FROST & SULLIVAN

Market Engineering

Independent Market Study on Global Gold Mining Industry

Date: September 19, 025

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Name: Bill Xu
Title: Executive Director
For and on behalf of
Frost & Sullivan Limited

Presented to

ZiJin

Confidential

Research Scope

Independent Market Study on Global Gold Mining Industry

Research Period

- Base year: 2024
- Historical: 2020 to 2024
- Forecasting: 2025E to 2030E

Service Market Scope

- Gold Market
- Gold Mining Industry

Geographical Scope

- Global
- Selected Countries

Assumptions and Methodology

Assumptions:

The forecasts were made by Frost & Sullivan based on the following assumptions:

- The social, economic and political conditions globally and of selected countries currently discussed will remain stable during the forecasted periods;
- Government policies on gold mining industries globally and in selected countries discussed will remain consistent during the forecast period;
- The gold mining industries globally and in selected countries will be driven by the factors which are stated in this report.

Methodology:

In preparing the report, Frost & Sullivan has relied on the statistics and information obtained through independent primary and secondary research.

- Primary research includes interviewing industry insiders, competitors, downstream customers and recognised third-party industry associations, etc..
- Secondary research includes reviewing corporate annual reports, databases of relevant official authorities, independent research reports and publications, as well as the exclusive database established by Frost & Sullivan over the past decades.
- In addition, Frost & Sullivan has obtained the figures for the estimated total market size from historical data analysis plotted against the macroeconomic data as well as the industry key drivers.

1. Analysis of Global Gold Mining Industry

Introduction of Gold

- Gold is a precious metal used for coinage, jewelry, arts, and high-tech manufacturing. Gold products include gold concentrate, doré, bullion, coins, and derivatives. Gold concentrate is gold ore processed into mineral powder. Gold doré is a gold-silver alloy that is refined into gold bullion (≥99.5% gold content. Gold bullion serves as both a commodity and an asset. As a commodity, it is used in jewelry, coinage, electronics, and other applications. As an asset, it is used for monetary exchange and investment. Gold is also considered one of the world's oldest international currencies.

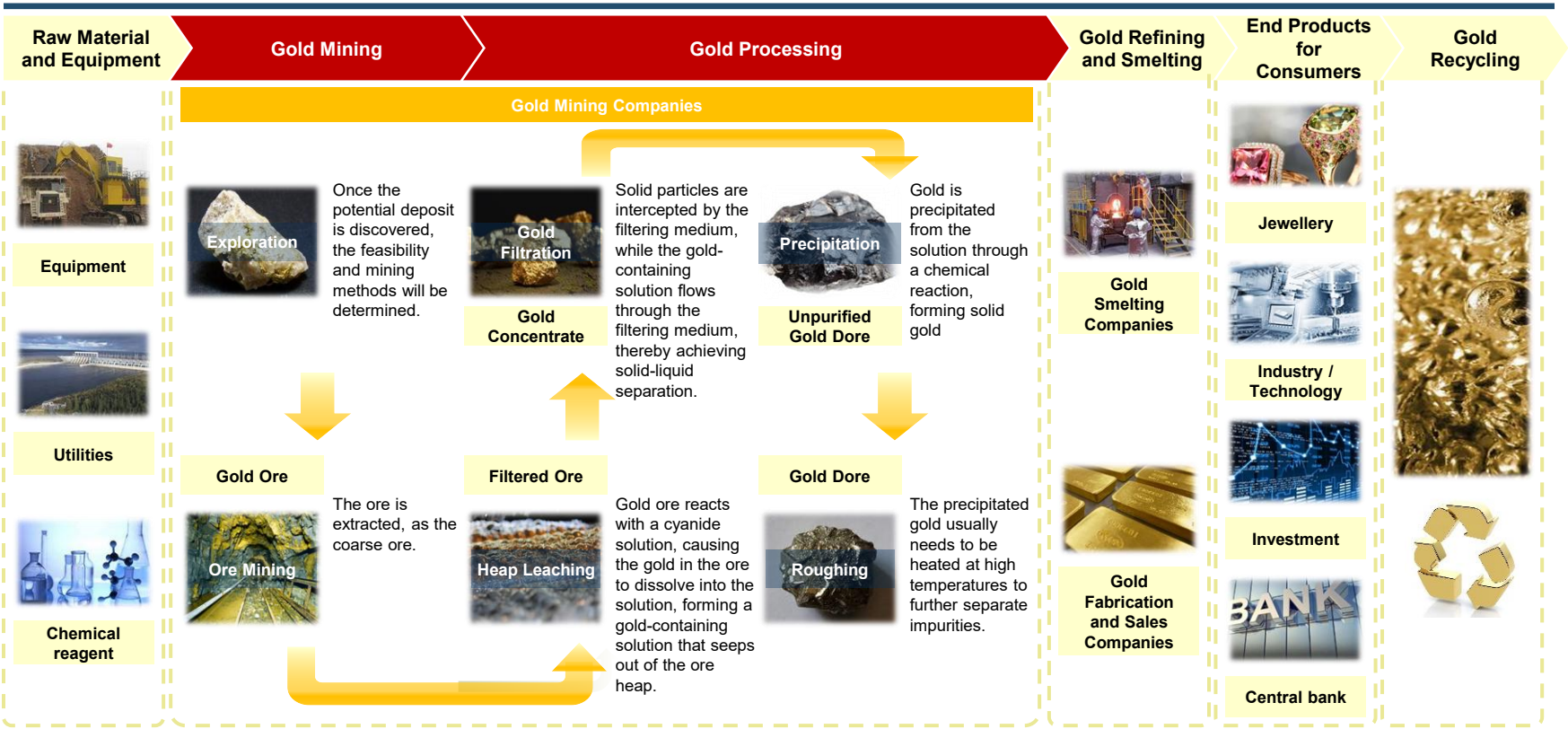
Jewellery		• Gold has been treasured for its natural beauty and radiance throughout history. Gold can be processed into jewellery as pure gold, yellow gold, white gold and other alloying metal containing gold and other metals such as copper, silver, etc. • The three largest markets for gold jewellery are China, India and US.
Technology		• Gold is mainly applied in electronics sector in industry for its conductive properties and resistance to corrosion. • Significant new markets for gold is expected to grow for the new uses of gold on the cutting edge of medicine, environmental management and advanced electronics.
Investment		• Investors hold gold as a hedge against inflation or other economic disruptions. • Investors can invest in gold in several ways. They can buy physical gold through coins or bars, products backed by physical gold or other gold-linked products which are directly related to the gold price but do not include ownership of gold.
Central Bank Reserves		• Central banks hold gold driven by uncertainty over the future international monetary systems and the need to diversify reserves. • Gold can be applied as reserve asset and be used to manage market risk and to improve portfolio performance for its high liquidity, historic lack of correlation with other reserve assets and negative correlation to the US dollar.

Source: Frost & Sullivan

Value Chain of Gold Industry

- Gold is a precious metal used for coinage, jewellery, and high-tech manufacturing. Gold products include gold concentrate, doré, bullion, coins, and derivatives. The upstream of gold industry includes raw material and equipment supply. The midstream includes processes of gold mining, gold processing, gold refining and smelting. Downstream includes gold products for different uses such as jewellery, industry / technology, investment and central bank reserve, as well as gold recycling. Global gold supply mainly comes from gold mine and recycled gold, with gold mine being the most important source of gold supply. Gold mining refers to the process of extracting ore from the earth's crust. Modern gold mining usually takes place in areas where significant concentration of gold-bearing ores exists.

