

Trends, Challenges and Industry Response in the Gold Sector

A Consultant's Perspective



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Selected facts

Trends and challenges

Gold companies' response



High sulphidation epithermal, with free gold
Goldfields Nevada

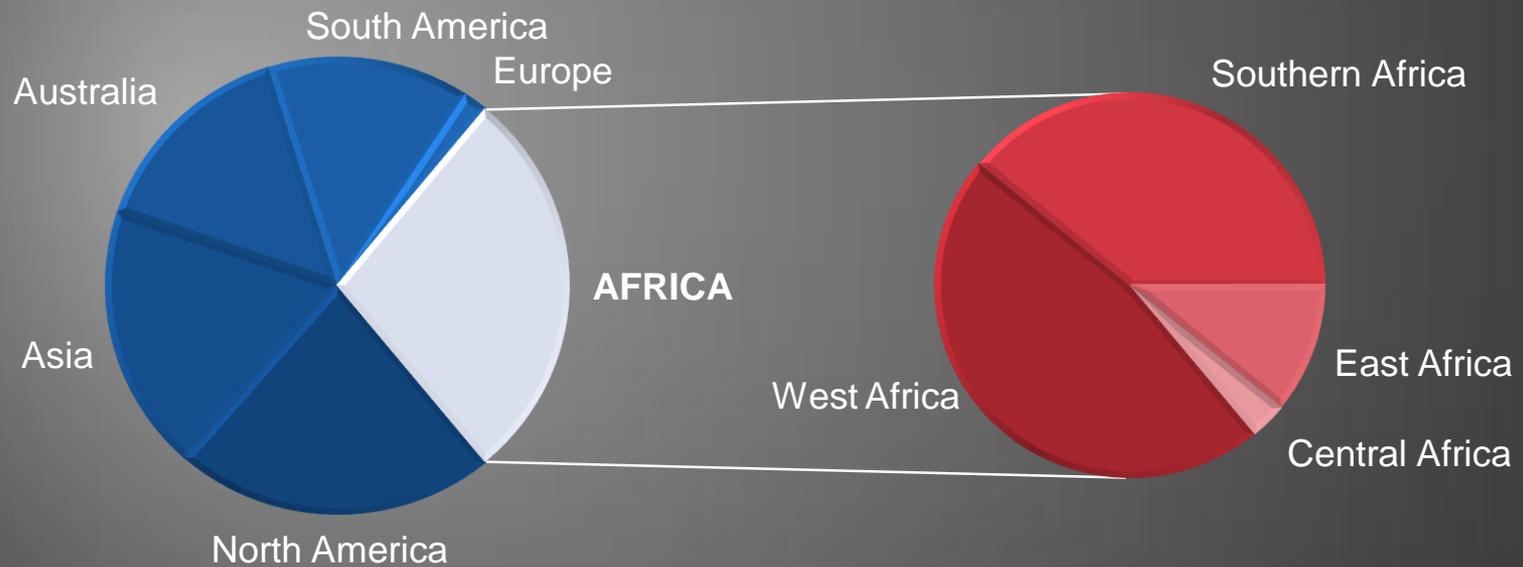
- Demand driven
 - Appearance – jewellery, medals (66%)
 - Physical properties – electronics, medicine, aerospace
 - Investment
- About 35% of global supply is from recycling
- 2013
 - World production 50 Moz
 - From 260 mines
 - 20 Largest mines produced 30% of world production



