



Huayou Cobalt

**Becoming a Global Leader of New
Energy Li-ion Battery Materials**

2022

Company Overview

- Founded in 2002, Listed in 2015, Market Cap ~US\$18 Bn (Aug 2022)
- A High-tech global cooperation, focusing on R&D and production of cobalt new materials and new energy Li-ion battery materials
- Resource Secured Aboard, Manufacturing in China, Serving the Global Market
- Diversified business segments across Resource, Refining and New Energy
- Vertically integrated production across whole value chain: Resource, Metallurgy, Precursors, Cathode Material, Lithium Battery and Battery Recycling
- By July 2022, Employees 23,005: 30%+ above Bachelor Degree; 73.35% Chinese, 26.65% Foreigners



Listed on SHSE (603799)
in January 2015



Congo: Cobalt & Copper



Indonesia: Nickel & Cobalt



Tongxiang, China: Headquarter



Quzhou, China: Manufacturing

Market Performance

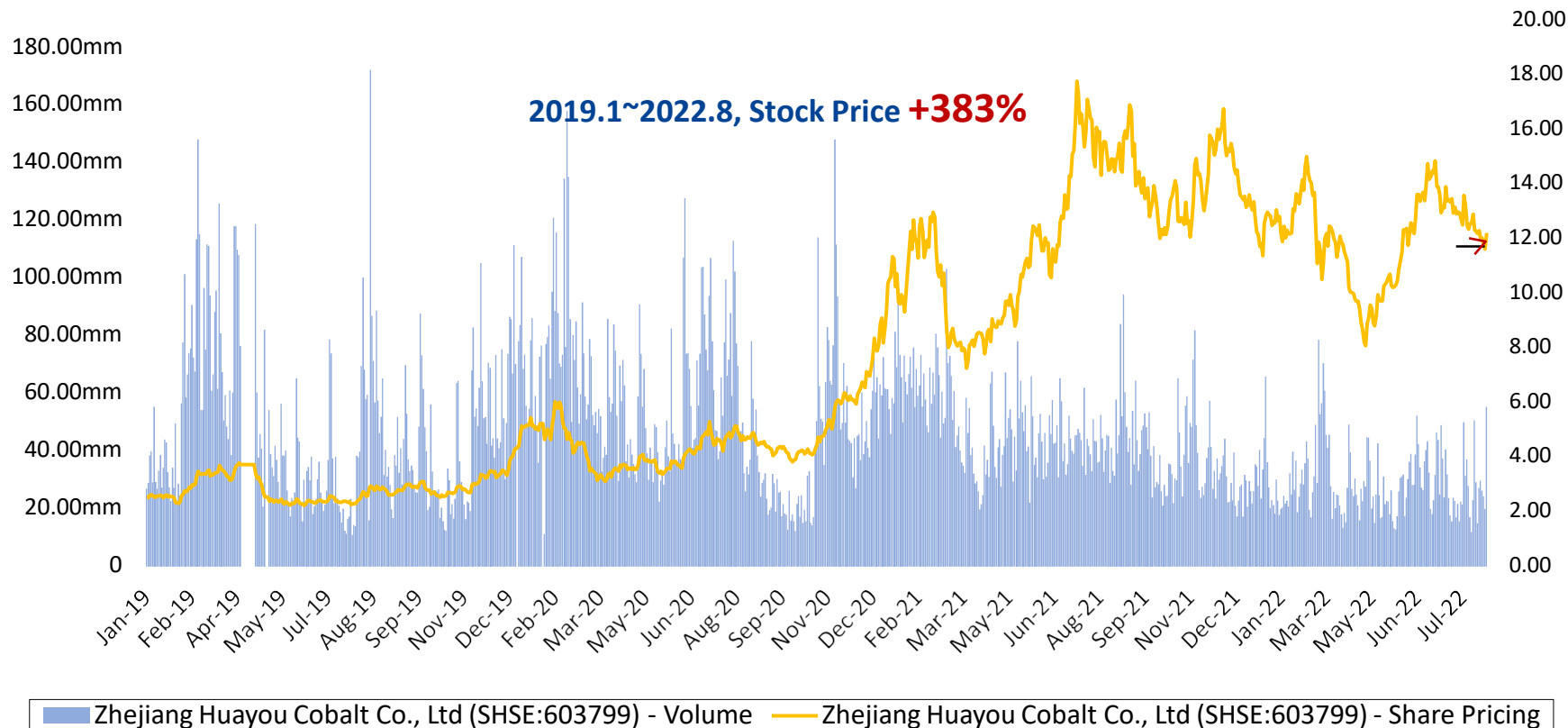
As of August 22 2022, Closing Price \$ 12.21 per share