Value Chain of Gold Industry

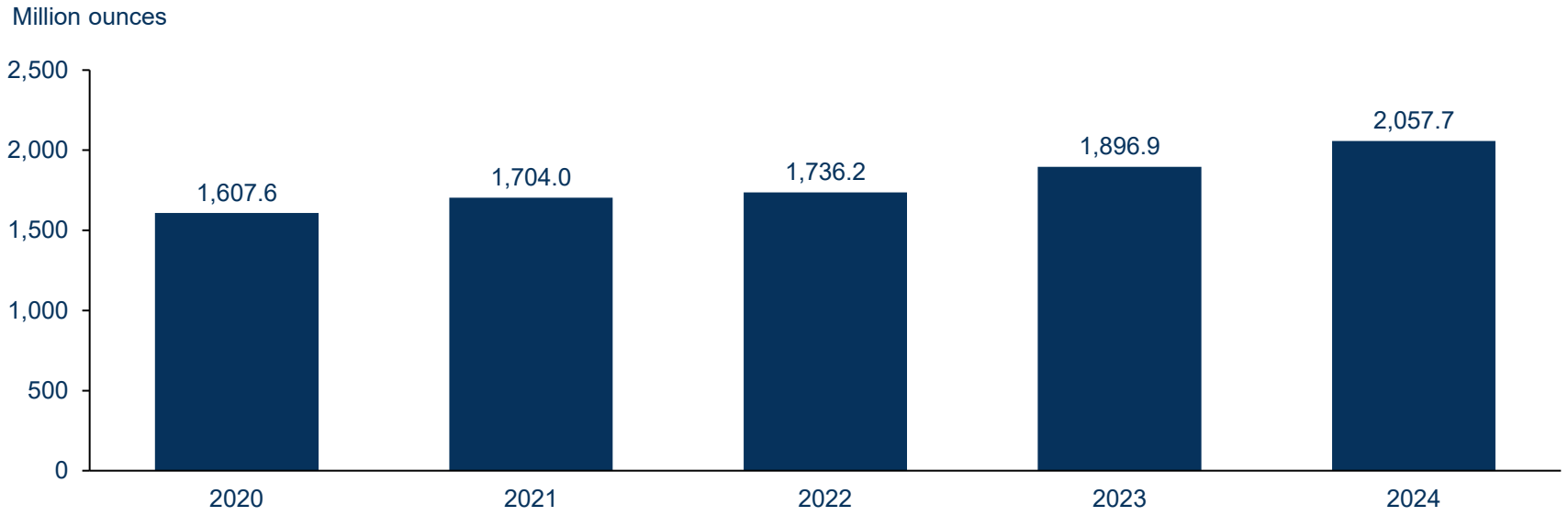


Source: Frost & Sullivan

Global Gold Reserves (1/2)

- From 2020 to 2024, the global gold reserves have shown a continuous upward trend. This trend is driven by several key factors. Technological advancements in exploration have increased the efficiency and accuracy of resource detection, leading to the discovery of more potential reserves. Governments' supportive policies have also encouraged enterprises to invest more in exploration and development. In addition, with the recovery and growth of the global economy, the demand for various resources has also been steadily increasing, prompting industries to boost their investment in resource development. From 2020 to 2024, the global gold reserves grew from 1,607.6 million ounces to 2,057.7 million ounces.

Gold Reserves*, Global, 2020-2024

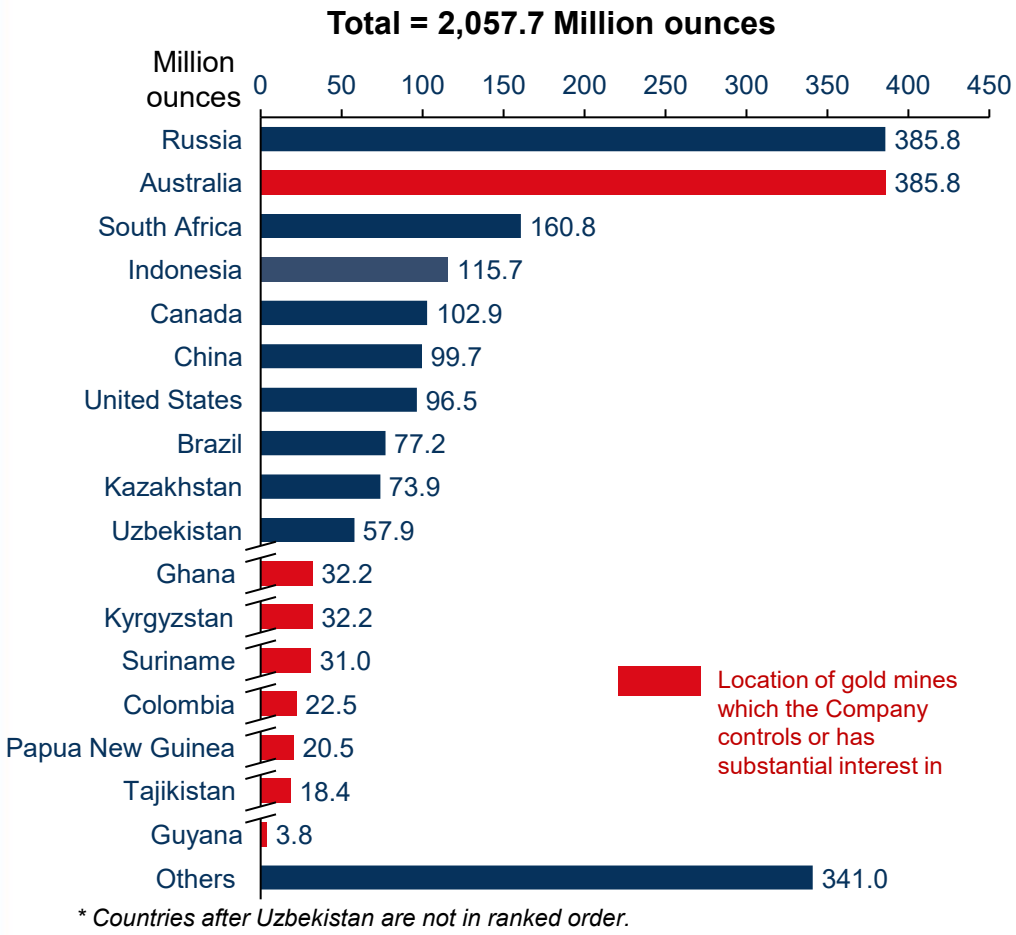


** Reserves refer to part of the reserve base that could be economically extracted or produced at the time of determination and include only recoverable materials. Due to data availability, Reserves are usually used to demonstrate the gold resources of different countries.*

Source: USGS, Frost & Sullivan

Global Gold Reserves (2/2)

Gold Reserves (by countries), Global, 2024



- By 2024, global gold reserves reached 2,057.7 million ounces. Among all countries, Russia and Australia held the largest reserves, each with 385.8 million ounces. Notably, Australia is one of the locations where the Company operates its gold mines. In 2024, the top ten countries in terms of gold reserves held a total of 1,556.1 million ounces of gold, accounting for 75.6% of the world's total gold reserves.

Source: USGS, Frost & Sullivan

Global Gold Demand (1/2)

- Global demand for gold is generally divided into the following categories: (i) jewellery, (ii) investment (including gold bars, coins and exchange traded funds ("ETF")), (iii) central bank reserves, and (iv) technological or industrial use. Historically, gold was mainly consumed for jewellery fabrication and gold bars and coins for value preservation purposes and central bank reserves. Nowadays, besides abovementioned uses, gold is also increasingly used for technology and industry purposes such as high-end and precise manufacturing, as well as dentistry. Moreover, gold is also frequently traded in financial market as gold-linked ETF products develop. Central banks are putting emphasize on having gold reserves for hedging financial risks.

- Global gold demand increased at a CAGR of 5.8% from 2020 to 2024, reaching 148.1 million ounces in 2024. Compared to 2023, global gold demand rose in 2024, mainly due to higher gold reserve demand from central banks and increased investment demand fuelled by the need for risk diversification.

- Investments include purchase of gold bars and coins as well as exchange traded funds ("ETF"). In 2021, investments in gold decreased by more than 40% compared with the 2020 level. This was mainly caused by a decrease in gold investments through ETFs. In 2022, investments in gold increased, especially for investments in gold coins and bars, which was largely due to geopolitical concerns and hedging against inflation. In 2023, investments in gold decreased by 15% compared with the 2022 level, which caused the declined global gold demand. This was mainly caused by the rising gold price and a waning interest among investors in gold as an asset class. In 2024, global investments in gold demonstrated an inflow trend, with total global gold investment increasing to 38.0 million ounces.