Oxide gold ore, Ashanti, Ghana

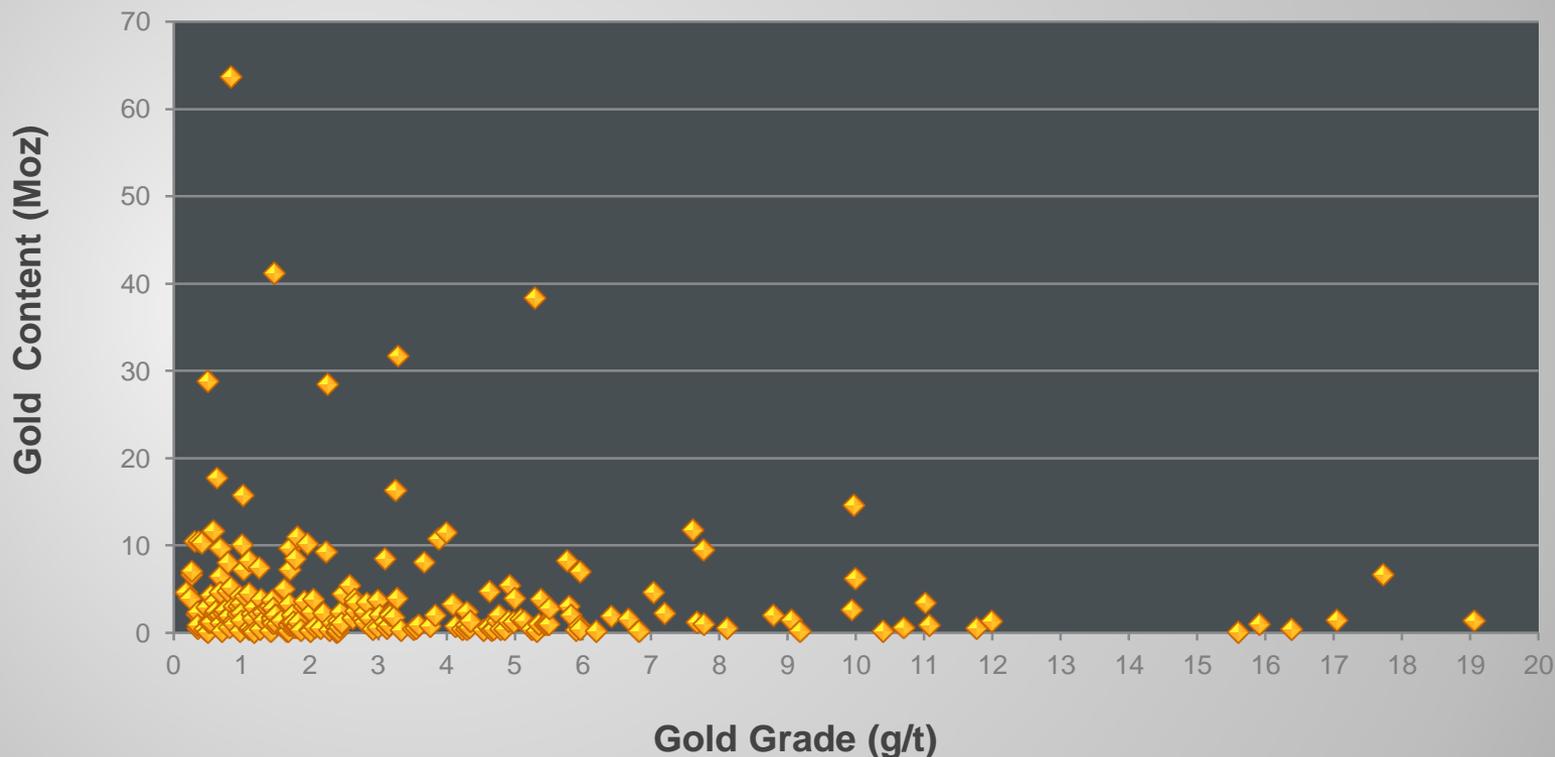
Global Distribution of Gold Mines

