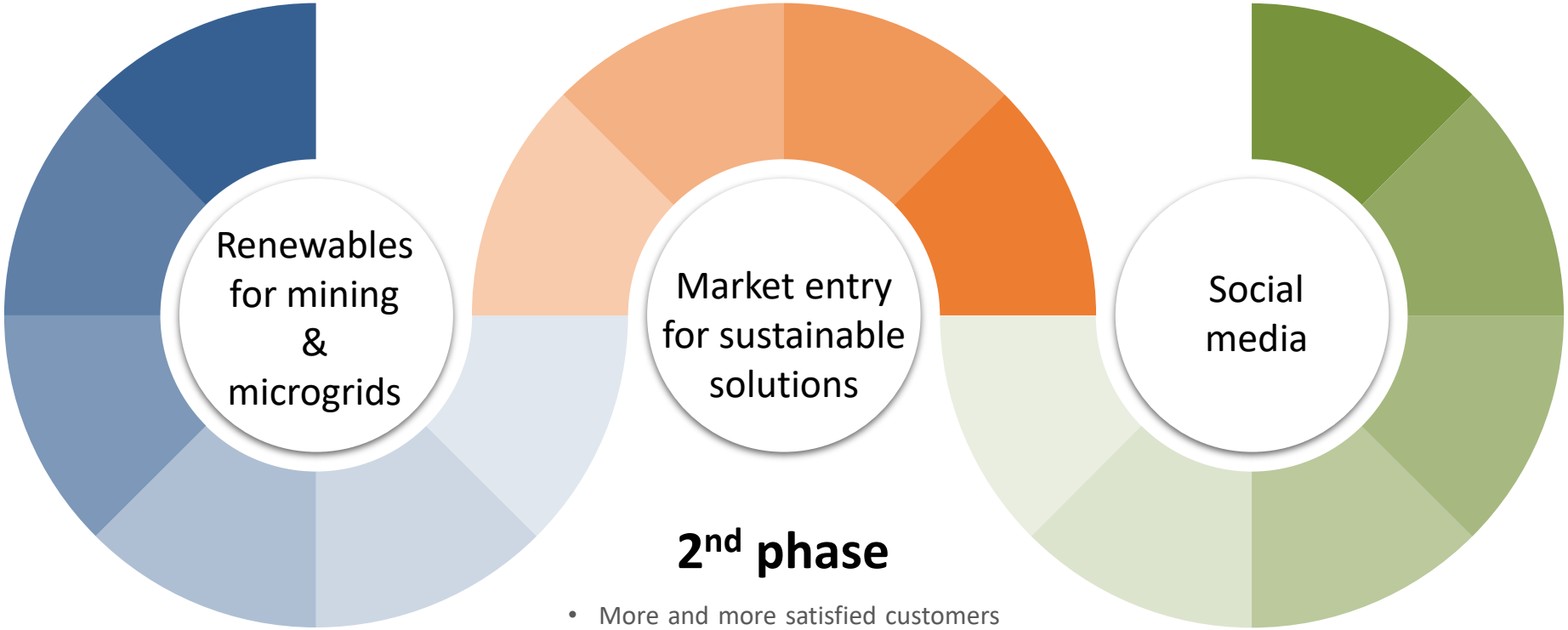
THEnergy – Innovation²Market: Dr. Thomas Hillig

Renewables for Diesel Savings: Beyond Solar

THENERGY innovation²market

Energy and Mines Australia Virtual Summit 2020

THEnergy overview



1st phase

- THEnergy started in 2013 with a focus on renewable energy projects for remote mines
- The consulting scope was extended to other hybrid / microgrid solutions such as islands, rural electrification