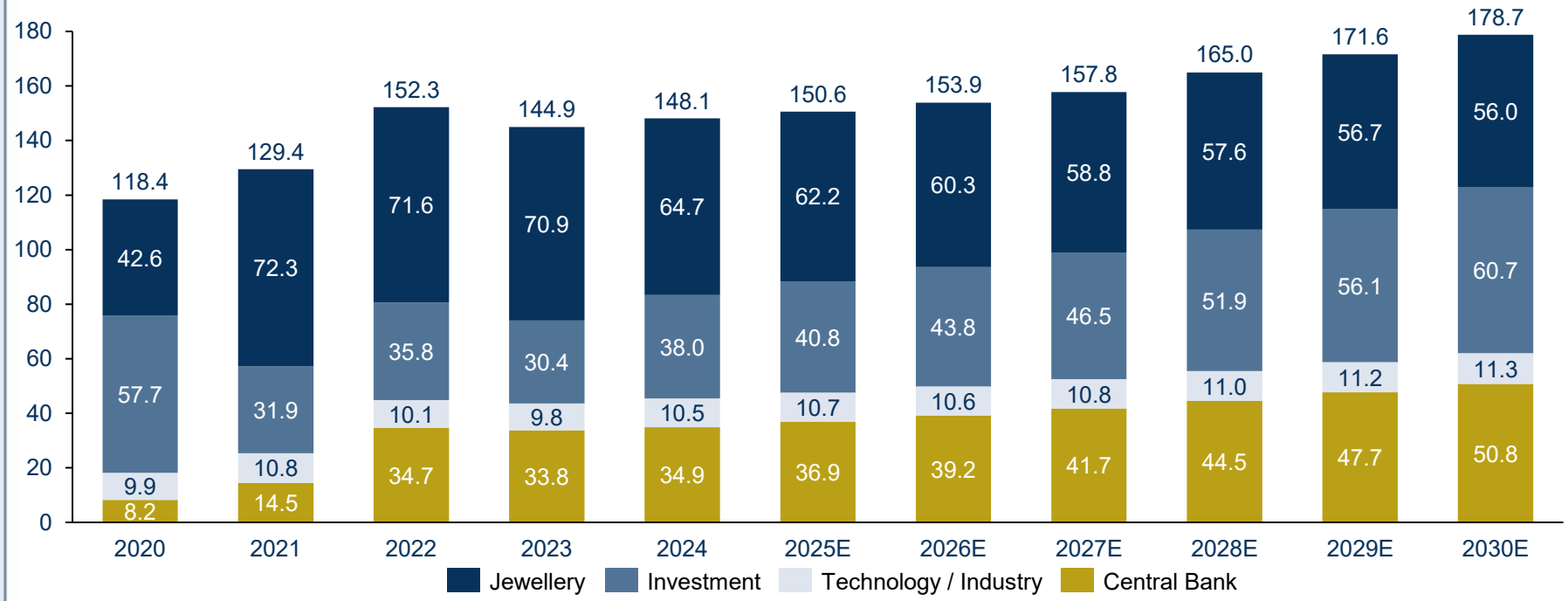
- From 2024 to 2030, global gold demand is expected to grow steadily at a CAGR of 3.2% mainly due to (i) increase in gold demand by central banks for value preservation and risk diversification, in the context of current geopolitical uncertainties; and (ii) increase in gold demand for investment.

Source: World Gold Council, Frost & Sullivan

Global Gold Demand (2/2)

Gold Demand (by end use), Global, 2020-2030E

	Jewellery	Investment	Technology / Industry	Central Bank	Total
CAGR 20-24	11.0%	-9.9%	1.4%	43.7%	5.8%
CAGR 24-30E	-2.4%	8.1%	1.2%	6.4%	3.2%



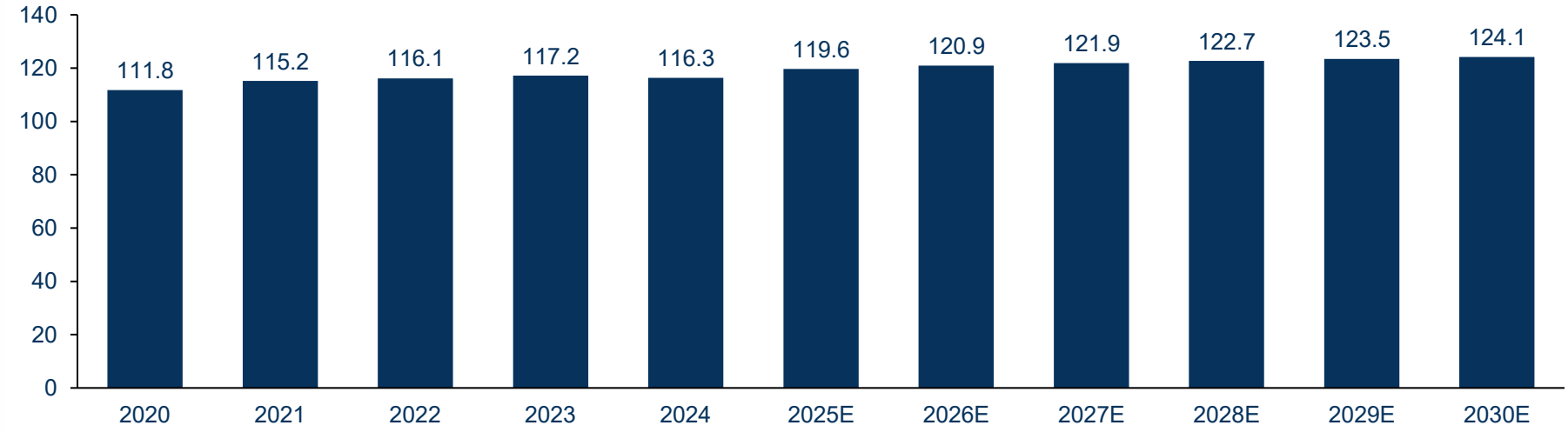
Source: World Gold Council, Frost & Sullivan

Global Gold Mine Production (1/2)

- From 2020 to 2024, global gold mine production experienced a period of moderate growth and slight fluctuations. The global gold mine production increased from 111.8 million ounces to 116.3 million ounces, with a CAGR of 1.0% during the period. During the forecast period, the global gold mine production is expected to experience continued growth over the next few years. This trend is primarily driven by the increasing importance of gold's safe-haven attributes in the face of geopolitical conflicts and economic uncertainties, which has led to a significant rise in investment demand and therefore the increase in gold mine production. Additionally, potential advancements in mining technologies and improvements in operational efficiencies are also expected to contribute to the increase in gold mine production. From 2024 to 2030, the forecasted gold mine production is projected to follow an upward trajectory, increasing from 116.3 million ounces to 124.1 million ounces, with a CAGR of 1.1% during the period.