230 mines, producing over 50 koz/pa



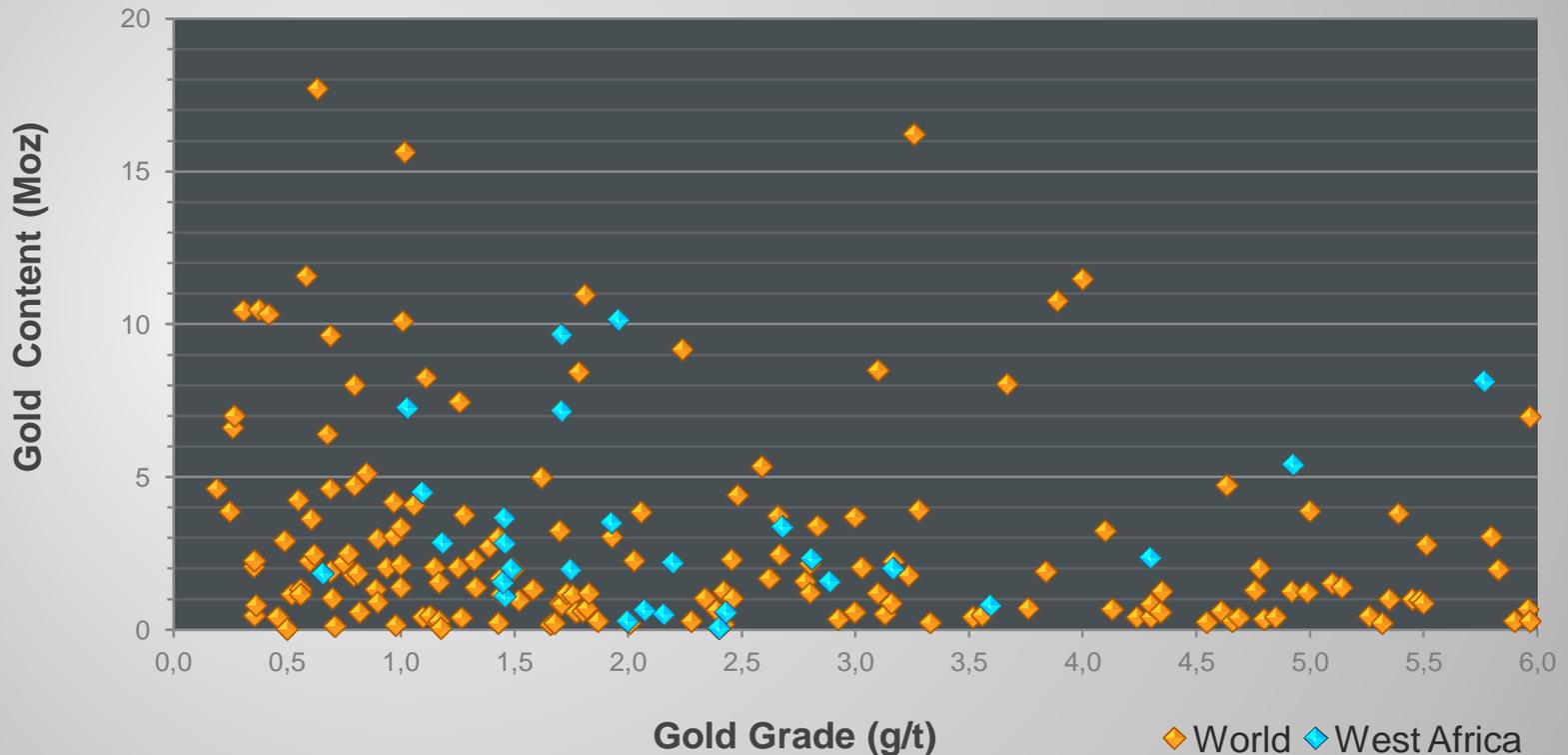
Mine Reserves - Gold Grades vs Gold Content

