

# Investimentos de Mineração no Brasil e no Mundo

## Mining Investments in Brazil and around the World

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# Global Map of Mines



# Global Mining Investments Key Figures

2006-2017 YTD: ~ 1 trillion USD in global mining investments, over 10,000 global deals

50% of investments in advanced economies and top 5 investors amount to 55% of all investments made

Target Nation	% of total Deal Value
Canada	23%
USA	15%
Australia	11%
Russia	7%
China	6%
<b>Brazil</b>	<b>5%</b>
United Kingdom	4%
Switzerland	4%
South Africa	3%
Chile	2%

Acquiror Nation	% of total Deal Value
Canada	18%
USA	11%
Switzerland	9%
Australia	8%
United Kingdom	7%
Russia	7%
<b>Brazil</b>	<b>5%</b>
China	4%
Japan	4%
South Africa	3%

## Target Nations of Mine Investments Comparison 2006 vs 2016

Shift from stable countries in 2006 to more risky and emerging markets such as Mongolia, DRC, Indonesia where new mines are built.

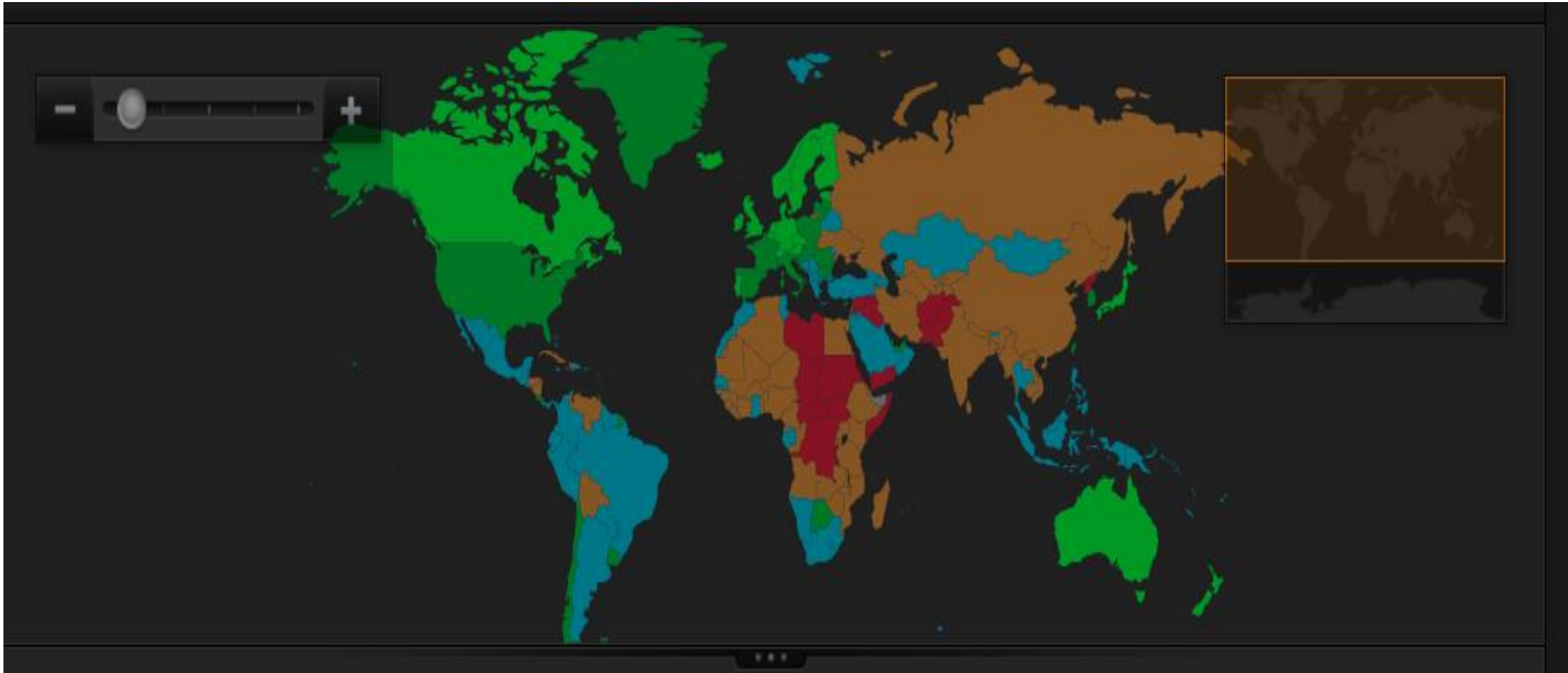
Brazil stayed in #8 position but deal values dropping by 40% from 2006 to 2016.

Target Nation 2006	% of total Deal Value
Canada	49%
USA	14%
Russia	13%
South Africa	7%
Japan	4%

Target Nation 2016	% of total Deal Value
USA	18%
Mongolia	13%
Congo	9%
Indonesia	9%
Canada	9%

# Thomson Reuters Global Country Risk Map

Extremely high correlation between mining investment destinations and low risk country rating.



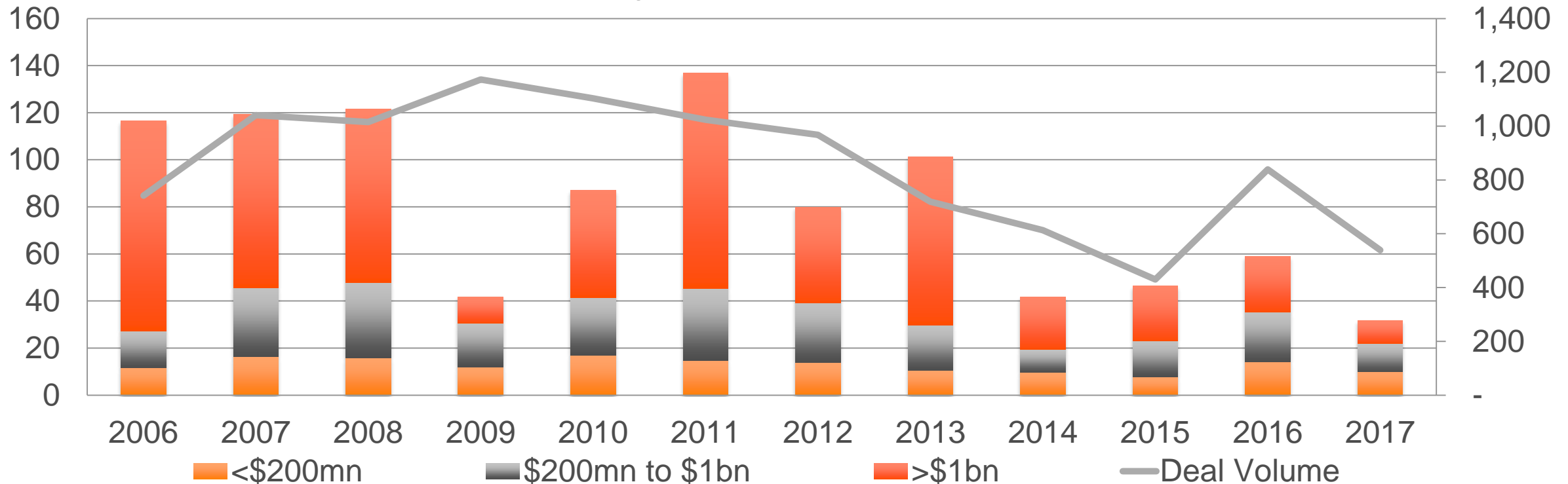
Source: Thomson Reuters Worldcheck

# A DECADE OF GLOBAL MINING INVESTMENT

# Large Mining Deal Values

Significant reduction in larger \$1bn + deals with YTD 2017 deal values lowest in more than 1 decade. High balance sheet debt levels resulted in a slowdown in M&A activity as balance sheets are being reduced and non high margin businesses are sold or spun out. Q4 2017 will decide if 2017 deal values can exceed the lows of 2009 and 2014.

