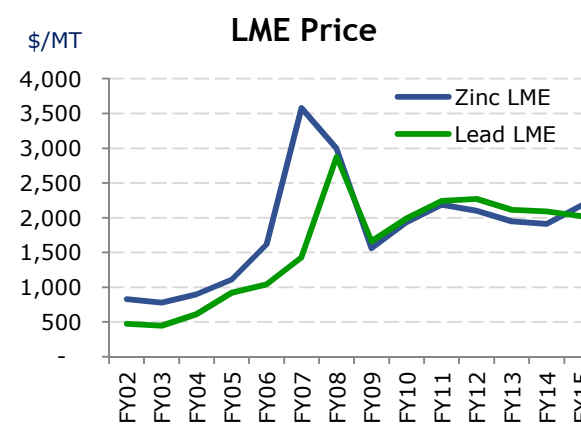
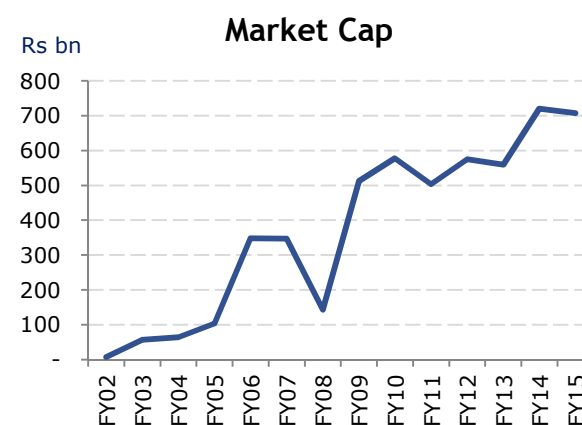
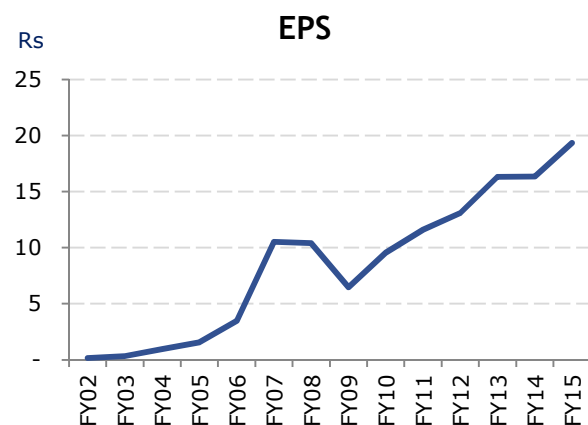
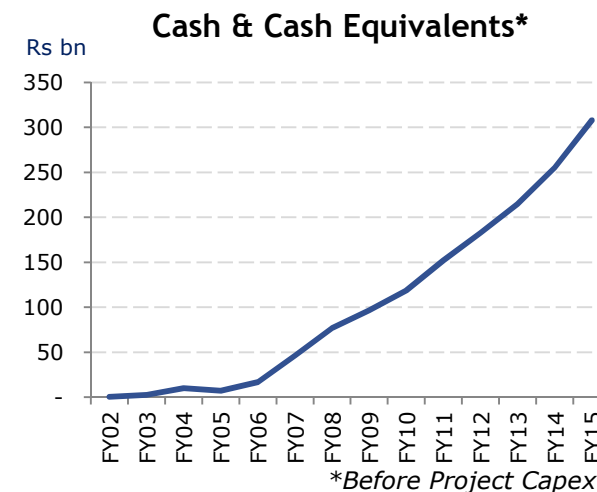
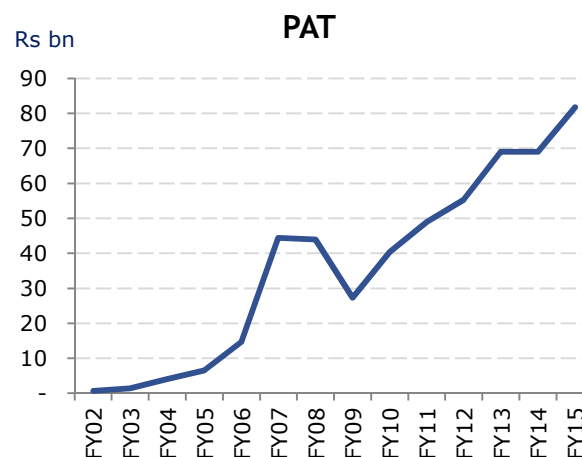
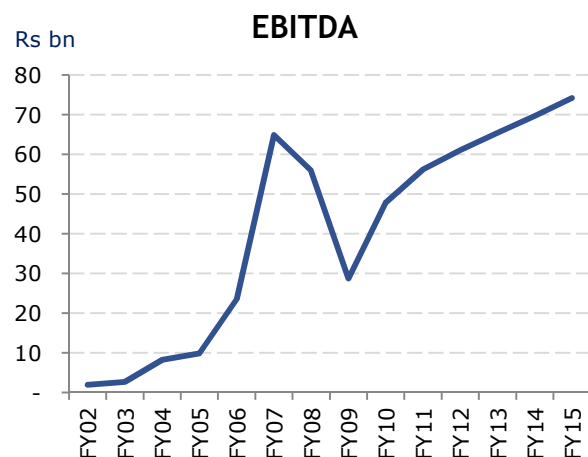
## Silver Metal - Integrated Saleable (MT) - 5.5X Growth