Grades less than 20 g/t



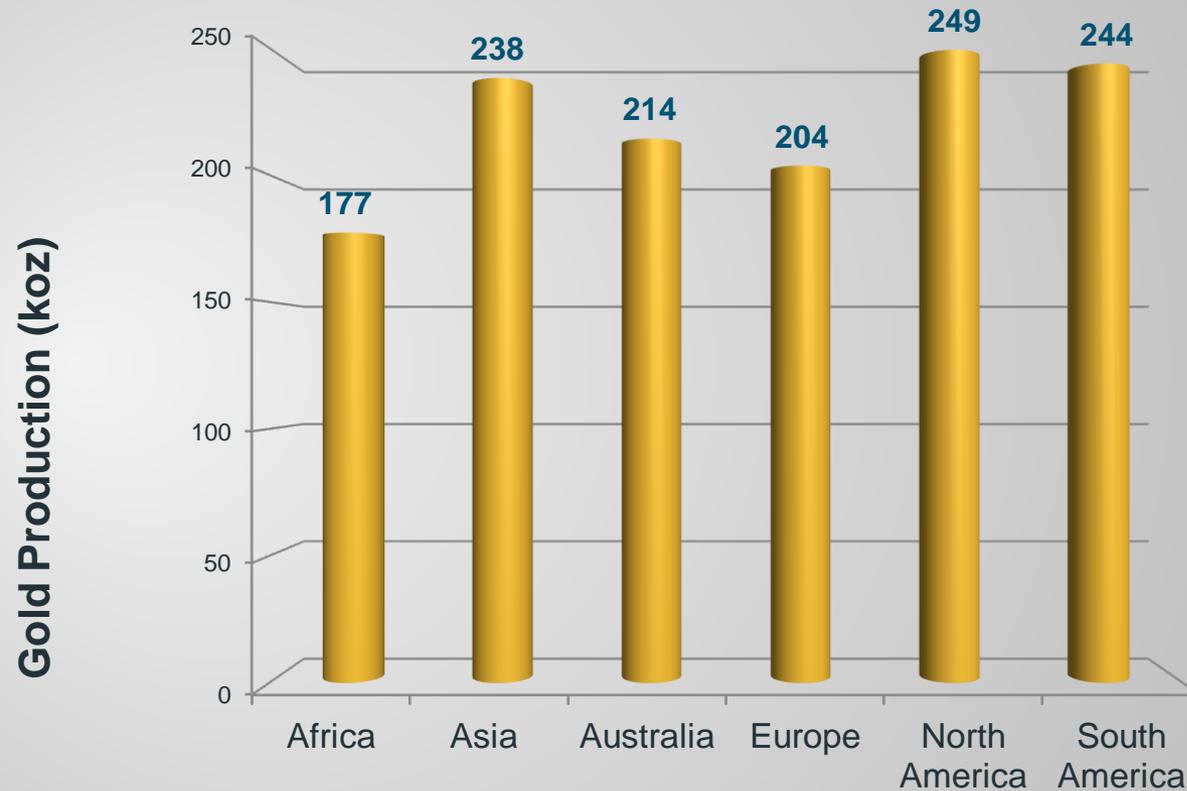
Mine Reserves - Gold Grades vs Gold Content

Au Grades < 6 g/t, Au Content < 20 Moz



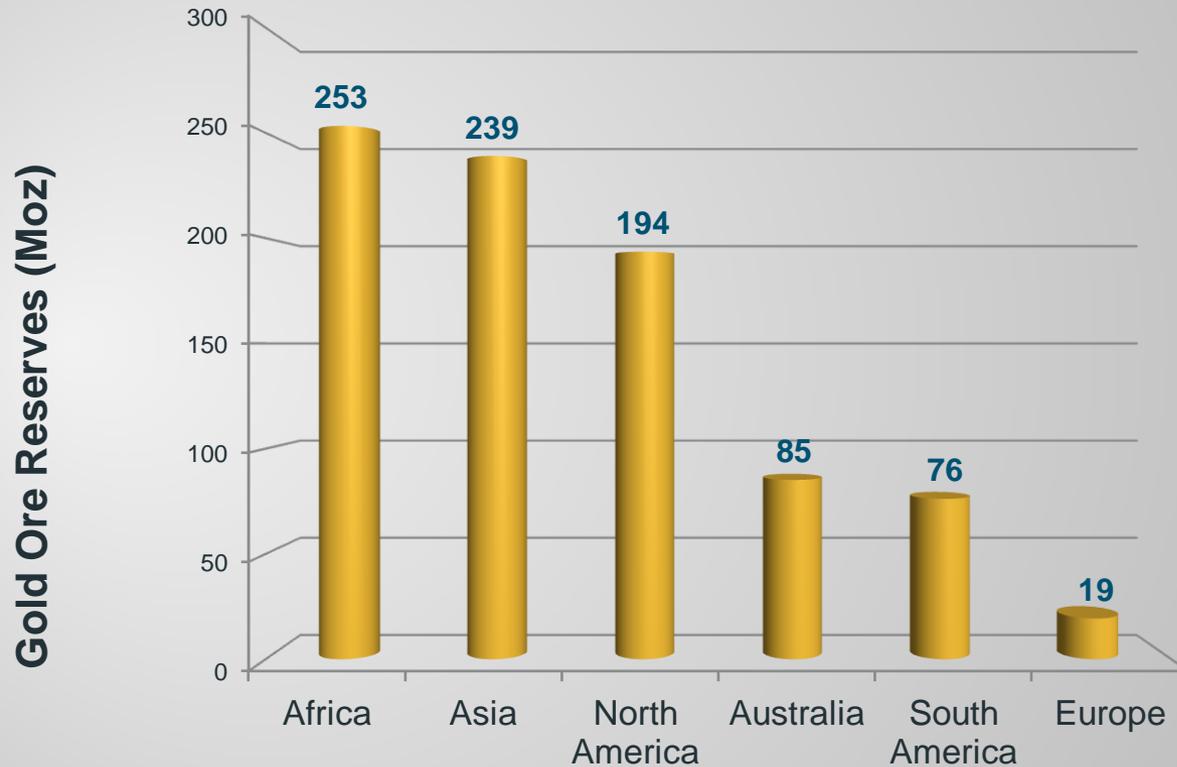
For mines producing over 50 koz/pa, with gold as primary metal.