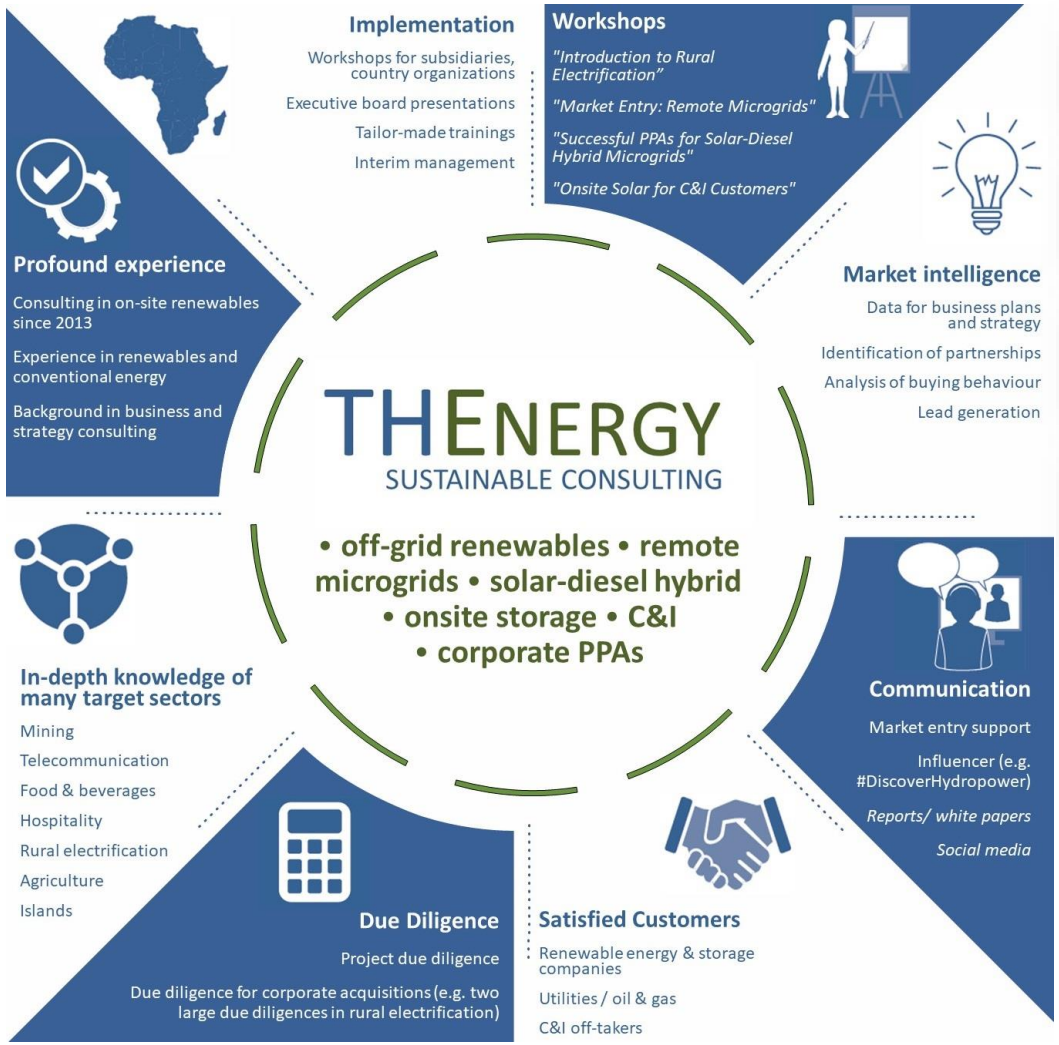
2nd phase

- More and more satisfied customers contracted us also for commercializing other sustainable solutions, e.g. new solar & wind power technologies, energy storage, hydrogen,

Social media

- Over the years we built up a strong followership on social media, mainly on LinkedIn and Twitter
- For innovative solutions, we can leverage our social media presence and run communication campaigns

Quick introduction THEnergy – Traditional consulting fields



International clients, 85% of revenues from outside of Germany

Project developers / EPCs	**Development organizations**
Investors / utilities	**Associations**
Component manufacturers	**Storage manufacturers**