# Robust Financial Performance



**EBITDA CAGR 29% despite Zinc LME growth of only 7%**

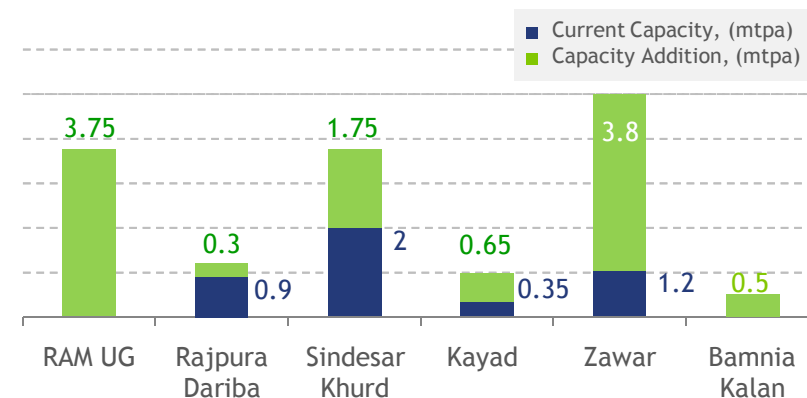


# Way Forward

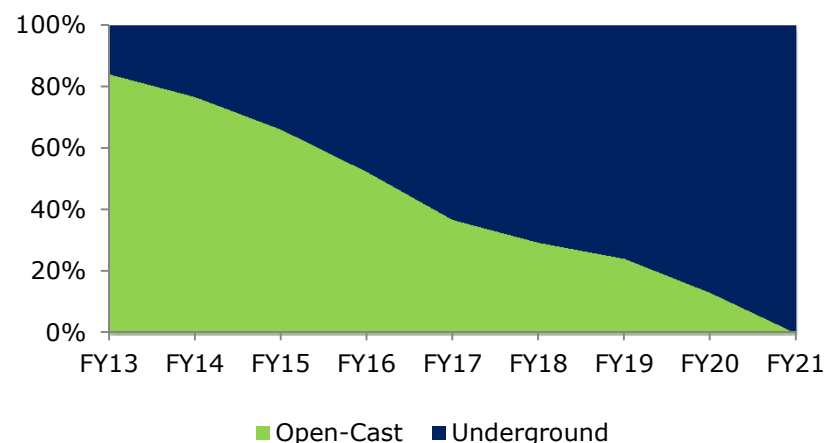


- Resource driven growth
- Six major projects to increase mined metal capacity by 20% to 1.2 mtpa, including replacement from RAM OC
- Total capex of \$1.5 billion, out of which ~\$0.5 bn is spent
- Expansion of mines in sync with increasing R&R
- Extension of RAM OC mine life to FY20 to smoothen transition to UG