Gold Mine Production, Global, 2020-2030E

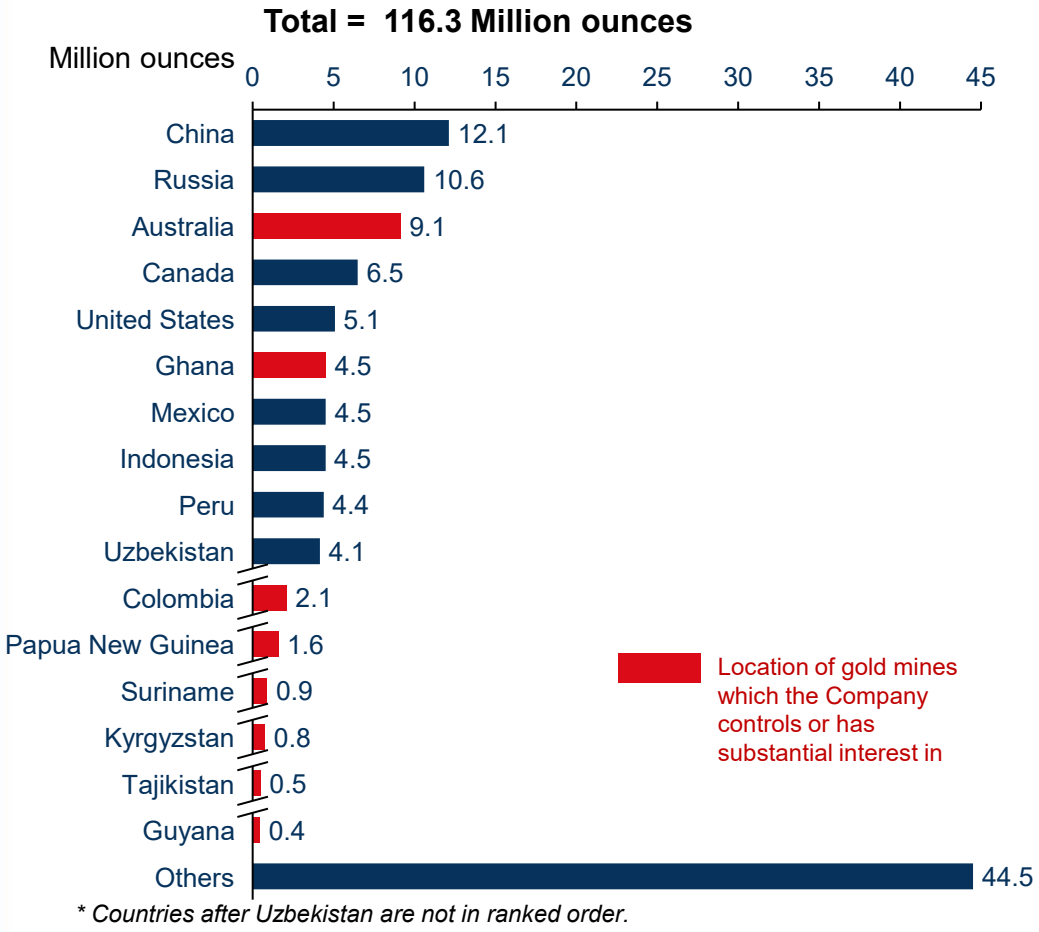
	CAGR 20-24	CAGR 24-30E
Total	1.0%	1.1%



Source: World Gold Council, Frost & Sullivan

Global Gold Mine Production (2/2)

Gold Mine Production (by countries), Global, 2024



** Countries after Uzbekistan are not in ranked order.*

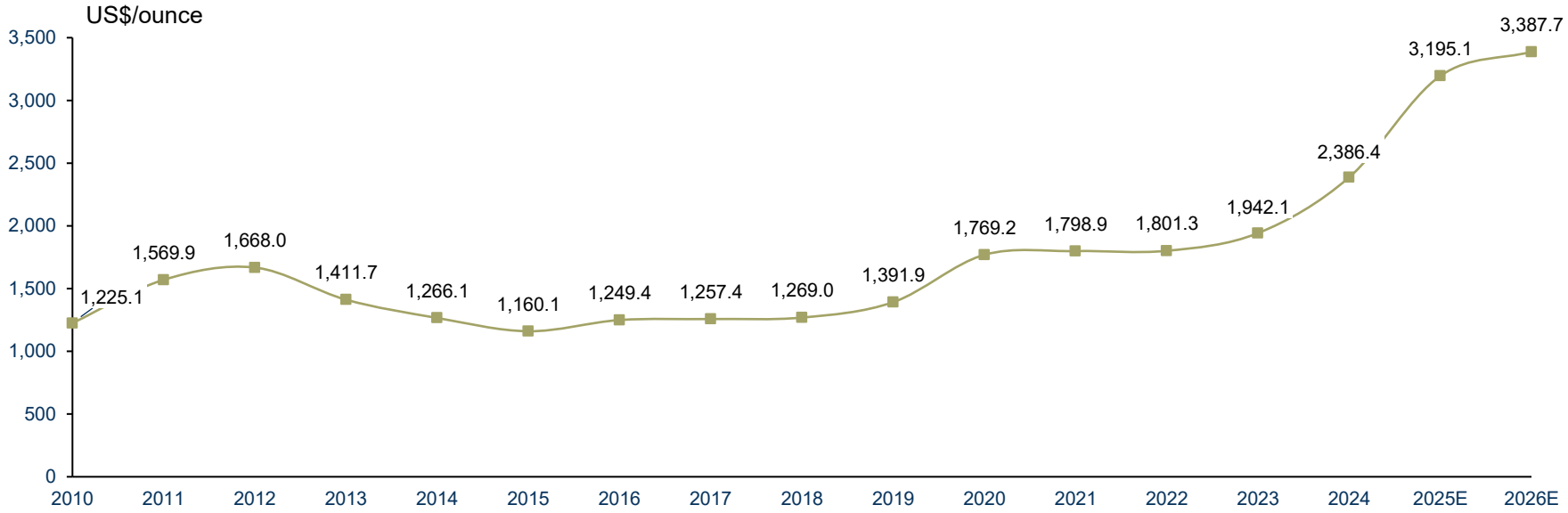
- The world's gold mine production is mainly concentrated in countries such as China, Russia and Australia. In 2024, the top ten gold-producing countries accounted for 65.5 million ounces of gold mine production, representing 56.3% of the world's total gold mine output.

Source: World Gold Council, Frost & Sullivan

Global Gold Price

- The persistent gold-buying behavior of global central banks, especially the substantial purchases by emerging market central banks, has provided strong support for gold prices. Meanwhile, the uncertainty of the global economy, including the anticipated changes in interest rate policies and fiscal dynamics, particularly the uncertainty surrounding the US budget process, has further enhanced the appeal of gold as a safe-haven asset. Between 2010 and 2024, global annual average gold prices demonstrated an upward trend with fluctuations and reached US$2,386.4 per ounce in 2024. In the context of de-dollarization, emerging market central banks may further increase their gold reserves and investors hold a bullish view on gold's role as a safe-haven asset amid global uncertainty. In addition, continued geopolitical tensions and persistent inflationary pressures in major economies are expected to further support gold demand, driving the annual average gold price to continue rising during the forecast period and reach US$3,195.1 per ounce by 2025 and US$3,387.7 per ounce by 2026.
- The average gold price was US$2,205.3 per ounce for first six mouths in 2024 and increased to US$ 3,070.9 per ounce for first six mouths in 2025.

Annual Average Gold Spot Price*, Global, 2010-2026E



** The price is set in US$ per fine troy oz, which is a troy oz (equals approximately 31.1 grams) of 99.5% pure gold.*

Source: London Bullion Market Association, Frost & Sullivan

Major Factors Influencing Gold Price

- Central bank policies, geopolitical tensions, exchange rates, and inflation are key factors influencing global gold prices. Central banks' reserve management and gold purchases can support prices by reducing supply and signaling confidence in gold. Geopolitical instability drives up gold prices as investors seek a safe haven, while inflation makes gold an attractive hedge against currency devaluation. Lastly, the strength of the US dollar and interest rates impact gold's attractiveness and price, with a weaker dollar and lower interest rates generally boosting gold prices.