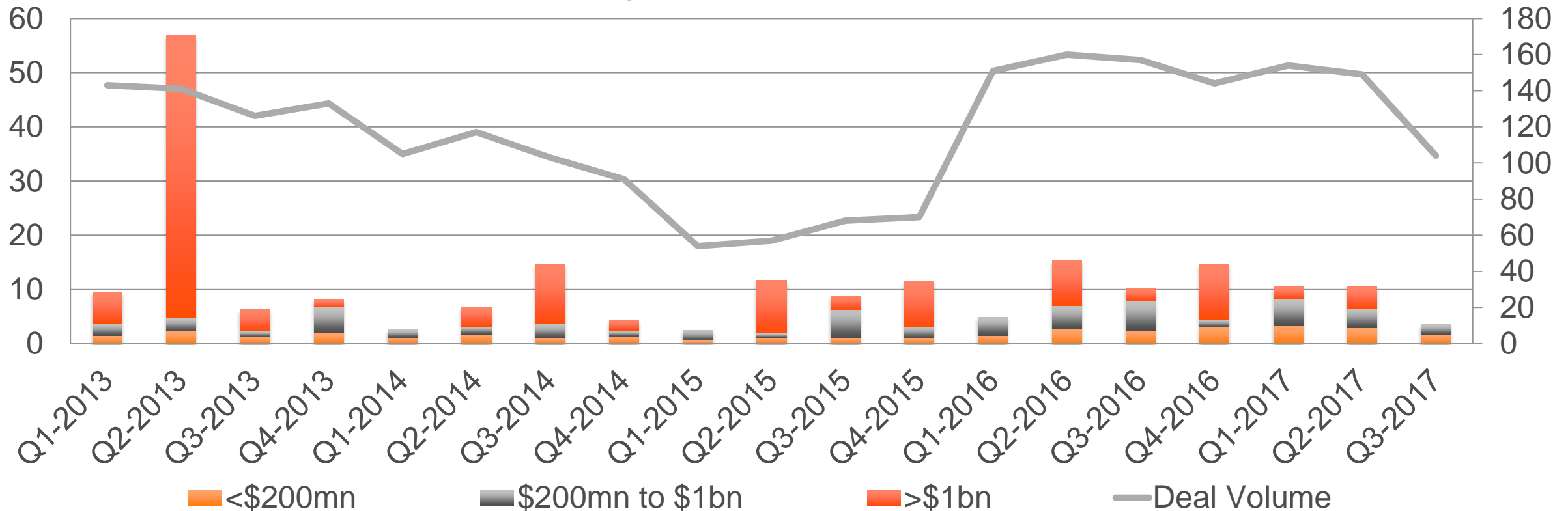
## Volume & Value of Deal by Size 2006-2017 YTD



# GLOBAL - Quarterly Deal Volumes

Significant slowdown in global deals since Q1 2017, with deal volumes down ~ 30 %.

### Volume & Value of Deal by Size 2006-2017 YTD

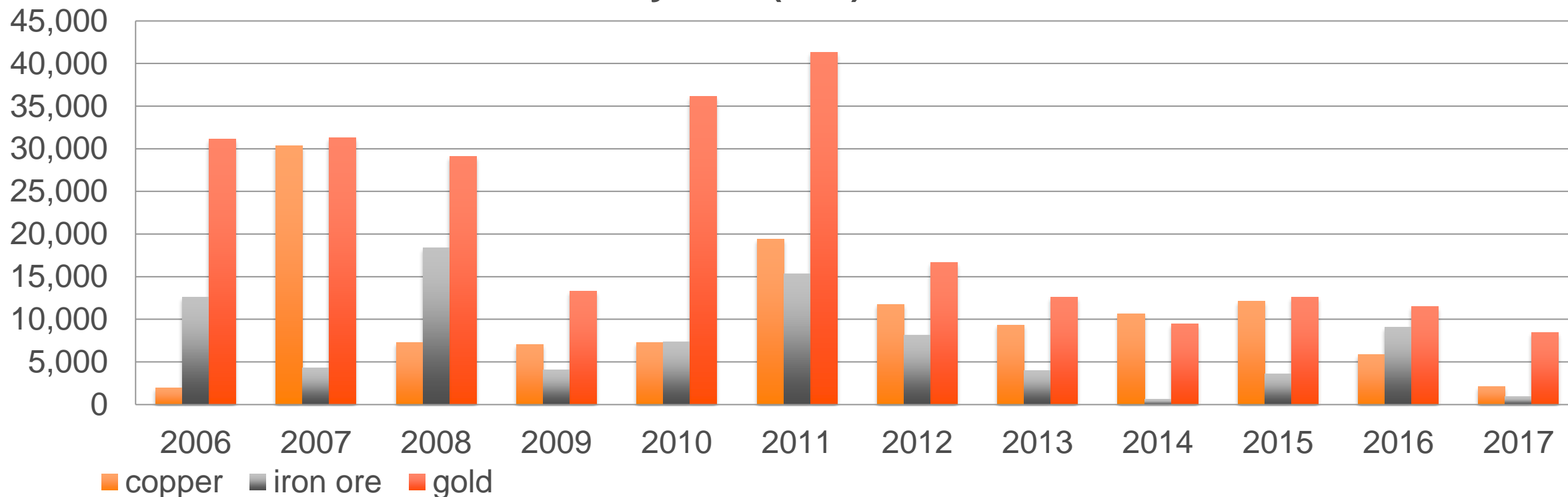




# Mining investments in Copper, Iron Ore, Gold

Gold dominated the investment space 11/12 last years however, volumes have declined to all time lows YTD 2017 but still outpacing copper and iron ore. Overall contribution to total deal values: gold: 54%, copper 27%, iron ore 19%

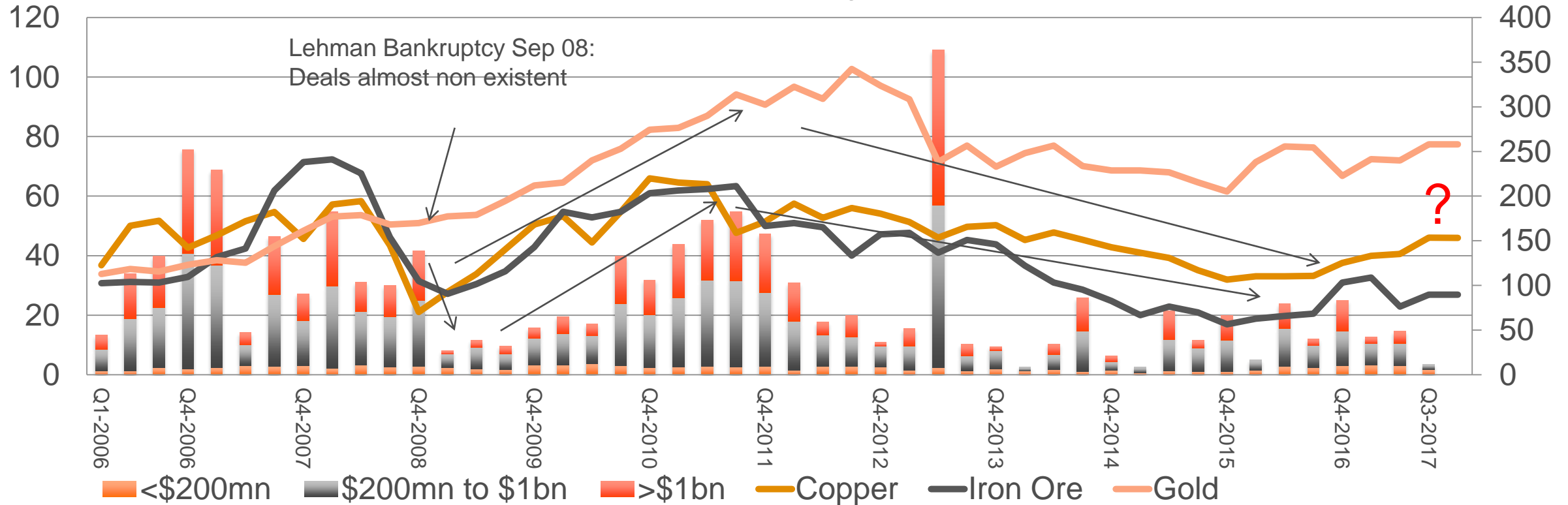
## Volume & Value of Deal by Size (\$bn) 2006-2017 YTD



# Is there a correlation between commodity prices and mining investments?

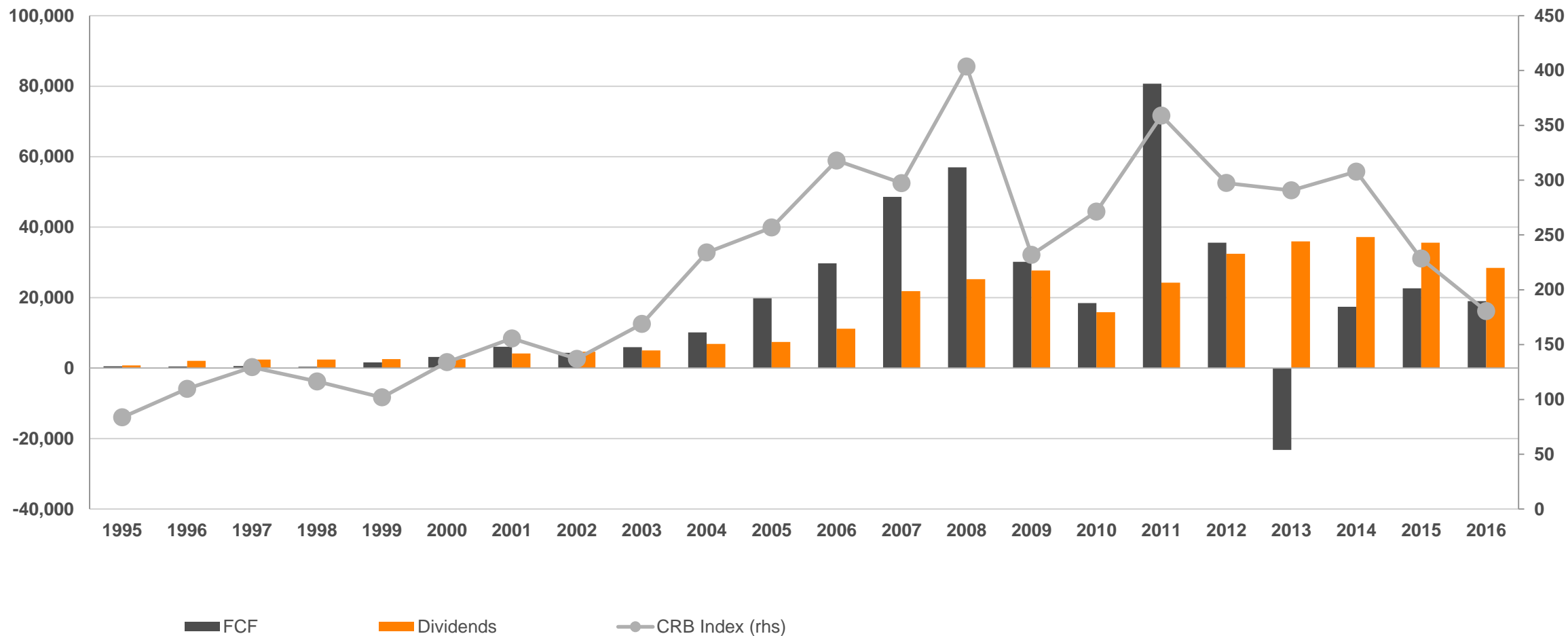
Investors did not get 1 for 1 commodity boom. Miners invested in supply all supply came online at same time. Boom and bust.