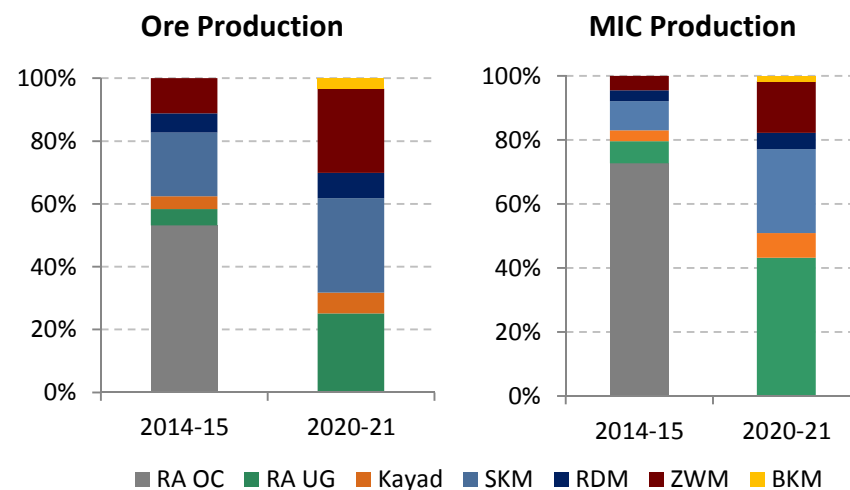
## Journey ahead - Projects



## Transition to underground mining (% share in MIC)



## Future mine production profile





# Rampura Agucha Mine



## Open Pit

Ultimate Pit Depth: 420 meters from surface

Mine Life: FY 2019-20

## UG Mine

Production Capacity: 3.75 mtpa