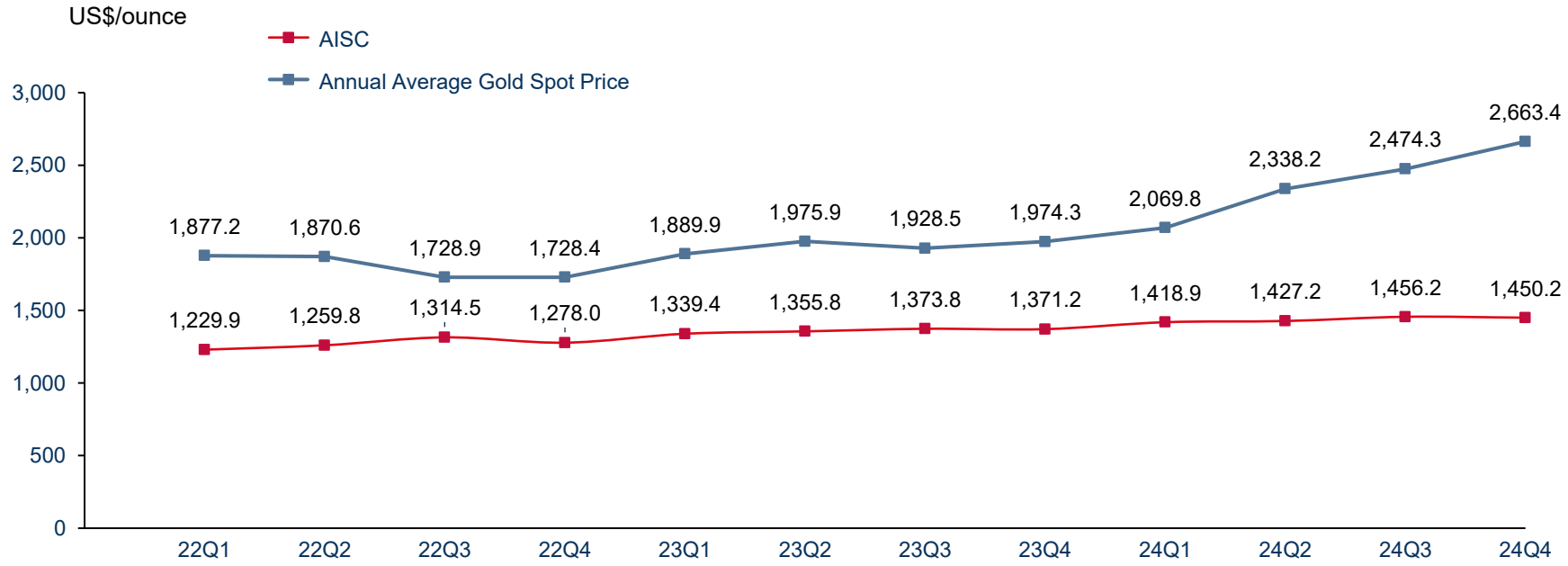
Factors	Explanation
Central Bank Policies	• Central banks play a significant role in shaping gold prices through their reserve management policies. They hold a substantial portion of the world's gold reserves, and their buying and selling activities can directly impact the market. In recent years, central banks in emerging economies such as Russia, China, and India have increased their gold purchases to diversify their reserves away from the US dollar. This trend has supported gold prices by reducing available supply and signaling confidence in gold as a strategic asset. Additionally, when central banks sell gold, it can lead to a decrease in prices, as seen during periods of economic recovery when other assets become more attractive.
Geopolitical Tensions	• Geopolitical events and political instability significantly influence gold prices. Gold is considered a safe-haven asset, and its demand typically surges during times of geopolitical tension. For example, during the Russia-Ukraine conflict in 2022 and the Hamas-Israel conflict in 2023, gold prices experienced notable increases. Investors tend to buy gold before a crisis to hedge against potential risks, which can drive up its price. The uncertainty and instability in global markets during such events make gold an attractive option for preserving wealth.
Exchange Rates	• The strength of the US dollar is inversely related to gold prices. When the US dollar weakens, gold becomes cheaper for foreign buyers, increasing demand and driving up prices. Conversely, a stronger dollar can suppress gold prices. Additionally, low US interest rates reduce the opportunity cost of holding gold, making it more attractive to investors. This relationship is particularly important during periods of high inflation, where negative real interest rates can boost gold's appeal.
Inflation Expectations	• The value of gold hardly change while the value of currency is usually affected by many factors. The inflation expectation is one of the most important factors influencing currency value. When inflation is expected to be high, people tend to invest in gold to hedge against the risk of currency depreciation, as the supply of gold is limited. Although the supply of other commodities is also restricted, gold is more regarded as an inflationary asset compared to other commodities, possibly due to its long history as a currency.

Source: Frost & Sullivan

Global Average AISC and Average Gold Spot Price

- AISC is an important indicator for measuring the cost of gold production. Gold producers usually adopt various measures such as refined management, production process optimization, mergers and acquisitions to achieve a large-scale, intensive, and mechanized production model, in order to control and reduce AISC, thereby improving the company's production efficiency and profitability, and increasing gold production. From Q1 2022 to Q4 2024, the global AISC maintained a relatively stable level, rising from US$1,229.9 per ounce to US$1,450.2 per ounce. When the gap between the gold price and AISC widens, gold producers tend to increase production to maximize profits.

Average AISC and Average Gold Spot Price (quarterly), Global, 2022-2024

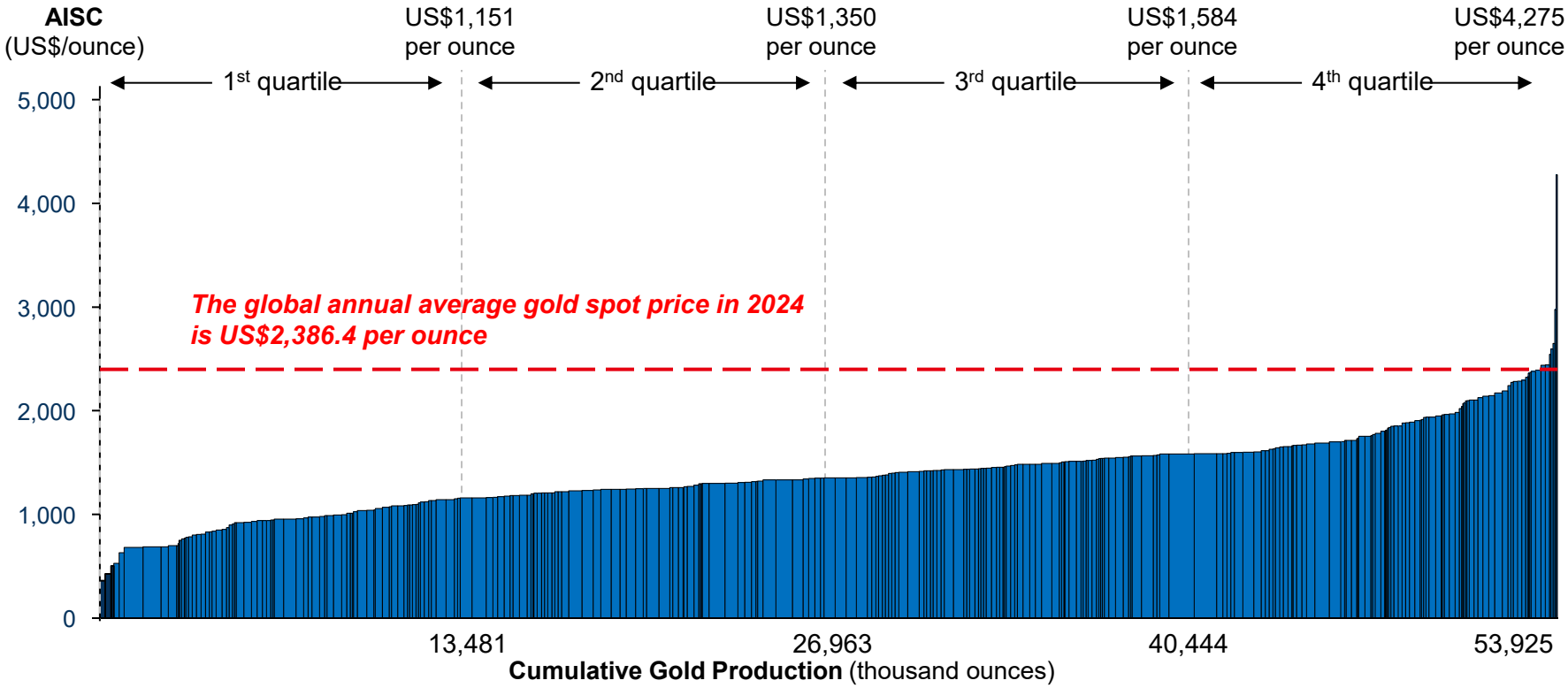


Source: London Bullion Market Association, Frost & Sullivan

Cost Curve of Gold Mining (1/2)

- The gold cost curve illustrates the distribution of gold mine production across various cost levels as a proportion of total global output. In 2024, the annual average gold spot price remained above the AISC for the majority of gold mines. This indicates that the gold mining industry has been broadly profitable, with most companies able to generate earnings at prevailing price levels. Such favorable market conditions not only strengthen the financial stability and investment appeal of gold mining companies, but also incentivize increased capital expenditure in production and exploration. As a result, the industry's overall supply capacity is expected to improve.