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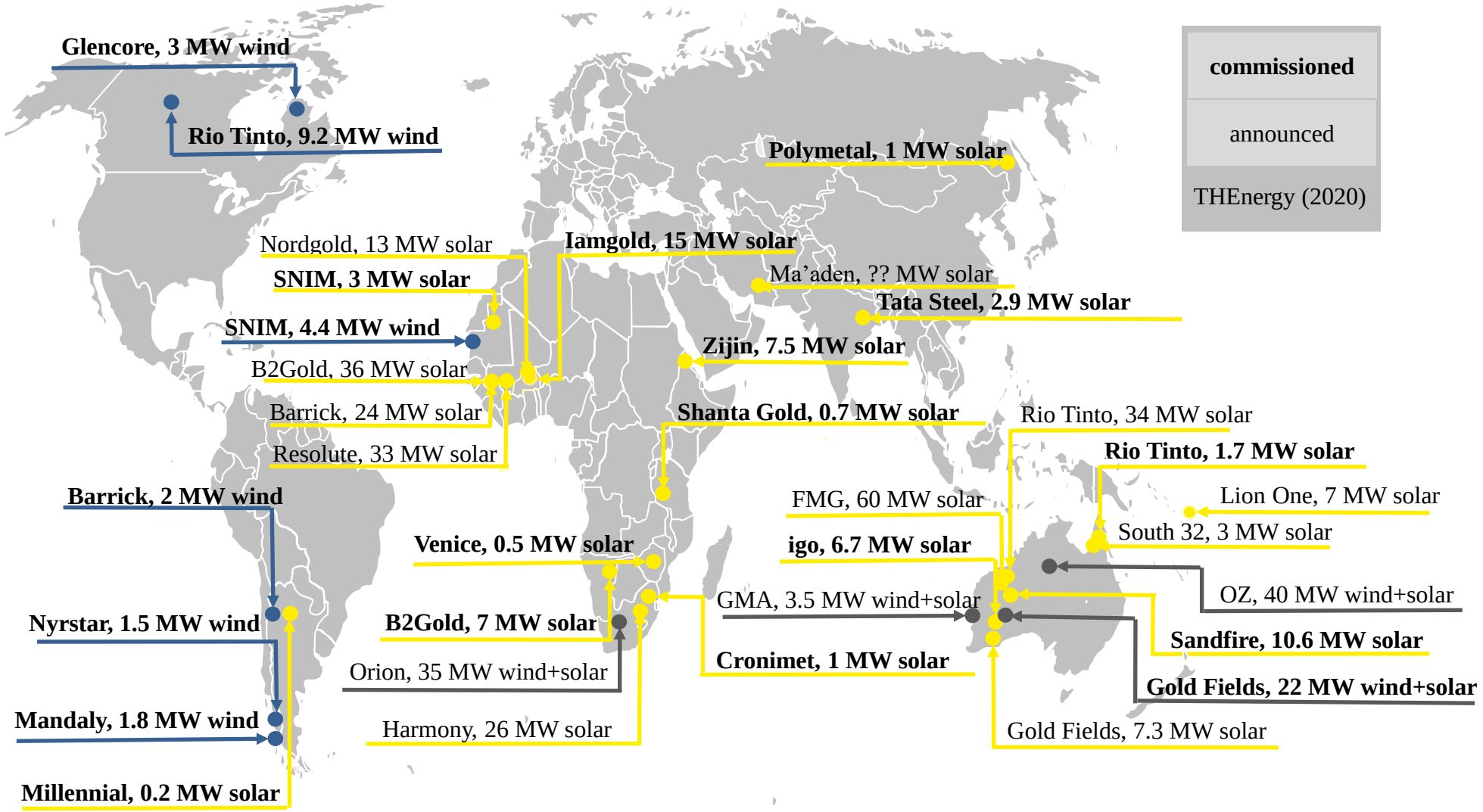
CRONIMET PFISTERER SolarPower Europe ENERPARC
Trojan BATTERY COMPANY TOTAL steadysun RiPASSO ENERGY Schneider Electric
ELECTRIC FUEL ENERGY ABO WIND uniper HELIOSLITE Quadran ÉNERGIES LIBRES IBM