## Volume & Value of Deal vs Commodity Prices 2006-2017 YTD

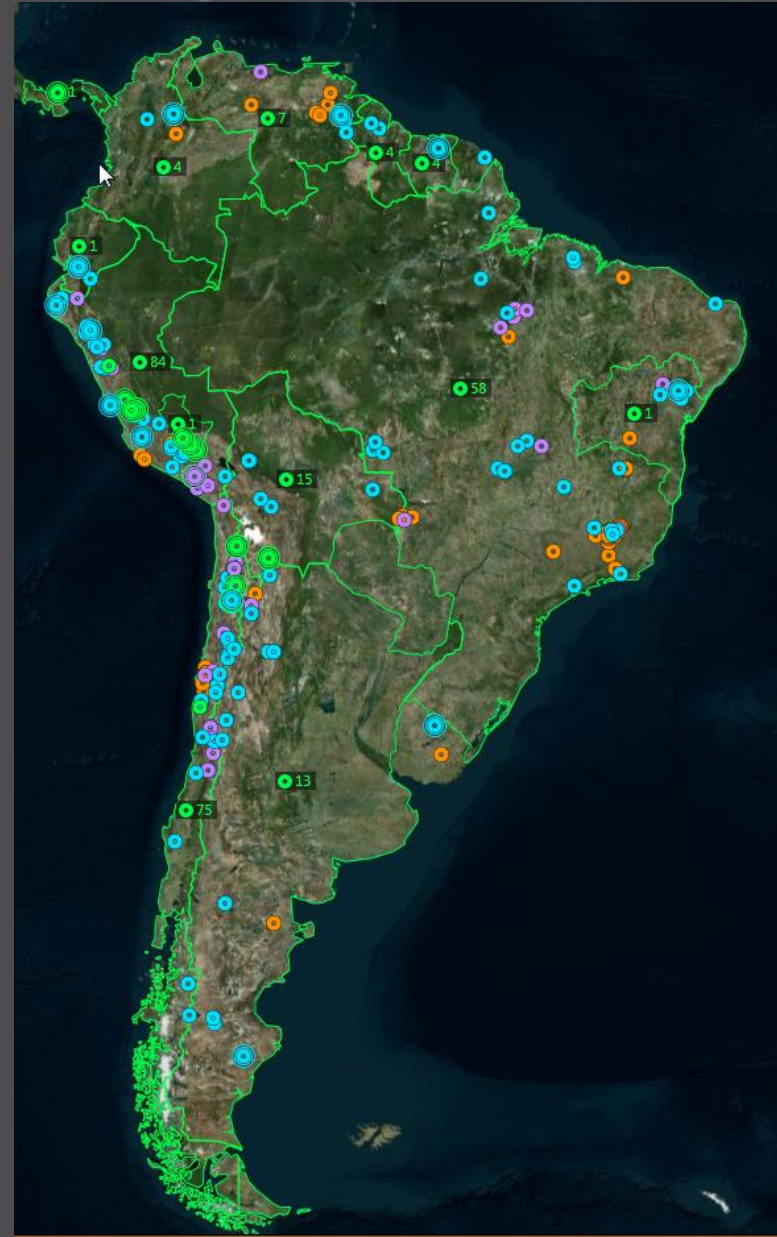


# Mining Sector (ex. Gold) – free cash flow and cash dividends paid

Free Cash Flow and Dividends paid (USD millions)