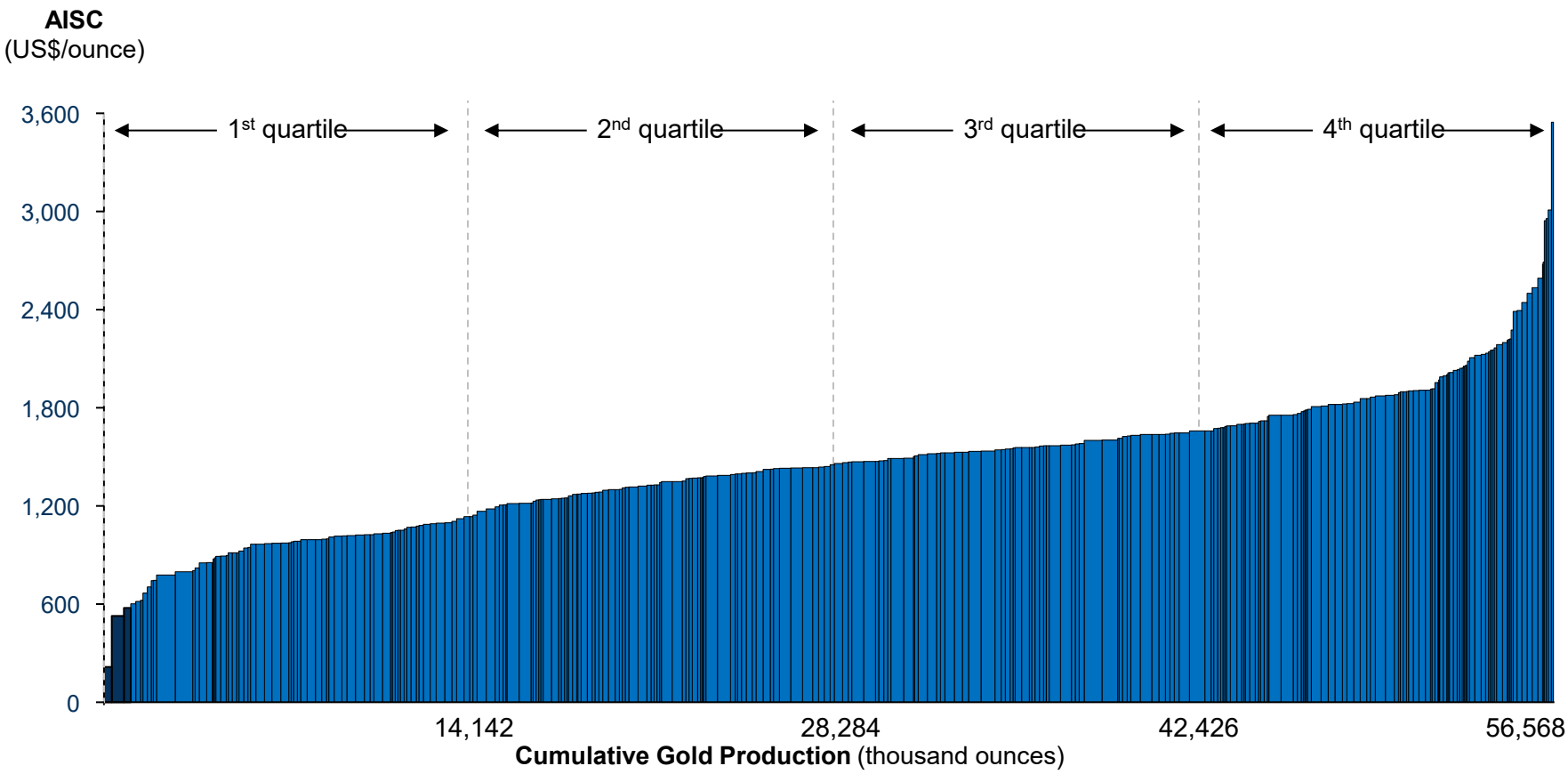
Cost Curve, Global, 2024



Source: Annual Reports, Frost & Sullivan

Cost Curve of Gold Mining (2/2)

Cost Curve, Global, 2025E



Source: Annual Reports, Frost & Sullivan

Market Drivers of Global Gold Mining Industry

Drivers	Description
Global Demand Resurgence	The worldwide demand for gold is experiencing a notable upsurge, driven by multiple factors. From 2024 to 2030, global gold demand is expected to grow steadily at a CAGR of 3.2% mainly due to (i) increase in gold demand by central banks for value preservation and risk diversification, in the context of current geopolitical uncertainties; and (ii) increase in gold demand for investment. As a traditional store of value, gold's appeal is intensifying amid economic uncertainties. Inflationary pressures and fluctuating currency values are prompting investors to seek the stability that gold offers. This trend aligns perfectly with the strategic focus of leading gold producers on expanding their global asset base. Companies with robust resource reserves and production capabilities are well-positioned to meet the rising market demand, leveraging their extensive experience in gold mining and exploration to ensure a steady supply.
Technological Advancements in Mining	Advancements in mining technology are revolutionizing the gold industry. Innovative techniques and equipment are enhancing extraction efficiencies, reducing costs, and making previously uneconomical deposits viable. Leading companies in the sector have been at the forefront of adopting and developing cutting-edge technologies. For example, The application of sensor-based ore sorting enables the early rejection of uneconomic material prior to comminution, resulting in lower energy and reagent consumption, reduced processing time, and an increase in recovery rates by 10 to 30%. The application of autonomous mining trucks has improved operational efficiency and safety in mining operations, potentially increasing efficiency by up to 20% and reducing costs by around 15%. The cyanide-free gold extraction and metallurgy technology has enhanced the environmental sustainability of gold mining. The commitment to technological innovation not only boosts operational efficiency but also strengthens their competitive edge in the global market. By integrating advanced technologies into their mining processes, these companies are able to optimize resource utilization and production, ensuring sustainable growth in the evolving gold industry landscape.
Strategic Expansion and Market Opportunities	The gold market is witnessing significant opportunities for strategic expansion. Emerging markets are showing a growing appetite for gold, driven by rising incomes and increasing investment awareness. Leading companies with a global footprint and a history of strategic acquisitions are well-positioned to capitalize on these opportunities. Their successful track record in acquiring and developing gold assets in various regions provides a solid foundation for further expansion. By leveraging their expertise and resources, these companies are well-equipped to navigate the evolving market dynamics and unlock new growth potentials in the global gold sector.

Source: Frost & Sullivan

Development Trends of Global Gold Mining Industry

Development Trends	Description
Digital Transformation in Gold Mining	The gold industry is on the cusp of a digital revolution. Companies are increasingly integrating advanced technologies such as artificial intelligence, machine learning, and automation into their operations. These digital tools enhance efficiency, reduce operational risks, and improve decision-making processes. By leveraging data analytics and predictive modeling, gold producers can optimize mining and processing activities, leading to higher productivity and cost savings. This digital transformation is set to reshape the industry, making it more resilient and responsive to market changes.
ESG Focus and Sustainable Practices	Environmental, social, and governance (ESG) factors are increasingly influencing the gold industry. Consumers and investors are demanding higher ESG standards, driving companies to adopt sustainable practices. Leading gold producers have proactively embraced ESG principles, implementing responsible mining practices across their operations. The dedication to environmental protection, community engagement, and ethical business conduct enhances their reputation and market appeal. By adhering to high ESG standards, these companies not only meet the expectations of stakeholders but also contribute to the long-term sustainability of the gold industry.
Exploration and New Discoveries	The search for new gold deposits is a crucial trend in the industry. With existing mines facing depletion challenges, companies are investing heavily in exploration technologies and geological research. Advanced geophysical and geochemical techniques, along with satellite imagery and data analytics, are helping to identify potential new gold deposits in remote and previously unexplored areas. This focus on exploration is essential to ensure a steady supply of gold for the future.
Rising Industry Concentration	As market competition intensifies and resources become more concentrated, leading mining companies are leveraging their strengths in technology, funding, management, and resource acquisition to continuously expand their market share and gradually take a dominant position in the industry. Meanwhile, some less competitive companies are facing operational pressures, with some even choosing to exit the market. These changes in the industry landscape not only enhance the market influence of leading companies but also make the allocation of resources in the entire gold mining industry more concentrated and efficient, driving the industry's development towards greater scale and intensive operation.