Quick introduction THEnergy – Traditional consulting fields

Renewables for Diesel Savings: Beyond Solar

Major on-site solar and wind power projects in mining



Renewables for remote mines

initial phase

now

Trying out renewables

- Miner were very risk-adverse
- Rather small projects
- No storage

Focus on costs

- Miners gain confidence
- Larger renewable energy fraction

More sophisticated projects

- Different renewable energy sources
- Energy storage

SmartH$_2$OEnergy: Research project – hydropower for mines

RWTH AACHEN UNIVERSITY

ERGON POWER

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Fast Facts

Country
Peru

Funding period
01.07.2019 - 30.06.2022

Funding volume
904.768 €

Funding reference number
033R206A-B

Website

Projektwebseite

SmartH$_2$OEnergy

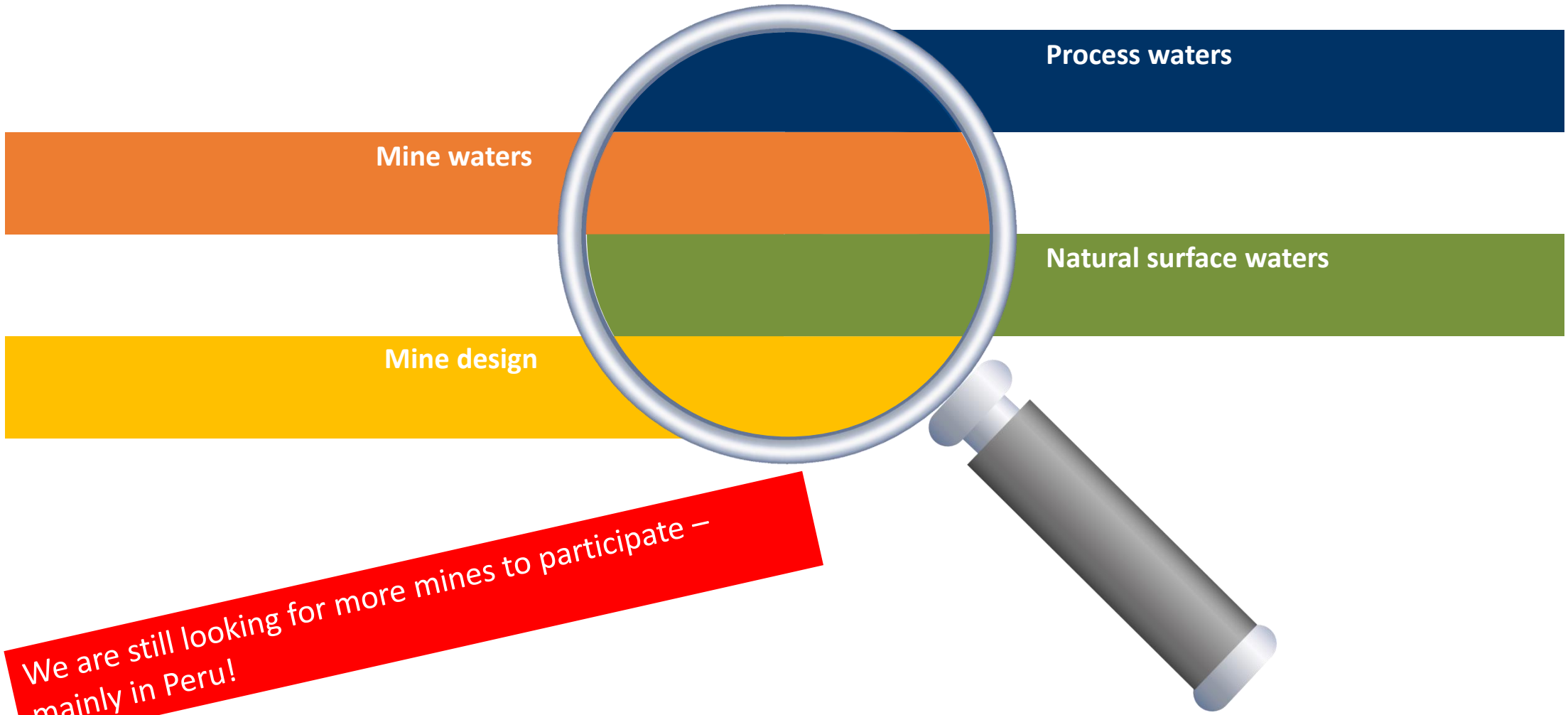
Development of Concepts for the Utilisation of Hydroelectric Hydropower Potential of Raw Material Extraction Operations

Traditionally, the mining sector has relied on the fossil fuels of diesel, oil, coal and natural gas to meet its growing energy needs in the extraction and processing of raw materials. Against the backdrop of increasing greenhouse gas emissions, rising fuel prices and lower margins, concepts and technologies for harnessing and integrating hydroelectric hydropower potentials in open pit mines in Peru will be developed in the joint project SmartH$_2$OEnergy.

Hydropower in the Peruvian raw materials industry

Peru expects to double its electrical energy requirements from 2010 to 2020 - and to increase it fourfold by 2030. The rising demand is mainly due to the continuous growth of the mining industry, which accounts for 36% of total energy consumption in Peru (status in 2015). Hydropower has traditionally been of great importance in Peru as an inexpensive and reliable source of energy. However, despite the great potential for technical expansion, in recent decades its share of national electricity generation has fallen drastically due to subsidies for natural gas production in the Amazon region. In this context, above-average growth in the mining industry's energy requirements could, via the targeted use of hydropower, lead to an increase in the share of hydropower in Peru's electricity mix and the tapping of as yet unused potential. The Andean region in particular, where many mines are located, has a high potential for hydropower (Fig. 1).

SmartH$_2$OEnergy: Research project – hydropower for mines



We are still looking for more mines to participate –
mainly in Peru!

Contact

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