Mine Life: +20 years

R&R: 35.2 mn MT & 55.1 mn MT

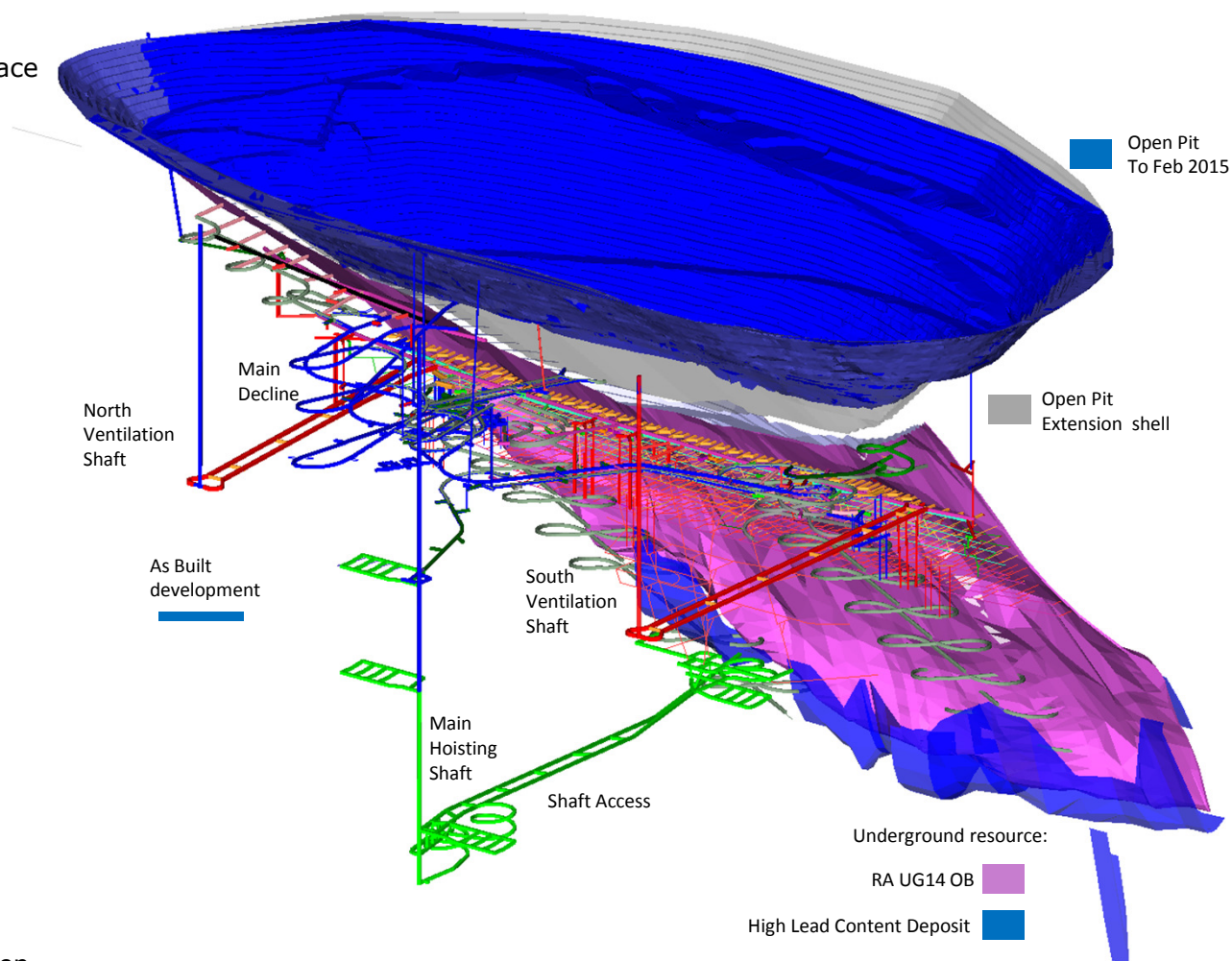
Mining Method: LHS with paste fill

Major Activities:

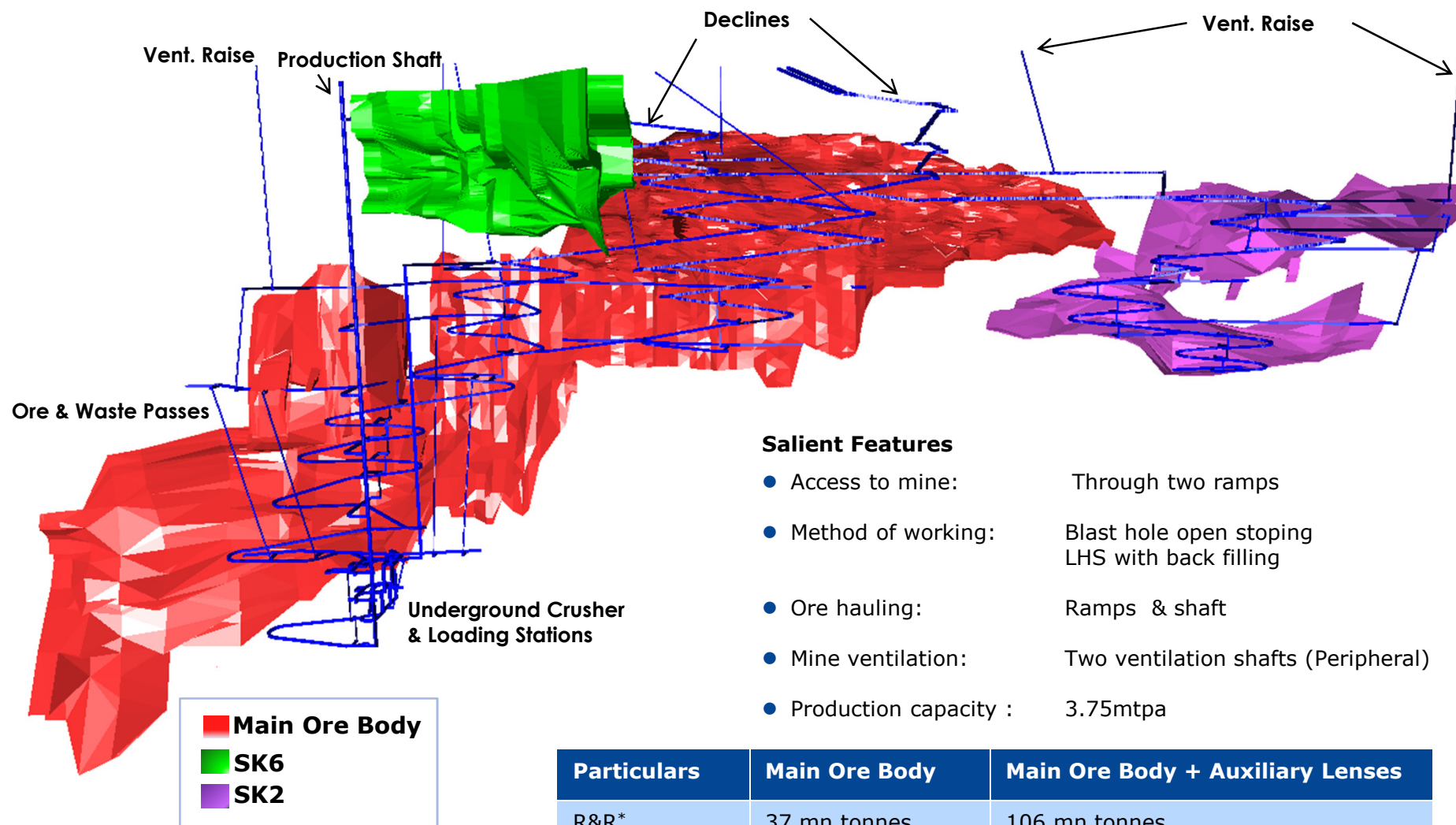
- Decline and ancillary development
- Production shaft & crusher system
- Raise boring
- Paste fill plant
- Surface infrastructures