# LATAM

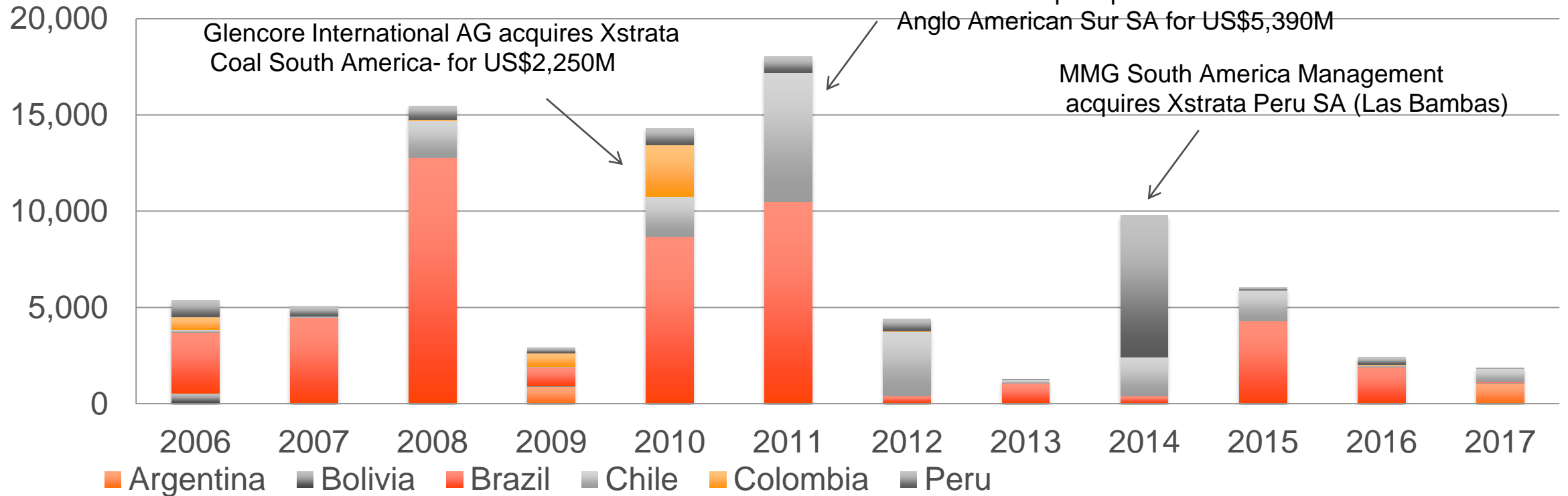


# LATAM Mining Investment Trends

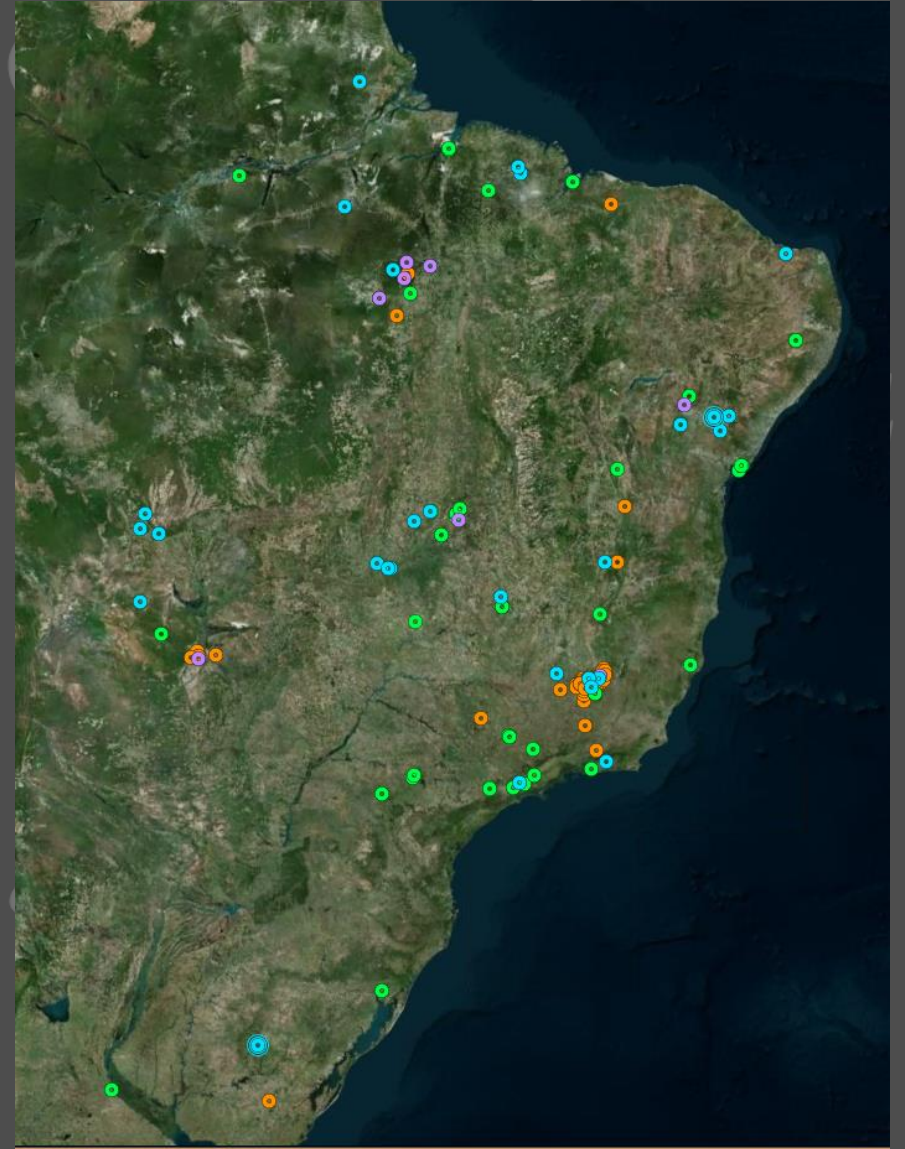
Total mining investment around \$83 billion from 2006-2017 in Latin America.

Brazil accounts for 56% of deal values, followed by Chile (22%) and Peru (15%), Colombia (5%), Argentina (3%), Bolivia (1%).

## Value of Deal by Size 2006-2017 YTD



# BRAZIL

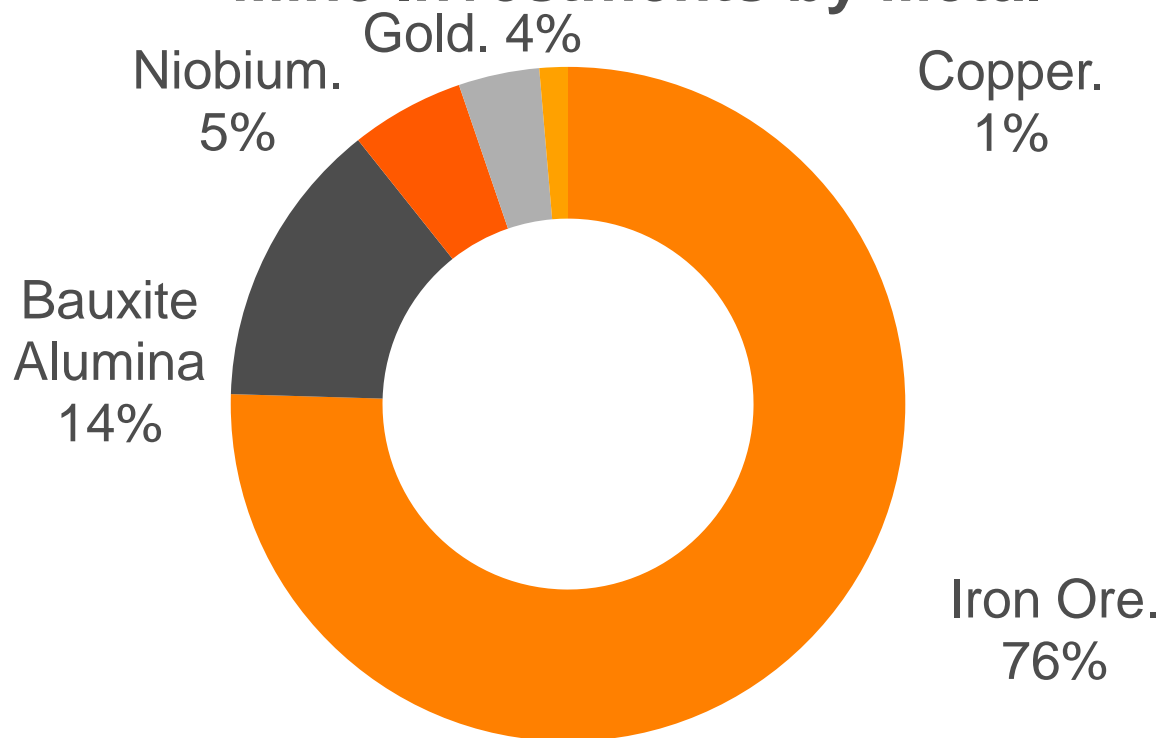


# Brazilian Mining Investments 2006 – 2017 YTD

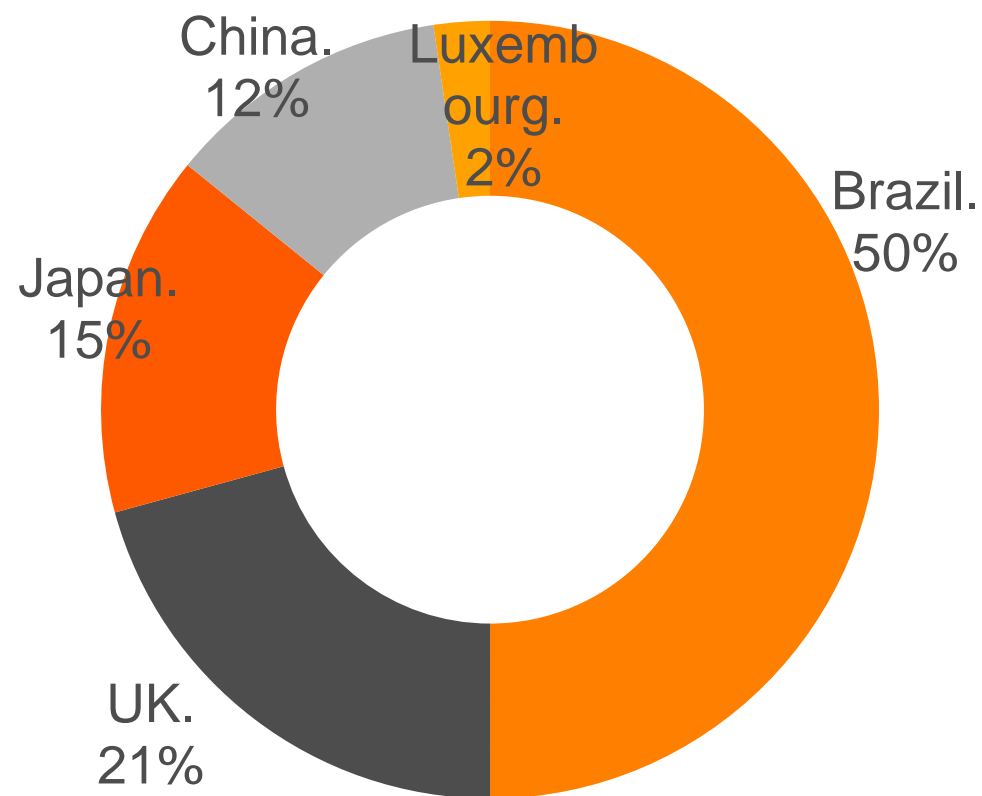
Very concentrated mining investments in iron ore followed by gold and niobium.

Equal split between cross border and intra-Brazil investments. Largest foreign investors Anglo American (UK), Sumitomo (Japan), China Niobium, China Molybdenum (China), Arcelor Mittal (Luxembourg).