Market Capitalization \$18.46 billion

Total Enterprise Value \$21.43 billion

P/E 27.5x⁽¹⁾

Outstanding Shares 1.59 billion



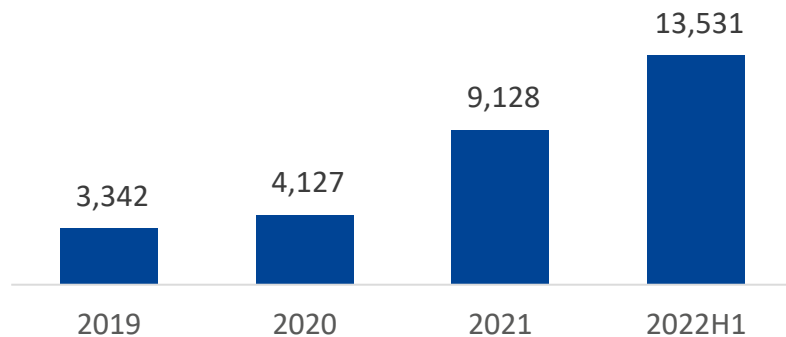
Note: (1) P/Diluted EPS Before Extra, LTM 12 months, by June 30,2022

Financial Performance

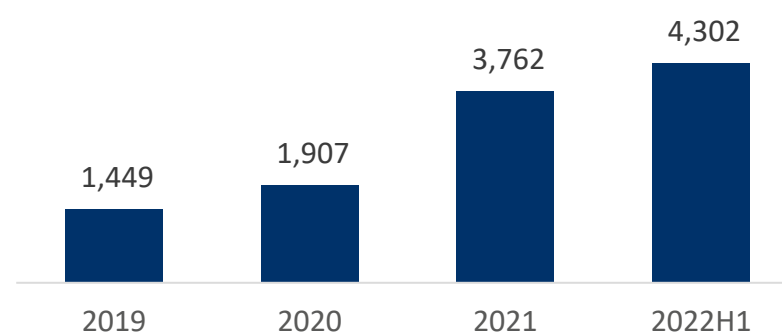
Strong Historical Financial Performance and High Operation Efficiency

(By million dollar)

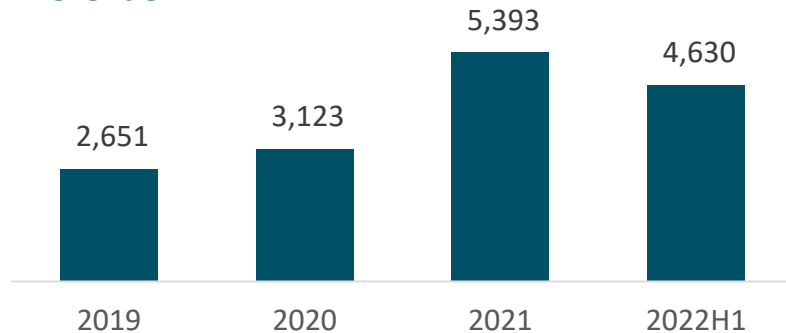
Total Assets



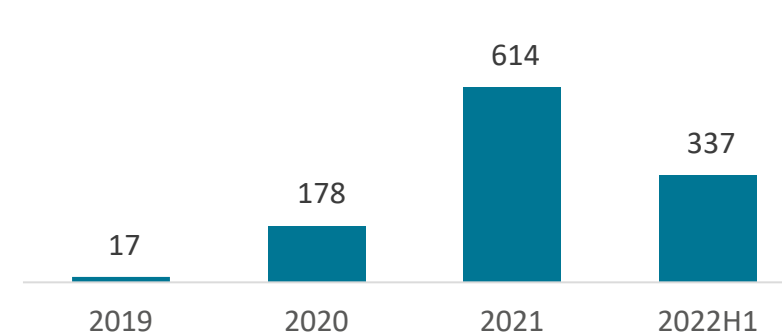
Net Assets



Revenue



Net Income



Business Portfolio & Industry Chain

Company Business Segments (3+1)