## Shaft

- Hoisting Capacity: 3.75 mtpa
- Shaft Dimension: 7.5 m Dia., 950m deep



# Sindesar Khurd Mine

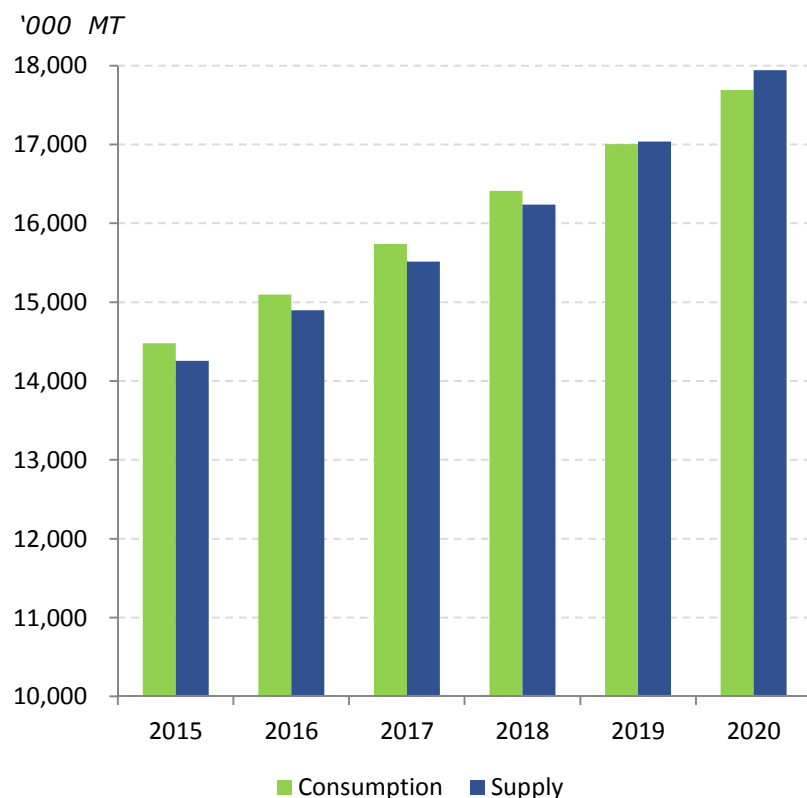


*\*as on March 31, 2015*

# Global Refined Zinc Market Overview



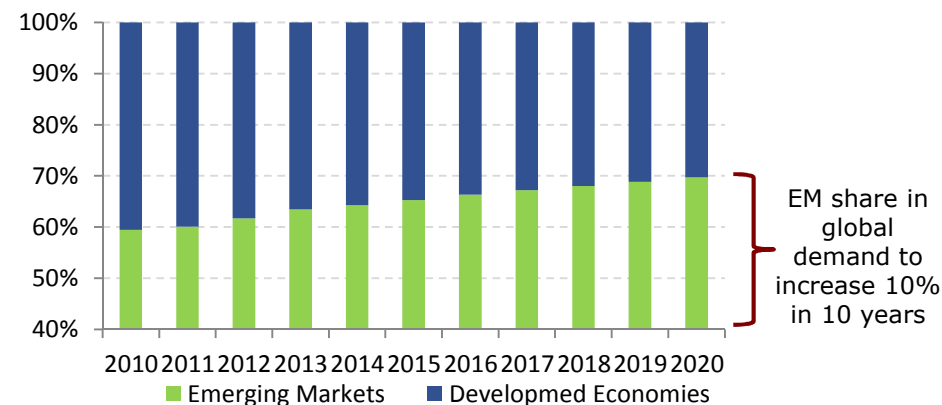
## Refined Market Balance



Source: Wood Mackenzie Long Term Outlook Report, March 2015

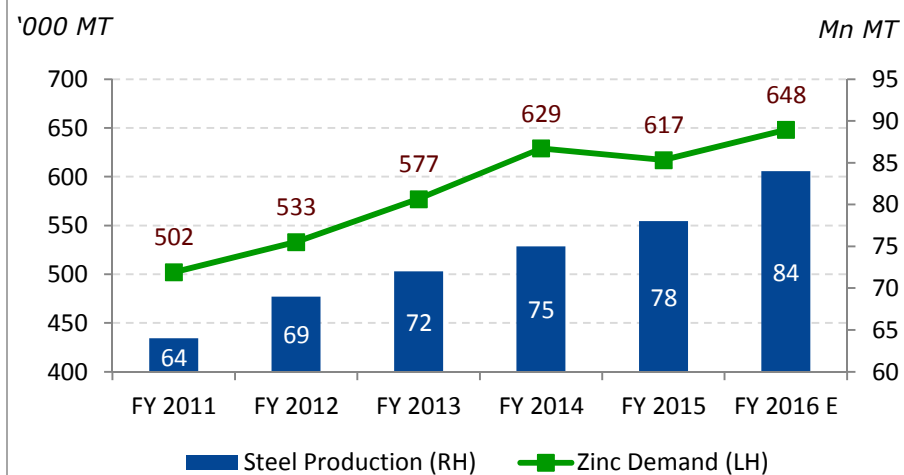