Source: Frost & Sullivan

Gold Mining Industry Policies in Selected Countries (1/2)

Country	Name	Issued Time	Issued Department	Key Information
Australia	Future Made in Australia Act	2024	Australian Federal Governmen t	• In the 2024-2025 financial year budget, the federal government allocated A$22.7 billion to drive critical minerals processing and renewable energy projects, including: $7 billion in tax incentives for critical minerals processing; $6.7 billion to support renewable hydrogen production.
Papua New Guinea	Drafting Mining Bill	2024	Department of Mineral Policy and Geohazard Manageme nt	• The government can acquire up to 30% equity in mining projects, with costs deferred and recovered from future earnings. This includes stakes in extraction, refining, and related commercial ventures. • Funds high-tech exploration (e.g., geophysical surveys, remote sensing) to reduce costs, with a 2023 budget allocation for critical minerals research.
Colombia	Minerals and Mining Act	2023	The Council of the State	• The policy takes "productive mining" as its core philosophy, emphasizing the shift from the traditional resource export model to value enhancement across the full industrial chain, while balancing economic growth, environmental protection, and community rights and interests.
Kyrgyzstan	Kyrgyz Republic Mining Policy	2022	Parliament of the Kyrgyz Republic	• Regulates exploration, licensing, and revenue-sharing while imposing royalties (4–12%) and environmental safeguards. The government emphasizes transparency through EITI compliance (since 2015) and enforces stricter environmental standards under the 2021 Environmental Code, requiring rehabilitation plans and financial guarantees.

Source: Government Document, Frost & Sullivan

Gold Mining Industry Policies in Selected Countries (2/2)

Country	Name	Issued Time	Issued Department	Key Information
Canada	Mining Act and Regulatory Framework	2020	Government of Canada	• Setting regulatory frame regarding mineral rights, environmental compliance (such as tailings management and biodiversity conservation), and foreign investment (in accordance with the local holding strategy gold asset rules).
Tajikistan	National Development Strategy of the Republic of Tajikistan until 2030	2016	The government of Tajikistan	• Plans to invest $118 billion in socio-economic development. It clearly proposes to vigorously develop the mountainous transportation network to create a more favorable external environment for the development and utilization of mineral resources.
Guyana	Special Mining Regulations	2006	Guyana Geology & Mines Commission	• Introduces stricter controls for medium- and large-scale mining operations, particularly targeting gold and diamond extraction. • Mandates detailed environmental and operational plans for mining permits, with stricter oversight by the Guyana Geology and Mines Commission.
Suriname	Environmental Assessment Guidelines Volume II – Mining	2005	National Institute for Environment and Development	• Provides guidelines for environmental impact assessment in mining, covering project screening, impact mitigation, closure plans, and public consultation.

Source: Government Document, Frost & Sullivan

Key Success Factors of Global Gold Mining Industry

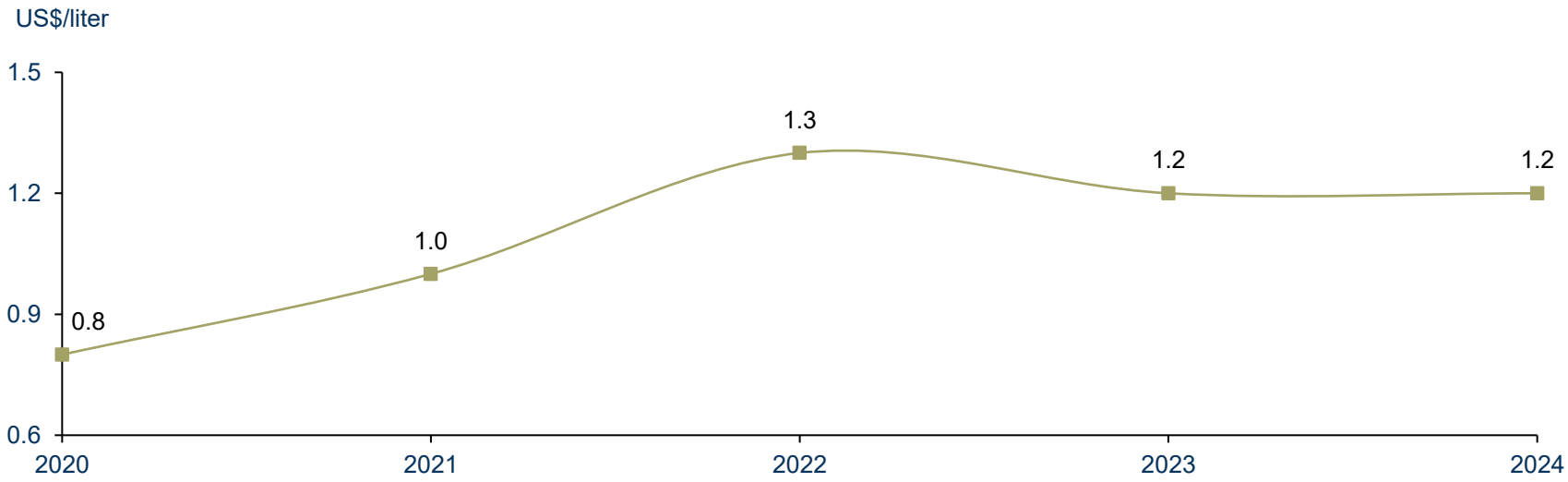
KSF	Description
Operational Efficiency and Cost Management	Operational efficiency and cost control are critical to the long-term success of gold mining companies. Maintaining competitive AISC through optimized production processes, effective resource utilization, and technology adoption enhances profitability and resilience across commodity cycles. Efficient operations also support regulatory compliance, sustainability goals, and capital reinvestment for growth.
Advanced Gold Exploration Technologies	In the competitive landscape of the gold industry, companies with superior gold exploration technologies will gain a significant edge in the future. As existing mines face depletion, the continuous and stable supply of gold increasingly relies on the discovery of new deposits. Advanced exploration technologies can more efficiently identify potential gold deposits, reduce exploration costs, and increase success rates, enabling gold mining companies to meet environmental regulatory challenges and ensuring the sustainability of exploration activities, thereby positioning them competitive in the market.
Strategic Mergers and Acquisitions	Mergers and acquisitions (M&A) play a vital role in the growth and success of gold mining companies. A disciplined approach to acquisitions, focusing on high-quality assets in stable jurisdictions, has led to substantial reserve growth and stock price appreciation for some firms. Strategic M&A activities allow companies to expand their resource base, gain access to new markets, and achieve economies of scale, which are essential for long-term success.
ESG Performance	ESG factors have become increasingly important in the gold mining industry. Companies with strong ESG performance are more likely to secure financing, maintain social licenses, and attract investors. For instance, 78% of institutional investors now mandate ESG pre-screening for mining investments, emphasizing the need for companies to invest in sustainable practices such as carbon reduction and water management. Adhering to high ESG standards not only mitigates risks but also enhances a company's reputation and long-term viability.
Market Adaptability and Risk Management	The ability to adapt to changing market conditions and manage risks effectively is essential for gold mining companies. Fluctuations in gold prices, influenced by supply and demand dynamics, macroeconomic trends, and investor sentiment, present both challenges and opportunities. Companies must employ strategic planning and risk management strategies to navigate price volatility and ensure sustained profitability. Additionally, proactive risk management can safeguard assets and ensure stability in uncertain environments.

Source: Frost & Sullivan

Price Analysis of Raw Materials

- Diesel, as a crucial raw material for gold mining, is primarily utilized in the operation of heavy machinery and transportation vehicles within mining sites. The global diesel price has experienced significant fluctuations over the past few years. It increased from US$0.8 per liter in 2020 to US$1.3 per liter in 2022, and then slightly decreased to US$1.2 per liter in 2024