Huayou Resource



- Nickel 145,000t
- Cobalt 31,000t
- Copper 100,000t

Huayou New Material



- NCM pCAM 150,000t
- Cobalt Product 47,000t
- Co_3O_4 30,000t
- Nickel Products 90,000t

Huayou New Energy



- NCM CAM 150,000t
- LCO 17,500t

Huayou Recycling



- Battery Handled 65,000t
- Metal Recovery
 - Nickel 7,500t
 - Cobalt 2,500t
 - Lithium 10,000t

➤ Forming an Integrated Industrial Chain around Li-ion Battery Material through 20+ years

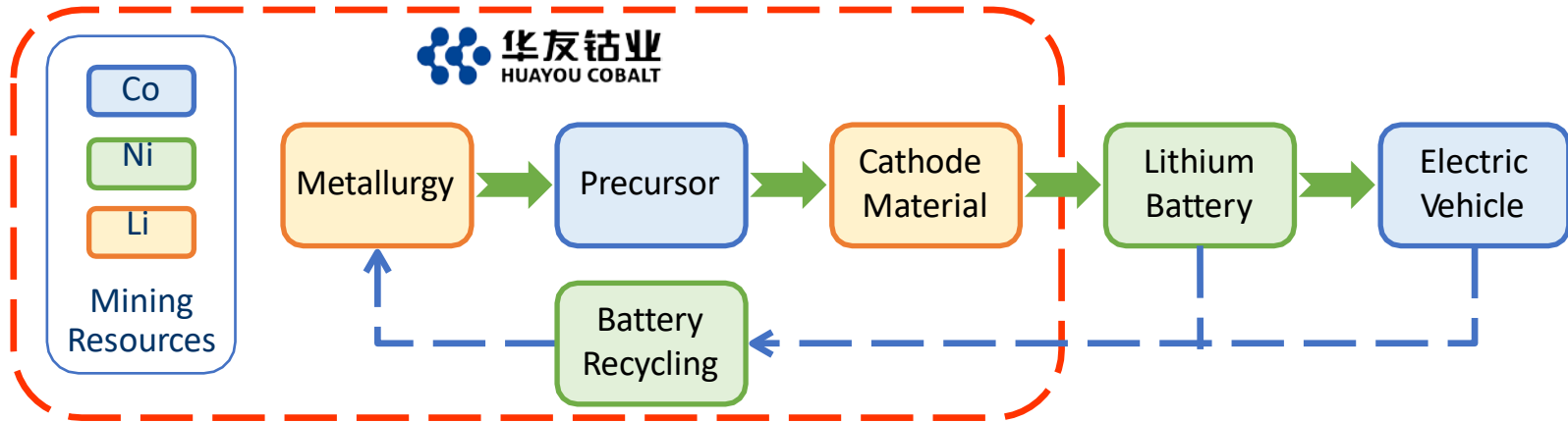
- Including Ni, Co, Li Resources - Smelting - Refining - Precursor - Cathode & Battery Recycling
- Global Layout: Base in Tongxiang, Sourcing Aboard, Manufacturing Domestically & Overseas

➤ Serving Global Top-Tier Market With Honor and Confidence

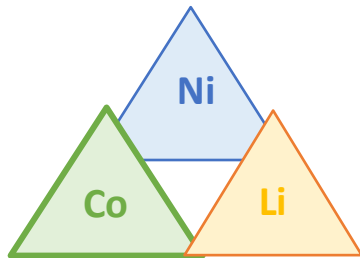
Huayou Competitive Advantages

-Cost Advantage of the Integrated Industrial Chain

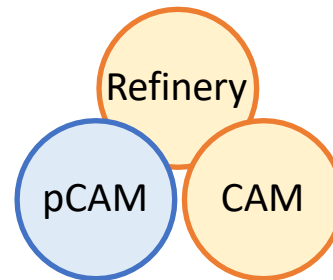
Company Business Segments (3+1)



Resource Secured Aboard



Manufacturing in Asia Pacific



Serving the Global Market



Huayou Competitive Advantages

-Well Recognized by Worldwide Customers

Coverage of Global
Mainstream Markets



European Market
(EU and others)



Asian Market
(China, Japan, South Korea and others)