2013 Average Mine Production, by Region



For mines producing over 50 koz/pa, with gold as primary metal.

Gold Mine Ore Reserves



For mines producing over 50 koz/pa, with gold as primary metal.
Excludes Mineral Resources and new projects
Ore Reserves compliant to an International Recognised Reporting Code

Challenges – in the sector

- Gold price down
- All size companies affected
- 2013
 - Loss in asset value
 - Reduced revenues and profits
 - Reduced capital expenditure
 - M&A impacted
 - Contracted investment pool



Sphalerite, gold, petzite & quartz
Rosa Montana, Romania

Challenges – operational level

- Increasing unit operating costs
- Reducing grades
- Increasing mine depths
- Location - infrastructure
- Power supply
- Skills shortages
- Personnel demands
- Environmental responsibility



A typical mine nursery

Challenges – corporate level

- Labour relations
- Cost of compliance
- Shareholder pressure
- Host nation demands
 - Taxes
 - Local participation
 - Geopolitical
 - In country value-adding
 - Social



Gold pouring

At the operations

- Reduce operating costs
 - Identifying high cost areas
 - Short term vs longterm
- Improving productivity
 - Efficiencies
 - Utilisation
- Improving recoveries
- Technology and innovation



Loading overburden

Operations – areas for cost reductions

- Mining Fleet
 - Equipment utilisation
 - Maintenance programmes
 - Tyre wear
- Loss and dilution
- Grade control
- Pit optimisation
- People performance
- Employee complement
- Old vs new plant and equipment



Truck and excavator fleet

Technology

- Backfilling
- Low profile mining equipment
- Driverless trucks
- Reef-boring
- Automation
- Signalling and proximity detection devices
- Drilling and blasting
- Fuel (LPG vs diesel)
- Desalination plants

➤ Safety



Top: backfilling Bottom: reef-boring

Innovation

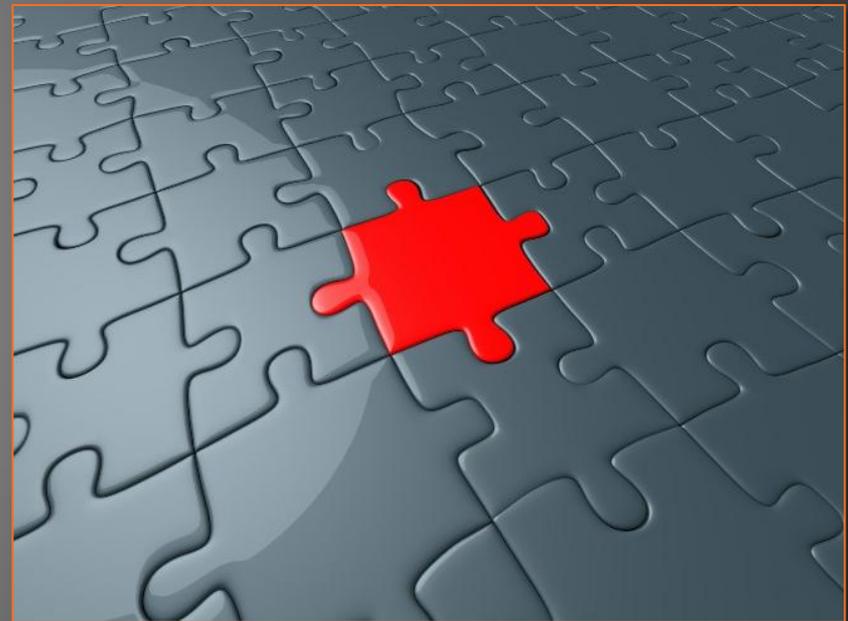
- Contracts and suppliers
- Outsourcing strategy
- Consolidation and synergies
- Updating practices