## Mine Investments by Metal



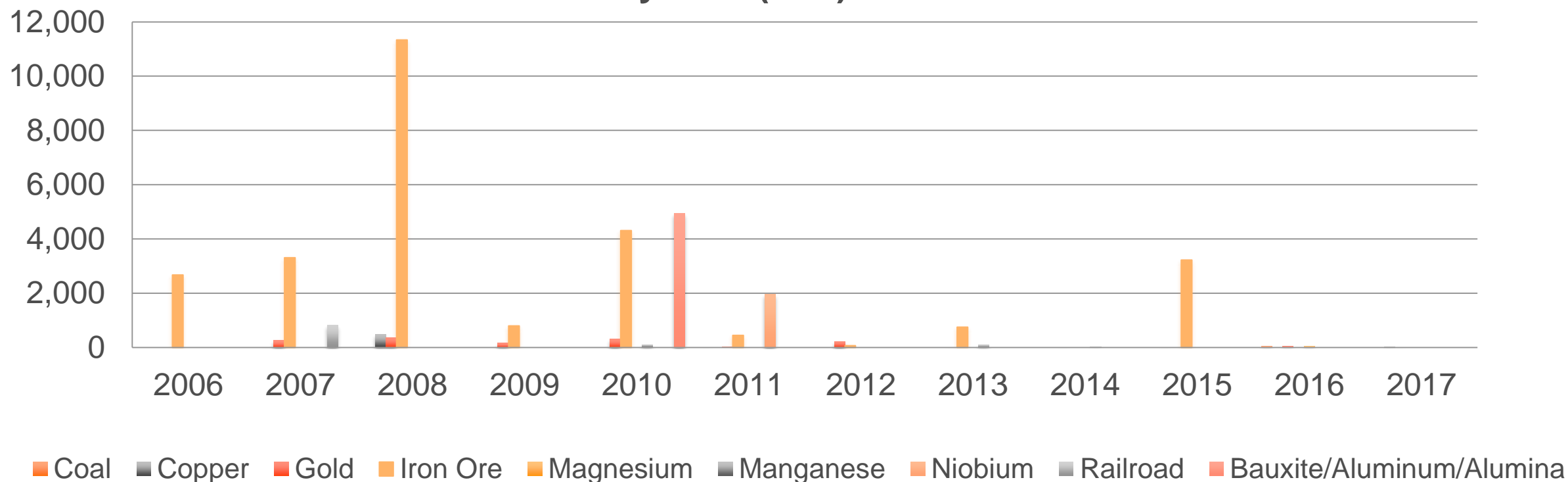
## Acquiror nations



## Mining investments by metal in Brazil

Gold dominated the investment space 11/12 last years however, volumes have declined to all time lows YTD 2017 but still outpacing copper and iron ore. Overall contribution to total deal values: gold: 54%, copper 27%, iron ore 19%

### Volume & Value of Deal by Size (\$bn) 2006-2017 YTD





## Mine Investments in Brazil by Sector 2006-2017 YTD

Total: \$44 billion of mine investments. 6 Mega deals account for 42% of total deal value in Brazil.

Acquisition Details	Year	% of total Brazilian Deal Value
Norsk Hydro ASA acquires Vale SA-Aluminum Operations for US\$4,948M	2011	11%
Anglo American PLC acquires 64% stake in IronX Mineracao SA for US\$3,493M	2008	8%
Investor Group acquires 40% stake in Nacionale Minerios SA for US\$3,120M	2008	7%
Cia Vale do Rio Doce SA to acquire 40% stake in Caemi Mineracao e Metalurgia for US\$2,658M	2006	6%
Anglo American PLC to acquire 49% stake in Sistema Minas-Rio for US\$2,451M	2007	5%
China Niobium Investment acquires 15% stake in CBMM for US\$1,950M	2011	4%

# Mining Investment Cycle Analysis

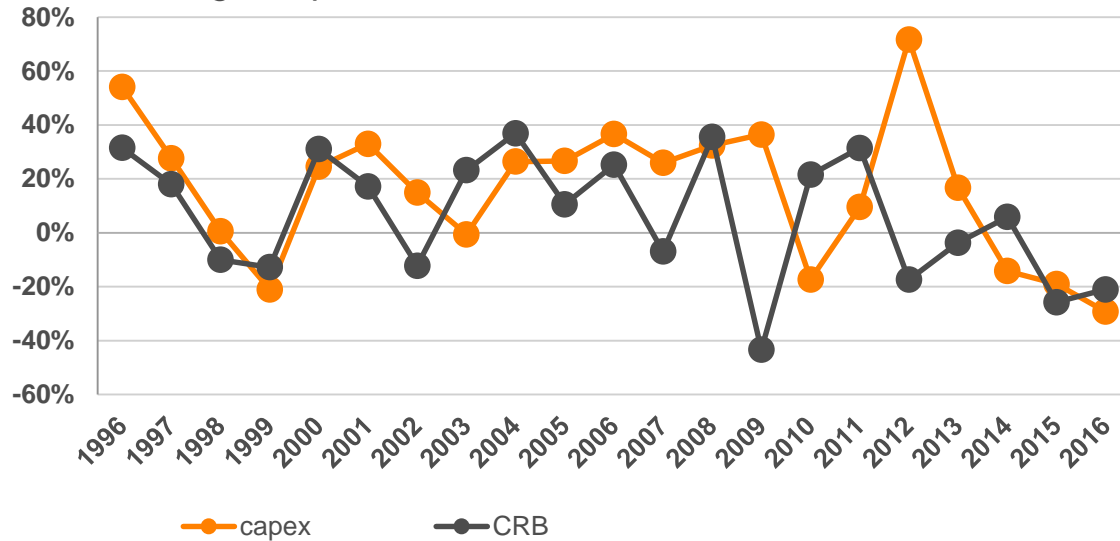
## Metals & Mining M&A Activity 2016-YTD 2017

# Mining Sector (ex. gold) – investment cycle

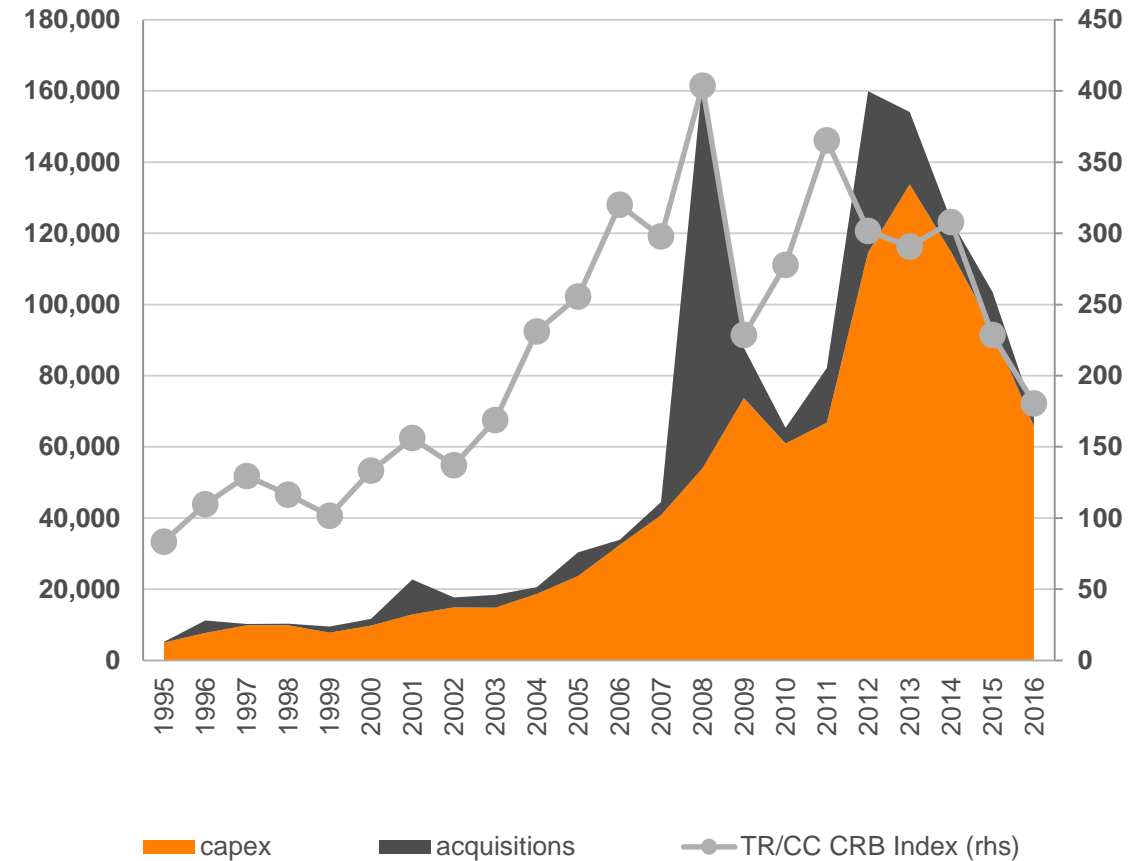
70,000+ public companies in EIKON

- Thomson Reuters Business classification (TRBC), 1,600+ Diversified Mining, Base Metal Mining, Specialty Mining & Metals, primary quotes only

Y-o-Y change: capex and CRB index



Diversified, Base and Specialty Miners – capital expenditures and acquisitions of business (USD millions)