American Market
(US and others)

Validation by Mainstream
Vehicle Enterprises



Deep Integration with
Tier 1 Battery Manufacturers



Huayou Competitive Advantages

-Well Recognized by Worldwide Customers

- High-standard opening-up and strategic cooperation to make new breakthroughs;
- Further strengthening worldwide competitiveness in the field of new energy lithium electric materials

2022



Join Volkswagen & Tsingshan Holding

*With Power battery cathode materials
upstream& downstream cooperation*



Join LG New Energy

With Recycling of waste power batteries



Join Tesla

With Ternary precursor supply framework

March

May



Join BMW

With Battery echelon use and recovery

July

July



Join Ford Motor & Vale Indonesia

Memorandum of Understanding

July

Huayou Competitive Advantages

-Tops in Global Rankings

Recent Accomplishments

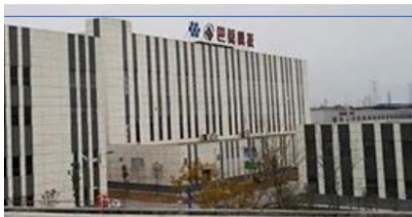
- Coordinating Project Implementation, Industrial Layout and Operating Expansion
- Strengthening Domestic and International Dual Circulations



- **Indonesia:**
Huayue HPAL Hydrometallurgy Project reached design capacity in 2022H1



- **Zimbabwe:**
Arcadia Lithium Project started construction



- **Chengdu, China:**
B&M Science and Technology Phase 3 50,000 tons cathode material on trial production

- **Huake Project:**
Pyrometallurgy-Method Line put into trial production by June; Entire process aimed in 2022H2



- **Quzhou Project:**
50,000 t/a battery-graded nickel sulfate & precursors entered trial production








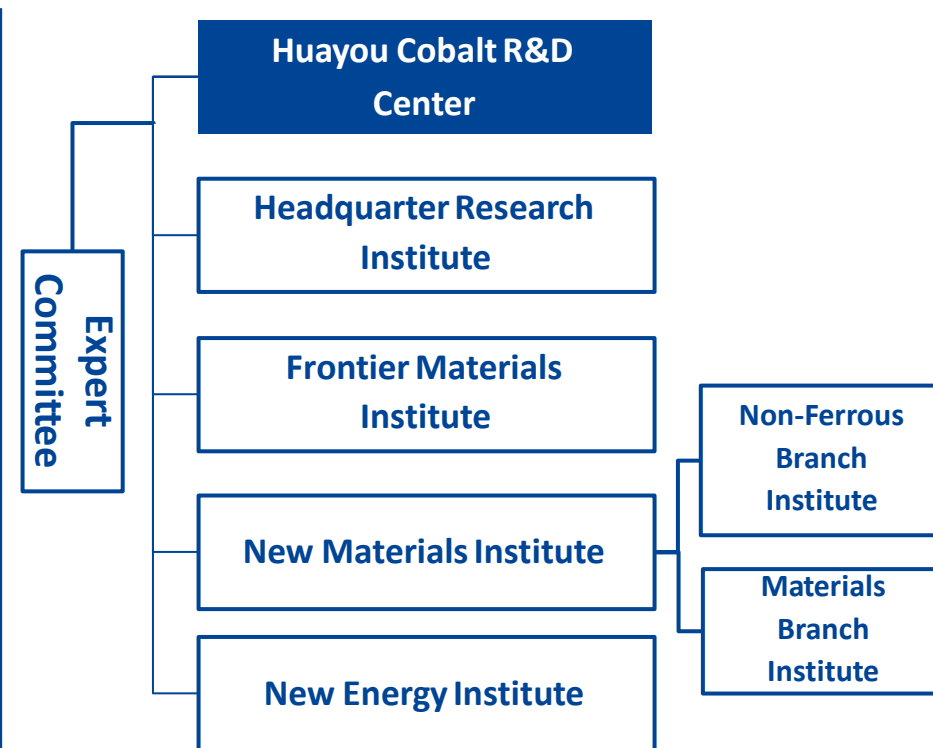
- **Guangxi Project:**
Battery-graded 50,000 t/a NMC materials and 100,000 t/a precursors producing in order



