

INTRODUCTION PERUVIAN MINING INDUSTRY

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PERÚ

- ❖ Strategic location in Asia Pacific and rich in natural resource.
- ❖ Open to foreign markets with Europe, Israel, Australia, USA, Japan, China, Pacific Alliance members.
- ❖ Mining contributes with more than 11% of the GDP and 64% of the export value (\$40, 000 MM)
- ❖ According to the Central Bank, Peru's economy grew 13.3% in 2021 and this year 2022 will grow 3.4%.



PERÚ: Mining Potencial

Peru's metal production ranking 2021

Ore	World	Latin America
Silver	3	2
Tin	3	1
Zinc	2	1
Copper	2	2
Mercury	4	2
Molybdenum	4	2
Lead	4	1
Gold	10	2
Selenium	10	1
Cadmium	9	2

Source: US Geological Survey 2022

- ❖ Mining activity just use 1.34% of the national territory
- ❖ The investment in mining exploration in 2021 was US\$327 million
- ❖ By 2022 there are 63 explorations projects for US\$586 million

PARTNERS COMPANY PERUMINHUB

- ❖ Peru have more than 300 mining operations in 17/24 regions
- ❖ Perumin-Hub group together the main mining operations in Perú, its represented 65% of mining operation investment in Perú at 2021 (\$3,300 MM)
- ❖ Almost all mining operations in Peru are ore deposite polymetalics