**World** - Steady demand growth at 4-5%  
**China** - CAGR (2013-2020) 6.2%  
**India** - CAGR (2013-2020) 5.7%

## Emerging Markets Driving Demand



Source: Wood Mackenzie Long Term Outlook Report, March 2015

## India Steel Production and Zinc Demand



Source: Feedback Consulting & HZL

# Summary



## Leading the way with fully integrated operations

### Core Strengths

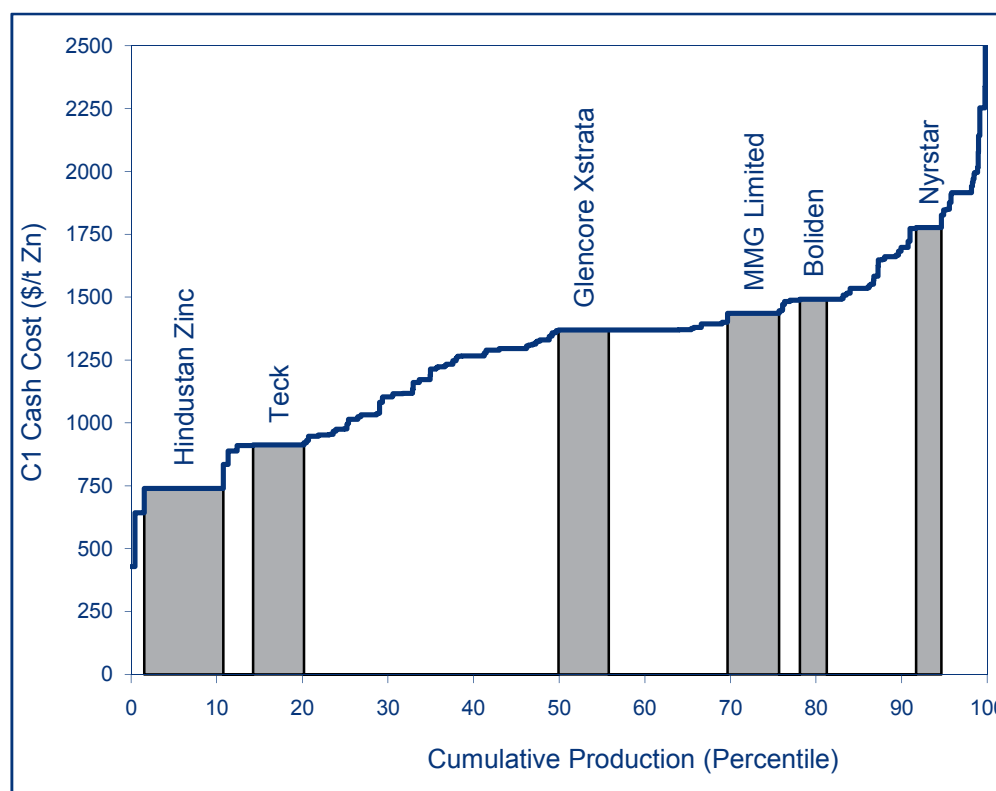
Captive mines with Reserve & Resource base of 375.1 million MT ensuring mine life of 25 years