Huayou Competitive Advantages

-R&D Ability as a Highly-valued Asset, has been verified by Competing Markets

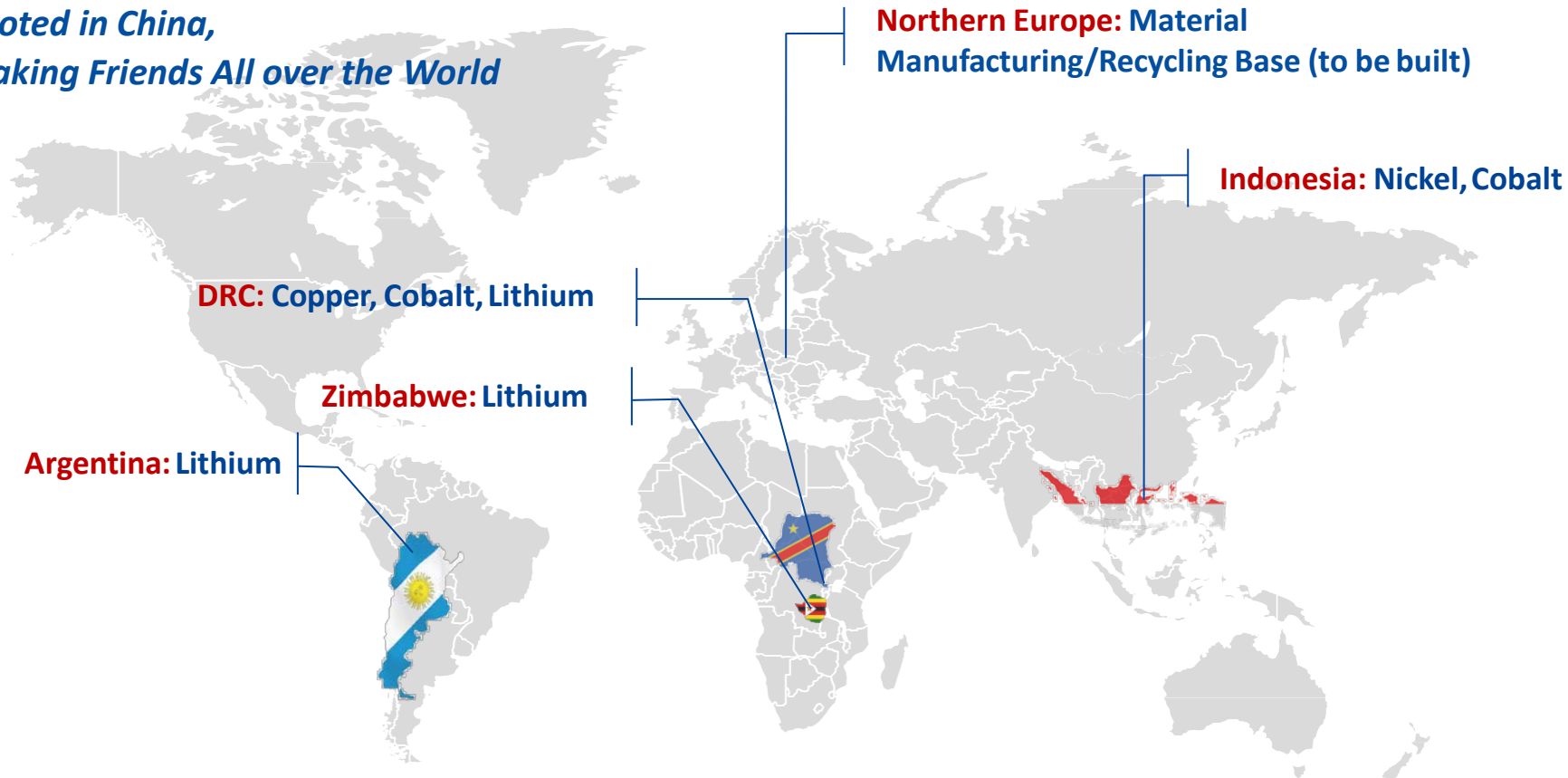
-  **>8%** R&D Input in NCM Cathode Revenue
-  **10,000 m²** R&D Area
-  **>1700** Professionals & Technical In R&D Team
-  **280+** Core National patents including **174** authorized invention patents
-  **39** Provincial or national certified/ registered technological achievements; **16** with global standard, **15** at national top level