GOLDFIELDS

Metal Produce: Au, Ag
Investment: \$52MM

YANACOA

Newmont

Metal Produce: Cu, Au
Investment: \$169MM

PODEROSA

Metal Produce: Au, Ag
Investment: \$79 MM

ANTAMINA

BHP, Glencore, Tech, Mitsubishi

Metal Produce: Cu, Zn, Ag, Mb
Investment: \$481MM

MARCOBRE

Minsur - Alxar Internacional

Metal Produce: Cu
Investment: \$192MM

CERRO VERDE

FREEPORT MCMORAN

Metal Produce: Cu, Mb
Investment: \$163MM

BUENAVENTURA

Metal Produce: Au, Ag, Cu, Mb
Investment: \$110MM

VOLCAN

Glencore

Metal Produce: Ag, Zn, Pb, Mb
Investment: \$174MM

PAN AMERICAN

Metal Produce: Au, Ag, Pb, Zn
Investment: \$80

NEXA

Metal Produce: Zn, Ag, Mb, Cu
Investment: \$104 MM

LAS BAMBAS

MMG

Metal Produce: Cu, Mb
Investment: \$231MM

QUELLAVECO

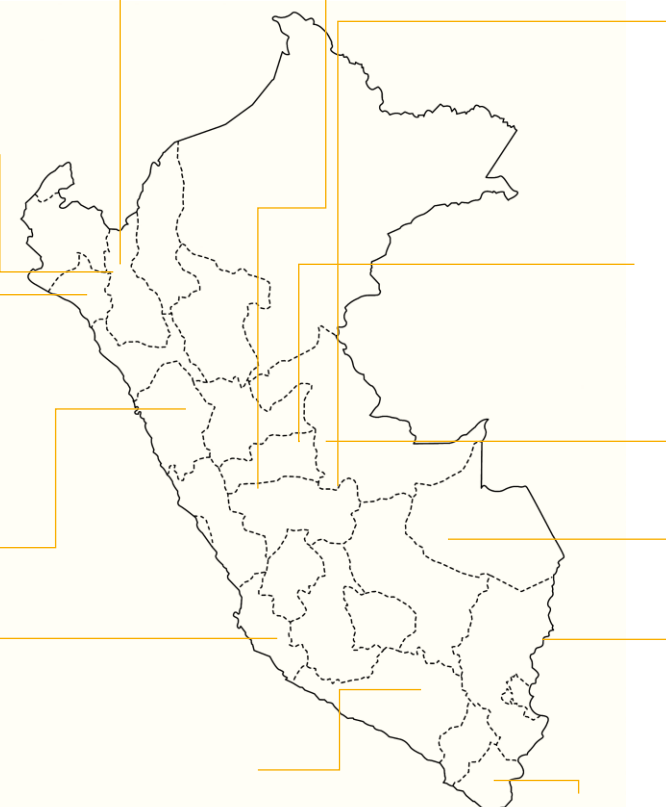
AngloAmerican, Mitsubishi

Metal Produce: Cu, Mb
Investment: \$1,312 MM

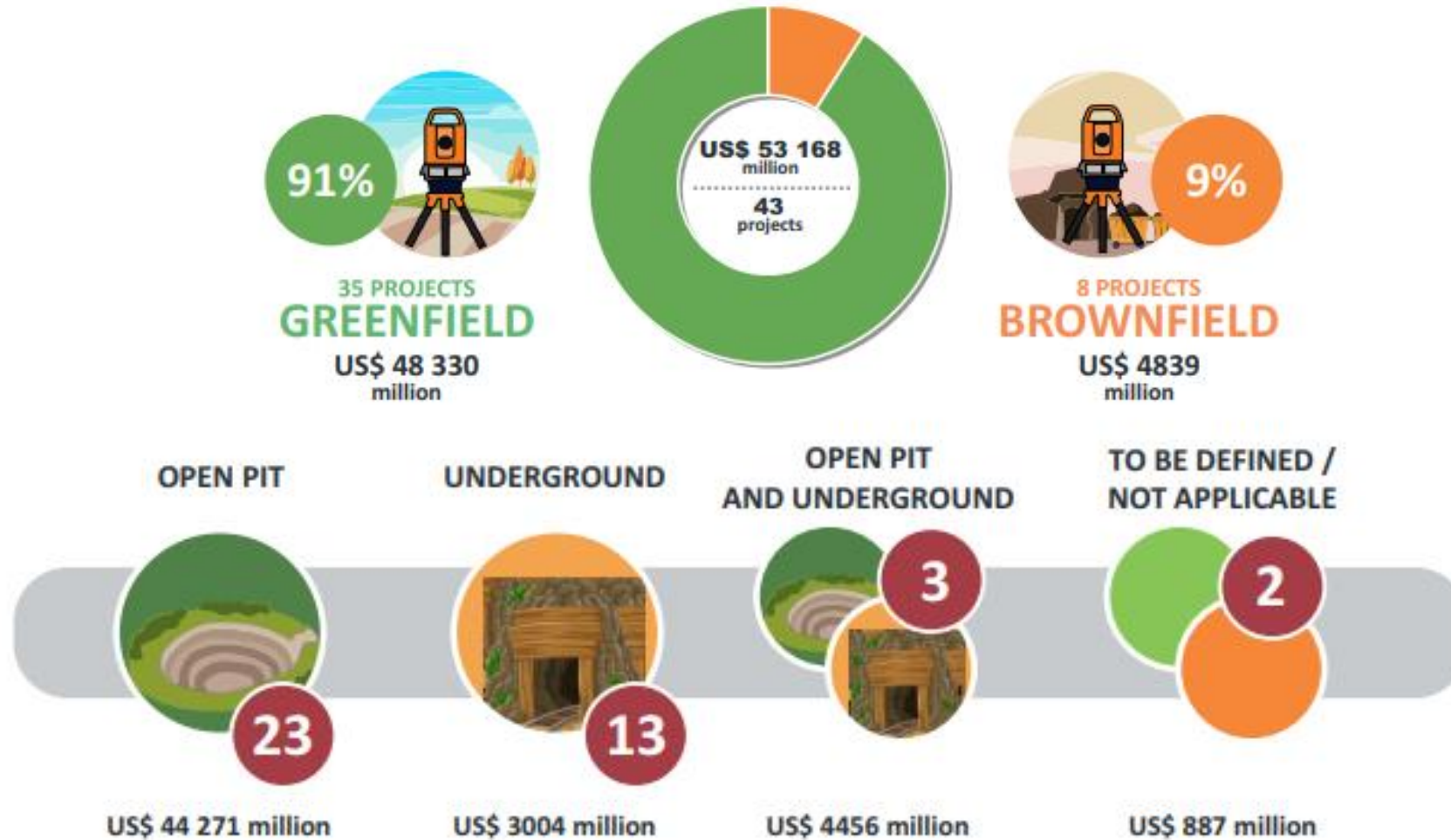
MINSUR

Breca Group

Metal Produce: SN
Investment: \$217MM



MINING PROJECTS PORTFOLIO



CHALLENGES OPPORTUNITIES TO BE SOLVED THROUGH INNOVATION

ENVIRONMENT & SUSTAINABILITY

- ❖ How to reduce, treat, take advantage of and/or **improve the disposal, use and reuse of tailings** and/or waste rock dumps and/or environmental liabilities?
- ❖ How to implement technologies in operations to become a **carbon neutral** activity?
- ❖ How to incorporate into mine closure **technologies that facilitate efficiency in mine closure processes**?
- ❖ How to incorporate models that generate shared value in mine closure?
- ❖ **How to generate shared value** through the inclusion of economic, social, environmental and/or information and knowledge infrastructure?

WATER RESOURCE

- ❖ How to **optimize water use** and its reuse in mining operations?
- ❖ How to **promote an integrated and participatory water** resources management?
- ❖ How to make regulation processes more efficient, **generating shared value** between the mining company and the State?

MINING 4.0

- ❖ How to **improve productivity and efficiency in operations by leveraging 4.0** technologies and facilitating their adoption?
- ❖ How to **increase personnel safety** through digitization along the entire operation?
- ❖ How to **incorporate technologies that guarantee cybersecurity** in the mining company in the face of the use of 4.0 technologies?