Integrated metal production supported by captive power plants

Low cost of operations driven by quality assets and multi-metal recovery

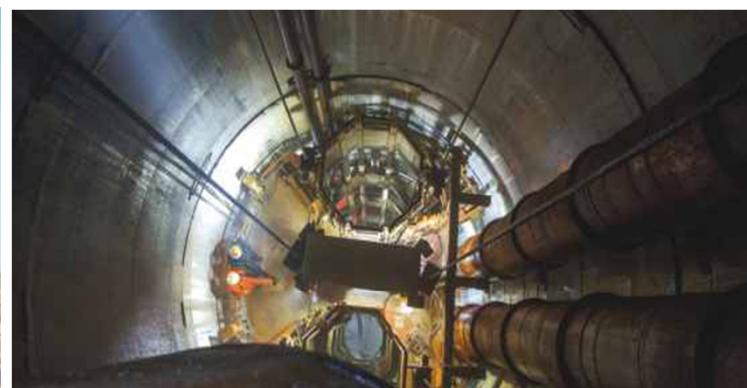
Market leadership in India with strong presence in emerging economies of Asia

### Among the lowest cost producers of zinc



Source: Wood Mackenzie Research





# Reserve & Resource



As on March 31, 2015

| Ore Reserve          |               |                 |      |               | Mineral Resource       |                 |      |               |               |                 |      |               |
|----------------------|---------------|-----------------|------|---------------|------------------------|-----------------|------|---------------|---------------|-----------------|------|---------------|
| Proved and Probable  |               |                 |      |               | Measured and Indicated |                 |      |               | Inferred      |                 |      |               |
|                      | Million<br>MT | Grade %<br>Zinc | Lead | g/t<br>Silver | Million<br>MT          | Grade %<br>Zinc | Lead | g/t<br>Silver | Million<br>MT | Grade %<br>Zinc | Lead | g/t<br>Silver |
| Rampura Agucha (O/P) | 12.7          | 13.1            | 1.9  | 54            |                        |                 |      |               |               |                 |      |               |
| Rampura Agucha (U/G) | 36.8          | 14.4            | 1.8  | 61            | 18.3                   | 15.0            | 2.0  | 61            | 35.2          | 9.9             | 2.1  | 62            |
| Rajpura Dariba       | 9.6           | 6.4             | 1.6  | 63            | 22.7                   | 6.8             | 2.3  | 67            | 24.3          | 6.6             | 1.9  | 92            |
| Sindesar Khurd       | 32.2          | 4.5             | 3.1  | 182           | 28.5                   | 4.8             | 2.7  | 130           | 45.3          | 3.8             | 2.5  | 109           |
| Bamnia Kalan*        |               |                 |      |               | 5.4                    | 4.5             | 1.6  | 66            | 12.2          | 3.8             | 1.8  | 56            |
| Zawar                | 9.6           | 3.4             | 1.8  | 33            | 25.0                   | 4.8             | 1.8  | 42            | 49.2          | 4.9             | 2.6  | 50            |
| Kayar                | 7.3           | 9.6             | 1.4  | 30            | 0.2                    | 13.6            | 2.0  | 36            | 0.6           | 7.1             | 1.0  | 16            |
| Total                | 108.2         | 9.3             | 2.2  | 92            | 100.2                  | 7.1             | 2.2  | 78            | 166.8         | 5.8             | 2.3  | 75            |

Notes: Mineral Resource is reported exclusive of the Ore Reserve. \* Part of Bamnia Kalan lease is under litigation