Huayou Competitive Advantages

-Assurance in Metal Resources

*Rooted in China,
Making Friends All over the World*



Huayou Competitive Advantages

-Assurance in Metal Resources-
Copper & Cobalt

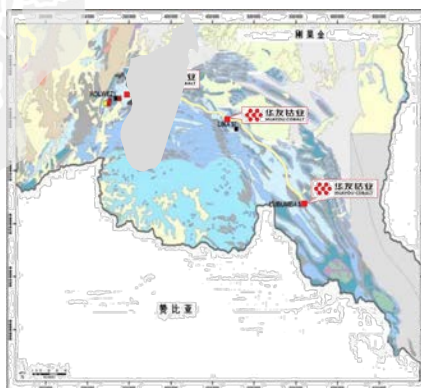
Cobalt and Copper in DRC

CDM Smelter in DRC

- Crude Cobalt Salt:
25,000 t Co/a
- Electrolytic Copper:
100,000 t Cu/a



Cobalt, Copper Smelter

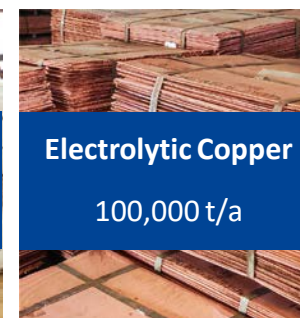


Main Products



Crude Cobalt Salt

25,000 t/a



Electrolytic Copper

100,000 t/a

Huayou Competitive Advantages

*-Assurance in Metal Resources-
Nickel & Cobalt*

Nickel and Cobalt in Indonesia

Huayue HPAL Hydrometallurgy Project

Annual Capacity: Ni 60,000 t, Co 6,000 t

Huake Hi-Nickel Matte Project

Annual Capacity: Ni 45,000 t

Huafei HPAL Hydrometallurgy Project

Annual Capacity: Ni 120,000 t, Co 12,000 t

Huayue HPAL Project



Huafei HPAL Project

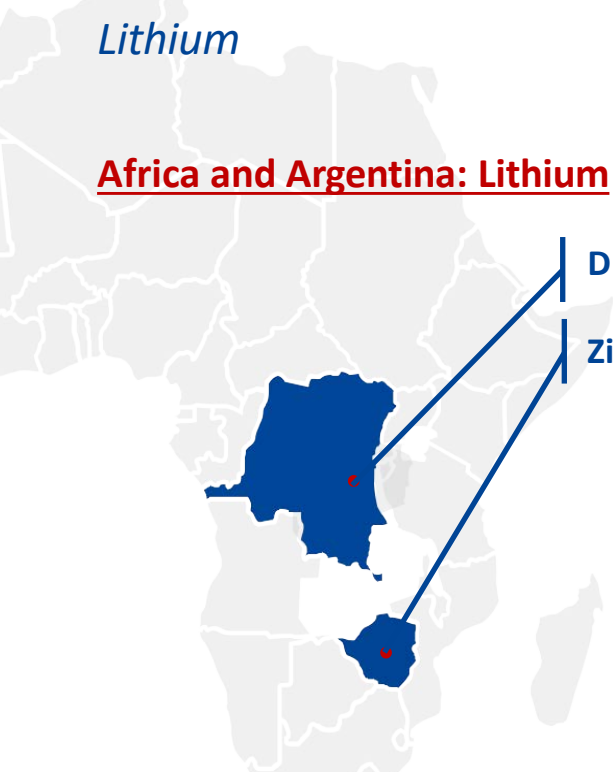


Huake Hi-Nickel Matte Project

Huayou Competitive Advantages

-Assurance in Metal Resources
 Lithium

Africa and Argentina: Lithium



DRC | Manono Lithium Project

Zimbabwe | Arcadia Lithium Mine



Argentina | Salar Exploration

Project	Share-Holding	Description Notes
Arcadia Lithium Mine in Zimbabwe	90%	72.70 Mn tons @1.06% Li ₂ O (~1.9 Mn tons of LCE)
Manono Lithium Project in DRC	Equity Participation	260 Mn tons @1.63% Li ₂ O (~16 Mn tons of LCE)
Saline Lithium Resources in Argentina (Arizaro, Pocitos, Olaroz)	Equity Participation	73,000 ha

**Rooted in China, Making
Friends All over the World**