Low profile equipment

Company level

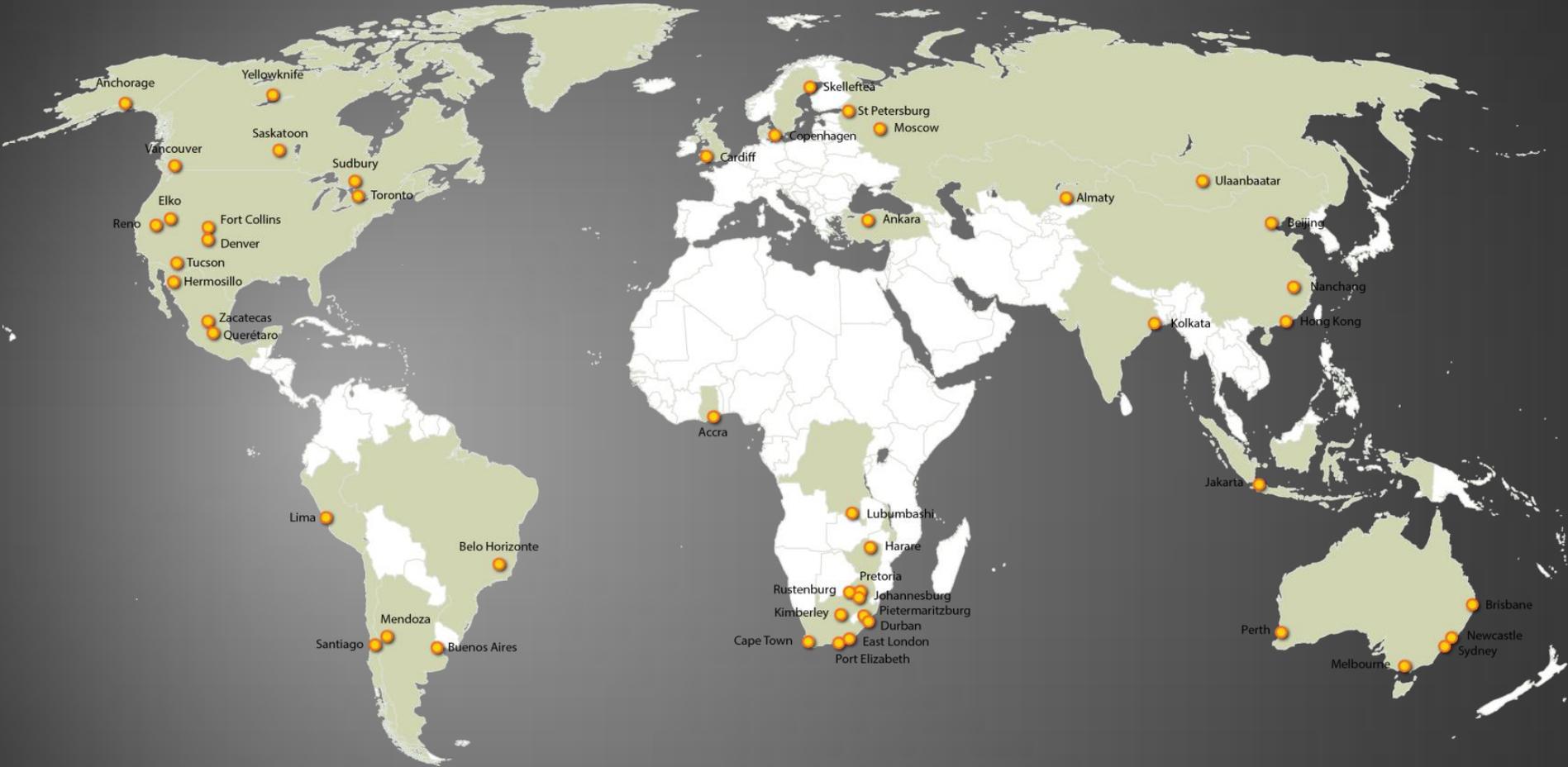
- Capital spend
- Restructuring
- Business strategy
- Synergies
- Looking short-term and long-term
- Prioritising assets
- Fund raising



- Gold demand will remain
- Gold production will continue



Our lust for gold



- >1,500 Professionals, 50 offices, 22 countries, 6 continents