www.perumin.com/en/hub



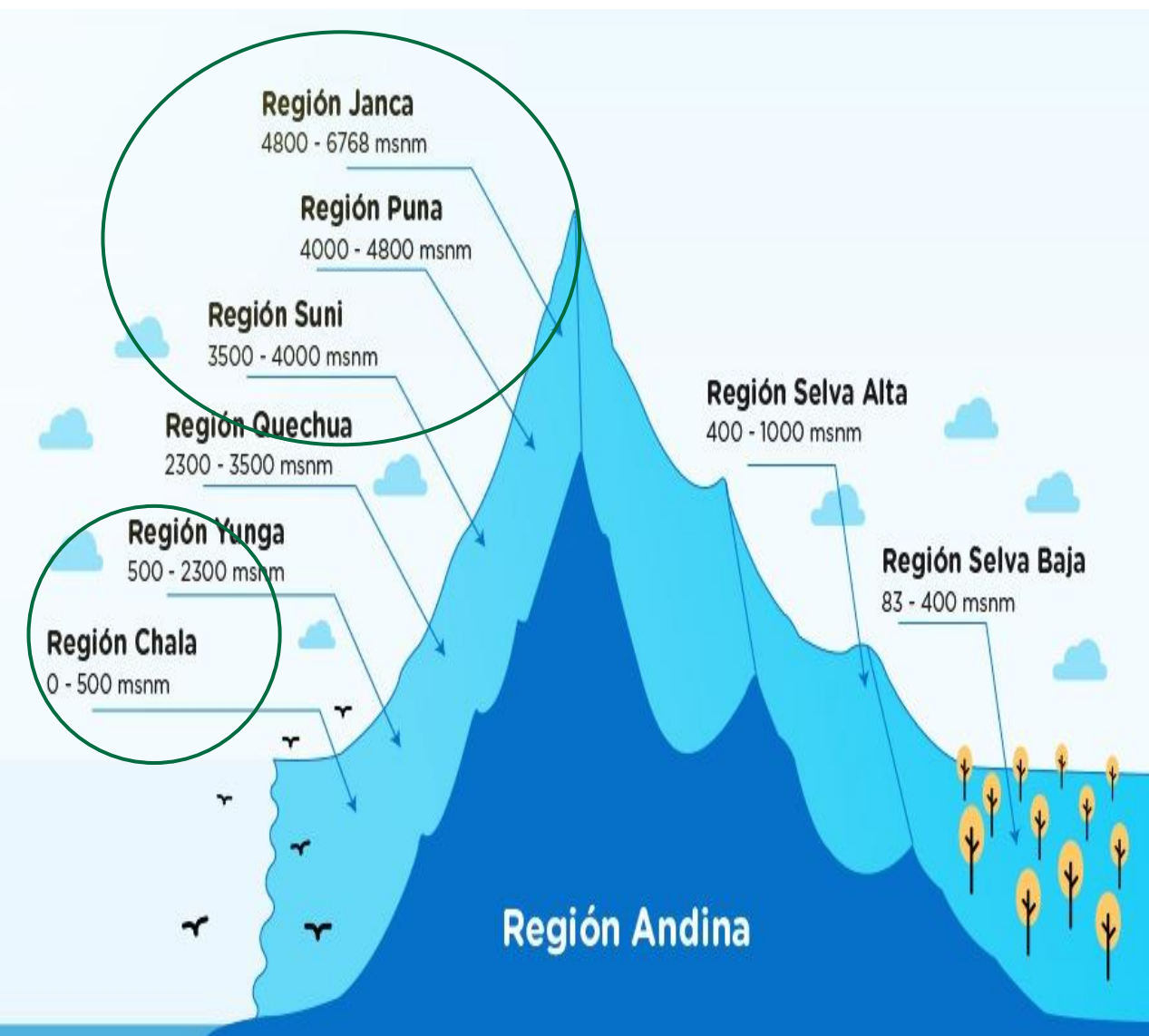
Proyecto de remediación Acobamba y Colqui, ubicado en la provincia de Huarochirí (Lima),

INSIGHT ENVIRONMENT & SUSTAINABILITY

As a result of the absence of environmental awareness and regulations, the **Peru from the past has left us with more than 8,000 mining environmental liabilities.**

ELEMENTS OF VALUE ENVIRONMENT & SUSTAINABILITY

- ❖ Solutions with a circular economy approach: i) revaluation (profitable businesses that allow recovering the economic value) and ii) zero waste (maximum use of the concentrate).
- ❖ Technologies that help the total recovery of the areas used during the operation, ensuring the sustainability of closure activities over time.



INSIGHT WATER RESOURCE

85% mining operations are on the 3500 msnm
Some mining operations of the south Peru have problem to availability water.

ELEMENTS OF VALUE WATER RESOURCE

- ❖ Technologies that allow measuring: i) water use, ii) water losses due to evaporation, filtration and/or entrapment in tailings, iii) quantity and quality variables based on the supply Andean basins.
- ❖ Systematization/centralization of climatological and hydrological information from all stations (public and private) for decision-making, preferably in real time.

Industry 4.0 - Technological pillars



INSIGHT MINING 4.0

Mining operations are located in remote areas where infrastructure and technological connectivity are a challenge.

ELEMENTS OF VALUE MINING 4.0

- ❖ Solutions that consider not only the implementation of technology but also its integration with other technologies to maximize value.
- ❖ Technologies accessible to small and medium-sized companies.

PERU IS WAITING FOR YOUR SOLUTIONS!

THANK YOU



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