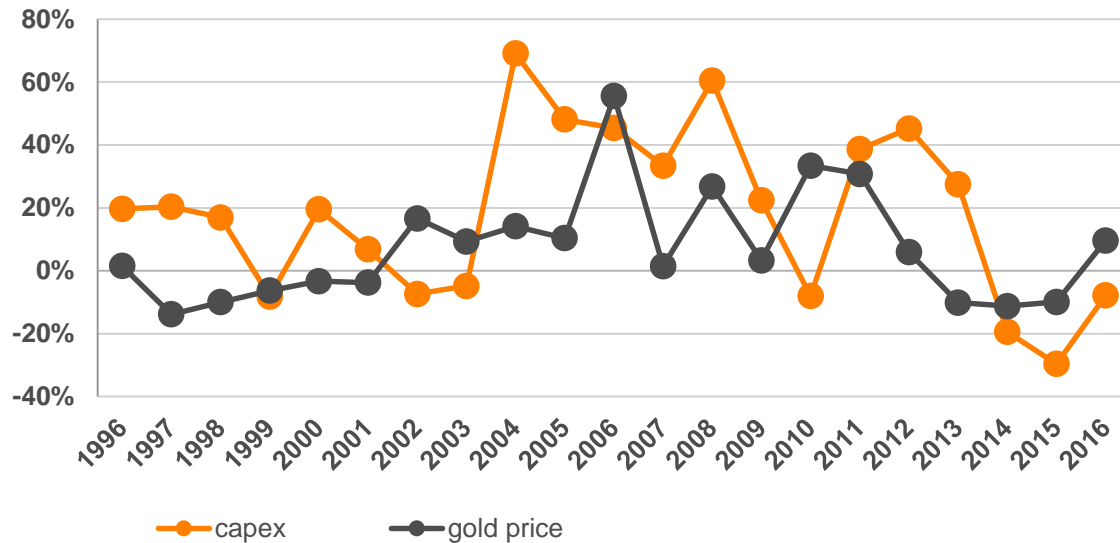


# Gold Sector – investment cycle

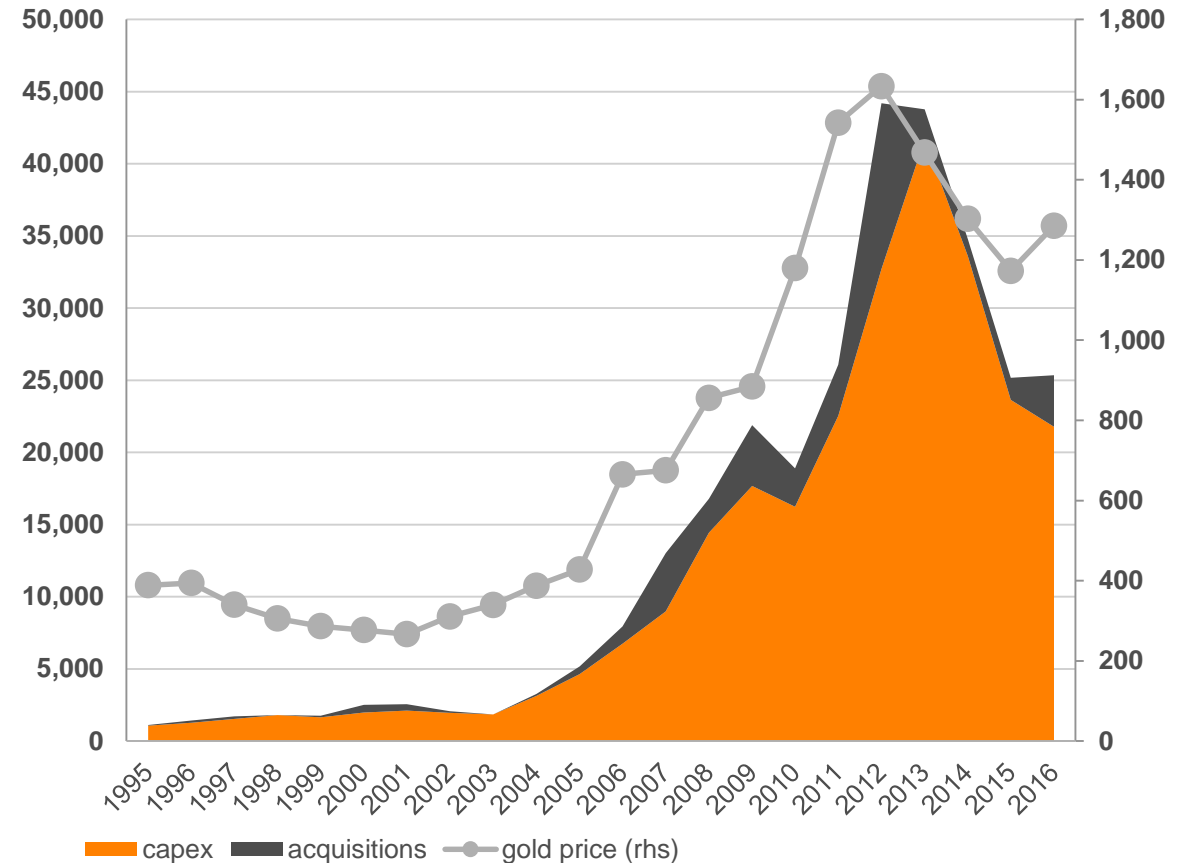
70,000+ public companies in EIKON

- Thomson Reuters Business classification (TRBC), 700+ Gold Miners, primary quotes only

Y-o-Y change – capex and the gold price



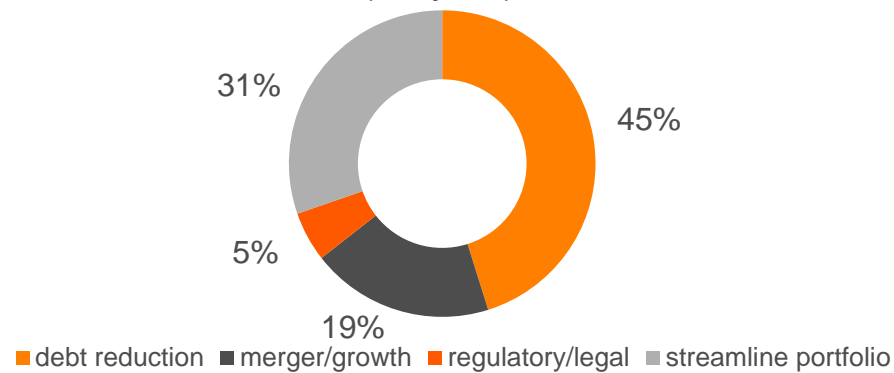
Gold miners – capital expenditure & acquisition of business (USD millions)



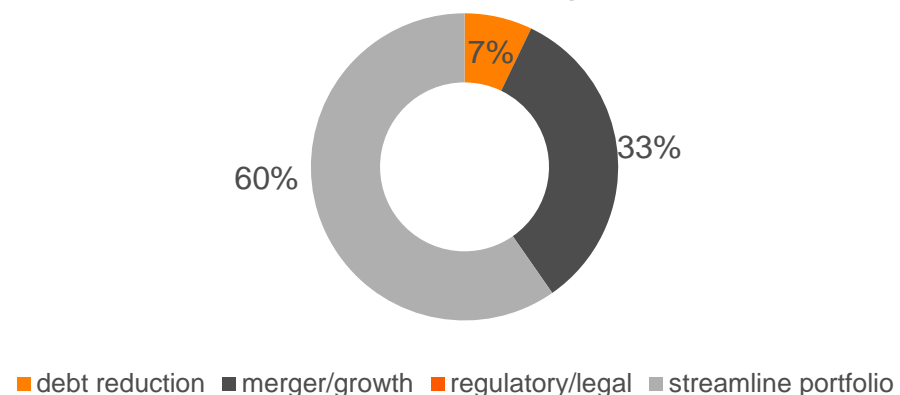
# Metals & Mining M&A

Deal value year-to-date reached an estimated \$15.01 billion, a 30% decline year-on-year.

Deal Rationale – 2016 (full year)



Deal Rationale – 2017 (to end-August)



M&A flow by month – Completed, Intended and Pending (USD millions)



Thomson Reuters: The Answer Company

## Summary and Outlook

Mining companies very reactive to underlying commodity prices. Highest acquisition and capex values correlate with peak commodity prices

Mining investment activity not back at levels seen in 2007 and 2013 as a lot of miners had to strengthen their balance sheets.

It will remain to be seen if the recent rally across base and precious metals will spark a new wave of mine investments going forward both in Brazil and globally.

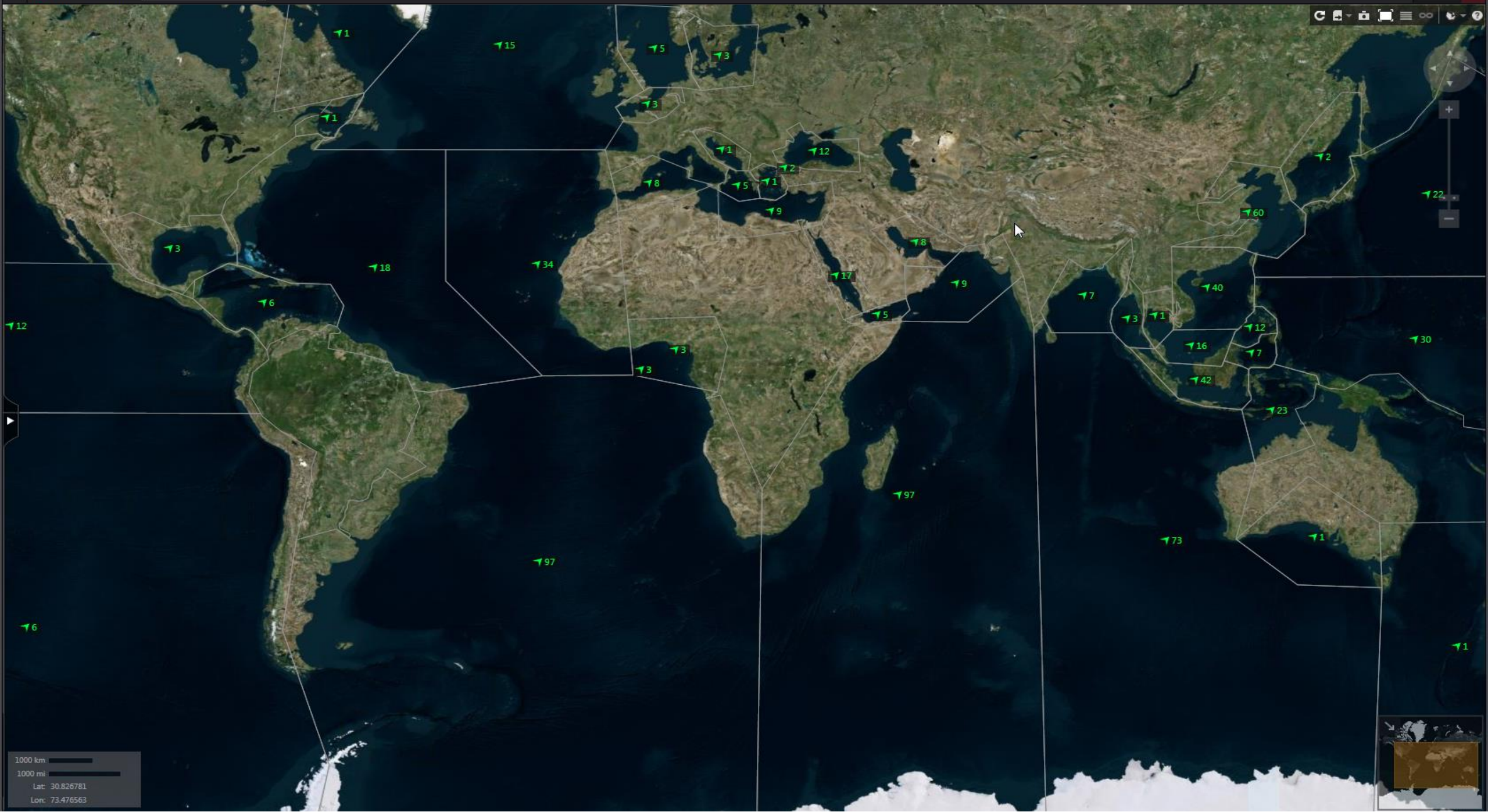
GLOBAL IRON ORE FLOWS -

TRACKING VESSEL MOVEMENTS TO  
PREDICT CHINESE IRON ORE IMPORTS

# Vessel Tracking

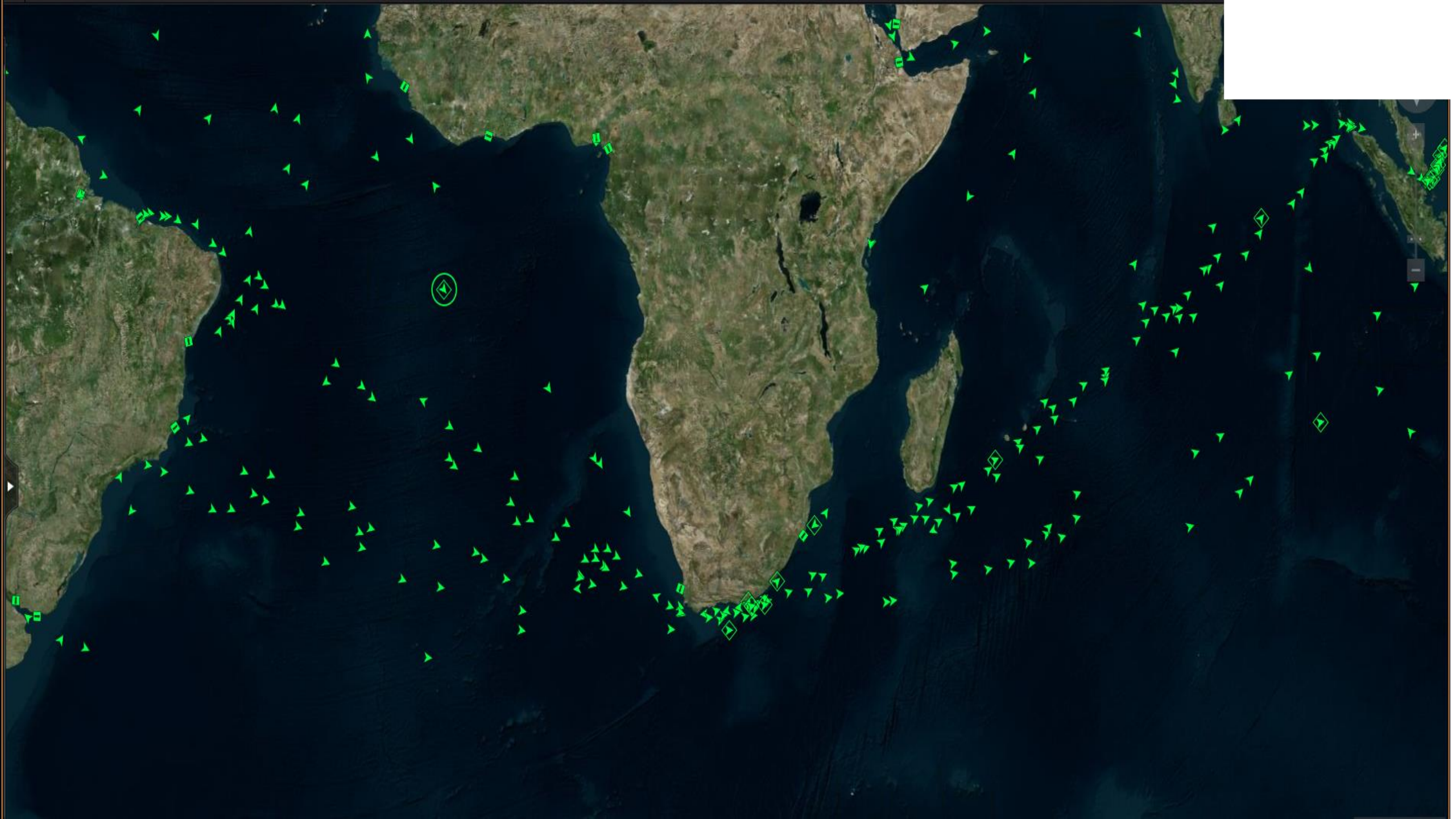


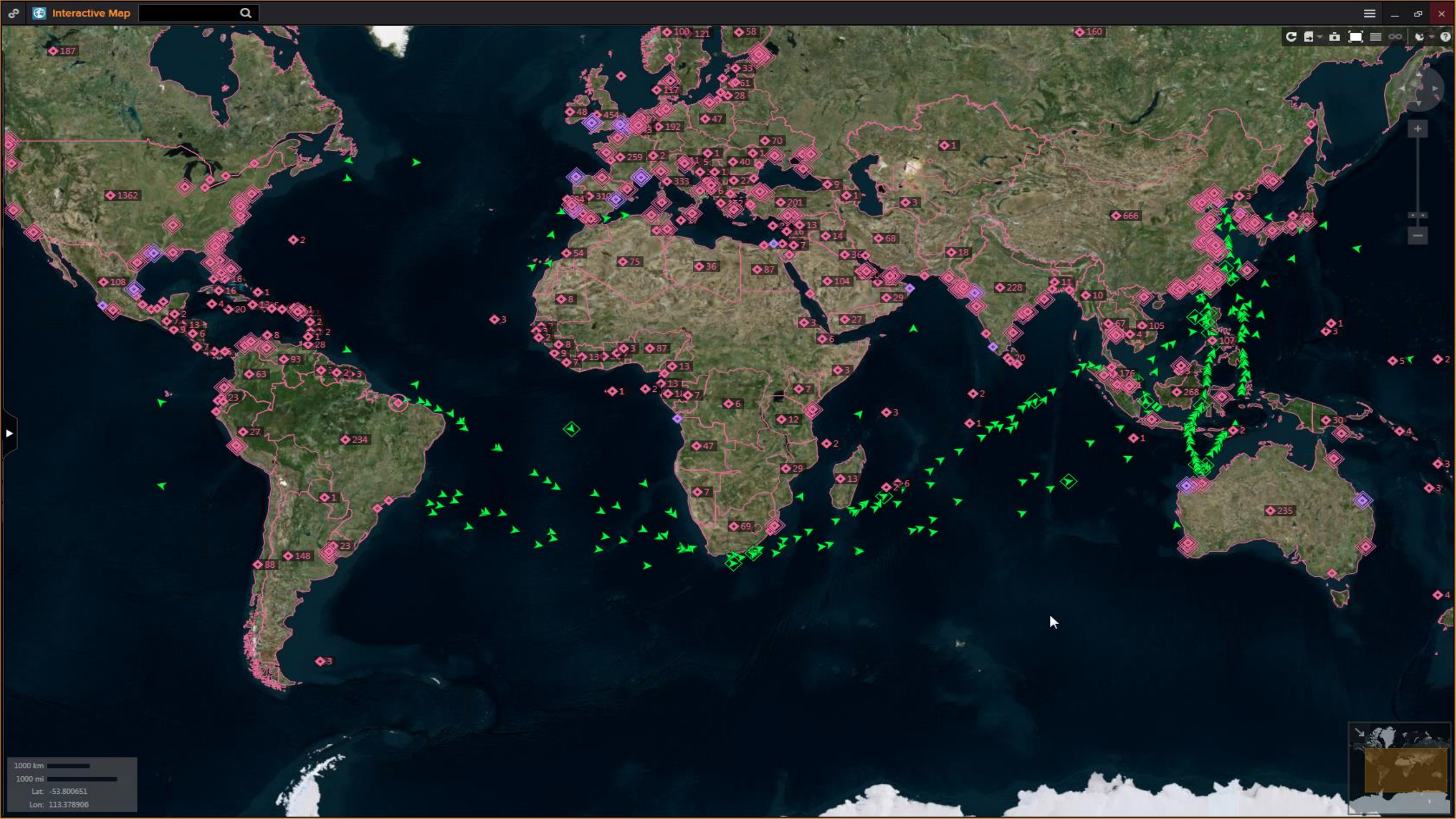


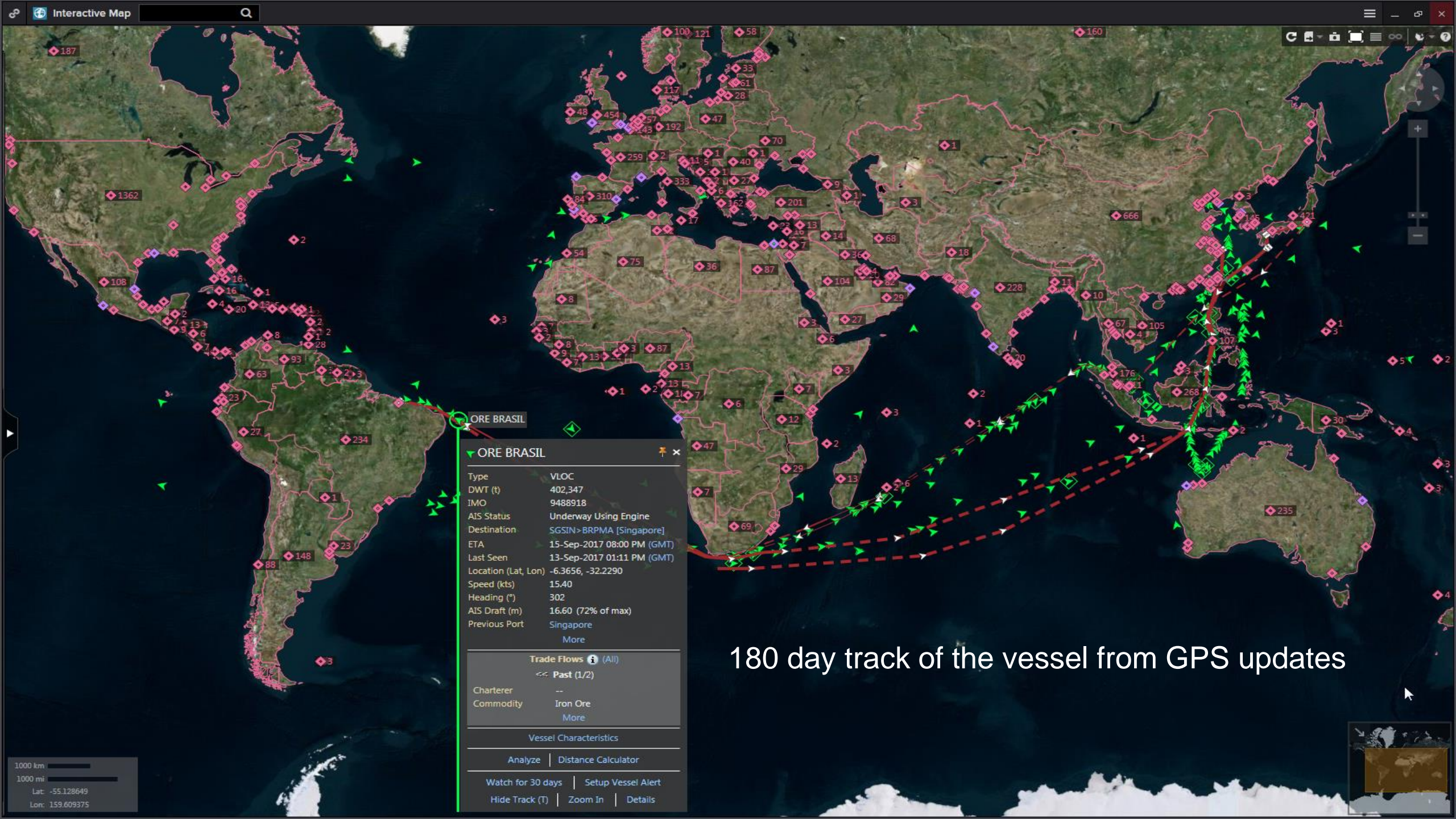


1000 km  
1000 mi  
Lat: 30.826781  
Lon: 73.476563



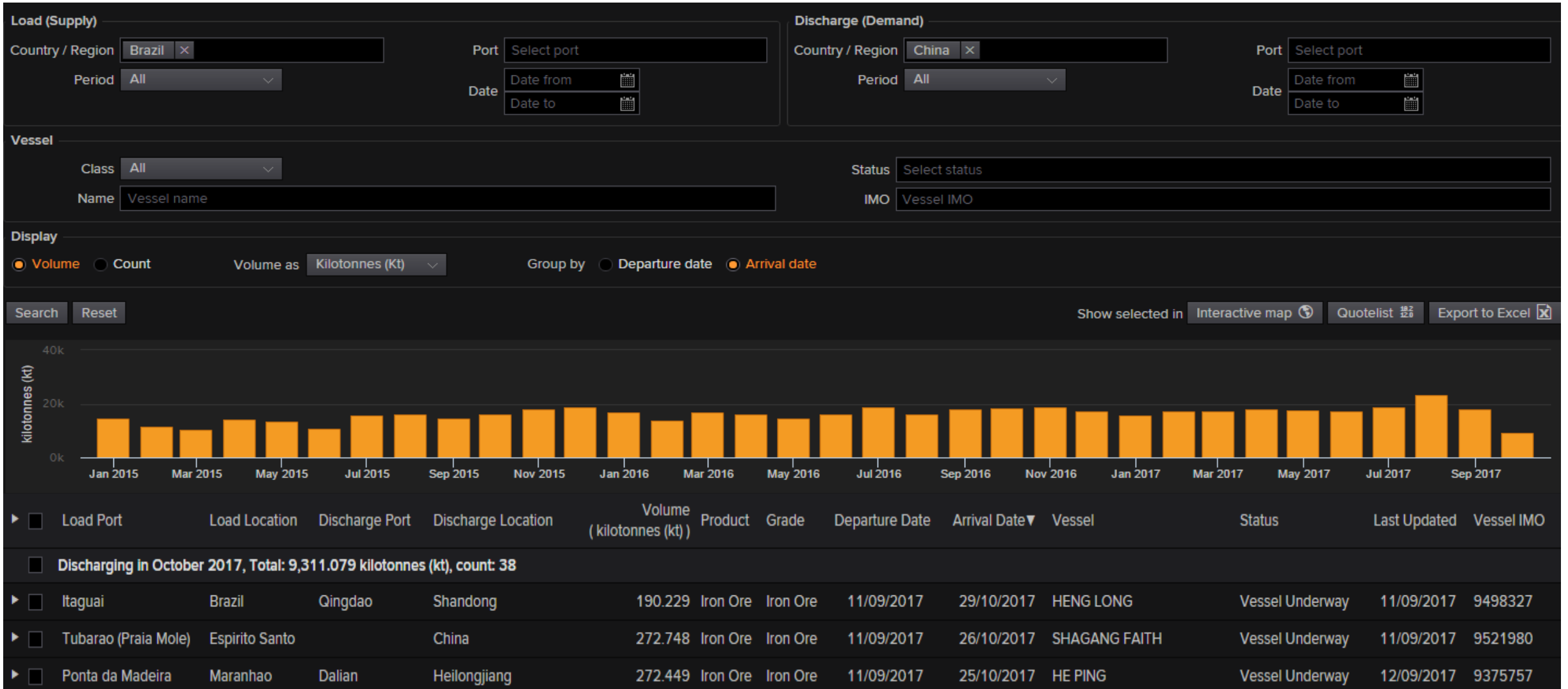






# Monthly Brazilian Iron Ore Exports to China

Our daily vessel position updates allow us to publish monthly Chinese iron ore port tonnage 2 weeks prior to the official government number. Our model has shown 99% accuracy.



Thank you for your attention!

Muito obrigado pela atencao !