Average Price of Diesel, Global, 2020-2024

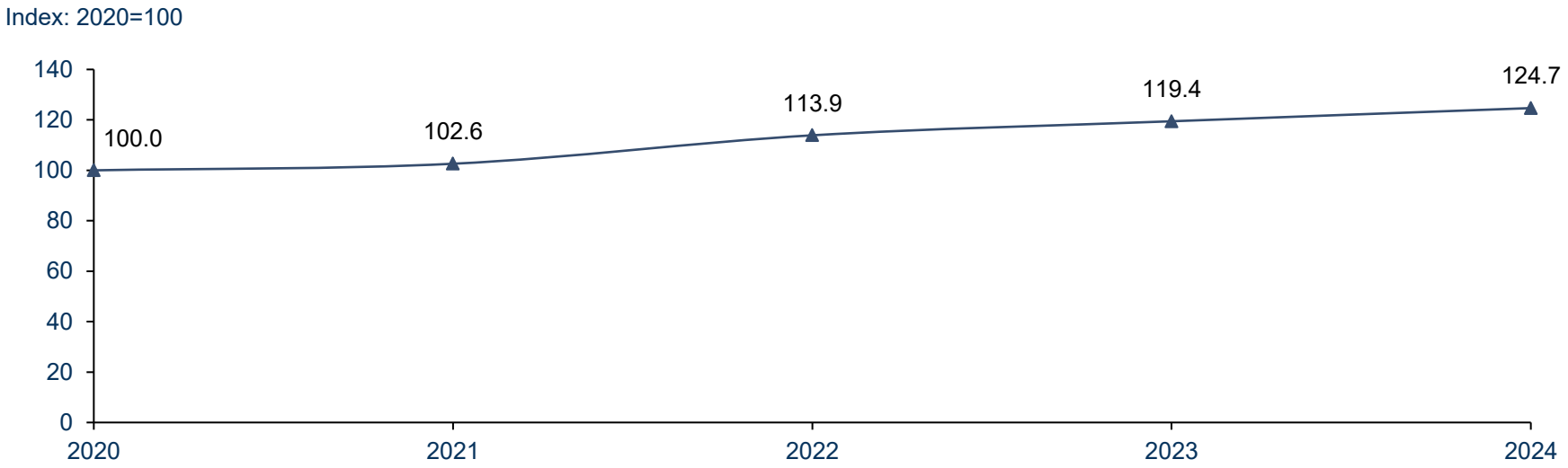


Source: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Frost & Sullivan

Price Analysis of Raw Materials

- Explosives are used in gold mining primarily for rock blasting to break up ore-bearing rock, enabling efficient extraction and processing of gold. The price of explosives has experienced a continuous upward trend in recent years. For example, the producer price index for explosives manufacturing in the US reached 124.7 in 2024, compared to 100 in 2020.

Producer Price Index of Explosives Manufacturing, US, 2020-2024



Source: U.S. Bureau of Labor Statistics, Frost & Sullivan

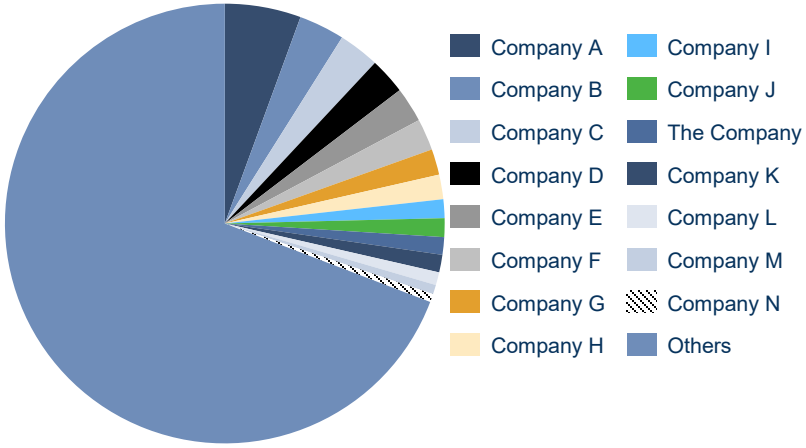
2. Competitive Landscape of Global Gold Mining Industry

Ranking of Global Gold Producers (1/3)

- The gold industry has become increasingly concentrated in recent years. This trend is largely driven by mergers and resource integration among leading gold producers. Major gold companies, with their efficient operations, global presence, financial strength, and other competitive advantages, are now at the forefront of the industry. These large gold companies have been able to achieve economies of scale through consolidation, which has allowed them to optimize production processes and reduce unit costs.
- Simultaneously, regulatory controls, particularly those related to safety and environmental protection, have been further intensified. Gold production companies that are less competitive, with aging facilities and insufficient resources, have been compelled to either shut down or undergo substantial transformations. Moreover, the total production cost of gold mining has escalated. This is due to a combination of factors, including the decline in ore grade, the increased mining of refractory resources, and the heightened investment in safety and environmental protection. As a result, smaller gold companies have gradually been exiting the market.
- The top 15 global gold producers contributed approximately 30.5% of the global gold mine production in 2024. Among these leading companies, the Company ranked eleventh globally in 2024, with total gold production of 1.5 million ounces from its seven mines.

Ranking of Gold Producers (by gold mine production on a consolidated basis), Global, 2024

Total Production: 116.3 million ounces



Rank	Company	Gold Mine Production (Million oz)	Market Share
1	Company A	6.5	5.6%
2	Company B	3.9	3.4%
3	Company C	3.5	3.0%
4	Company D	3.1	2.7%
5	Company E	3.0	2.6%
6	Company F	2.7	2.3%
7	Company G	2.2	1.9%
8	Company H	2.1	1.8%
9	Company I	1.6	1.4%
10	Company J	1.6	1.3%
11	The Company	1.5	1.2%
12	Company K	1.2	1.1%
13	Company L	1.1	0.9%
14	Company M	0.8	0.7%
15	Company N	0.7	0.6%
	Others	80.9	69.5%
	Total	**116.3**	**100%**

** The production of the PNG Porgera Gold Mine is not included in the calculation of the Company's production in the ranking. The production of Company K's listed subsidiary is excluded from the calculation of its production in the ranking to avoid double counting, as the listed subsidiary is usually ranked independently in the gold industry rankings.*
***Gold producers: refer to the companies the primary business of which is gold producing rather than other metals.*

Source: Annual Reports, Frost & Sullivan

Ranking of Global Gold Producers (2/3)

Ranking of Gold Producers (by resources on a consolidated basis), Global, 2024

Rank	Company	Resources* (Million oz)
1	Company A	308.0
2	Company B	221.0
3	Company D	148.0
4	Company C	133.4
5	Company F	122.1
6	Company E	122.0
7	Company J	107.3
8	Company H	86.3
9	Company K	84.7
10	Company I	61.3
11	Company G	60.9
12	The Company	57.6
13	Company N	53.3
14	Company L	31.9
15	Company M	28.6

- In 2024, the ranking of the top 15 gold producers globally by gold resources highlights the major players in the industry.
- The Company, with 57.6 million ounces of gold resources, ranked twelfth, further solidifying its position among the world's top gold producers.

** Resources: Inclusive of reserves; Including the total amount of measured, indicated and inferred mineral resource.*

Source: Annual Reports, Frost & Sullivan

Ranking of Global Gold Producers (3/3)

Ranking of Gold Producers (by reserves on a consolidated basis), Global, 2024

Rank	Company	Reserves* (Million oz)
1	Company A	134.1
2	Company E	116.7
3	Company B	89.0
4	Company C	54.3
5	Company D	51.0
6	Company H	44.3
7	Company F	31.2
8	Company J	28.5
9	The Company	26.1
10	Company G	21.9
11	Company I	20.9
12	Company L	18.4
13	Company K	18.2
14	Company M	8.8
15	Company N	7.2

- The Company ranked ninth globally with 26.1 million ounces of gold reserves. This reserve amount strengthens its position as an important company in the industry.

** Reserves include proven and probable gold reserves. The reserves of the PNG Porgera Gold Mine is not included in the calculation of the Group's reserves in the ranking.*

Source: Annual Reports, Frost & Sullivan

Comparison of Global Gold Producers

- From 2022 to 2024, the Company achieved the highest CAGR in gold production among the top 15 global gold producers, with a remarkable CAGR of 24.3%, demonstrating a steady increase in output over the period. In 2024, the Company's AISC ranked the sixth at USD 1,458.0 per ounce. Meanwhile, the GPM of the Company ranked the ninth at 37.9%. These figures indicate a very positive growth trend for the company going forward.

Rank	Company	Production CAGR (22-24) (%)
1	**The Company**	**21.4%**
2	Company K	9.3%
3	Company E	8.7%
4	Company N	6.5%
5	Company C	5.4%
6	Company G	5.3%
7	Company A	4.8%
8	Company D	4.7%
9	Company J	2.5%
10	Company I	2.4%
11	Company F	-1.5%
12	Company L	-2.5%
13	Company B	-2.8%
14	Company H	-7.1%
15	Company M	-11.5%

Rank	Company	AISC, 2024 (USD/Oz)
1	Company E	767.0
2	Company D	979.0
3	Company L	1,218.0
4	Company C	1,276.0
5	Company G	1,388.0
6	**The Company**	**1,458.0**
7	Company M	1,465.0
8	Company B	1,484.0
9	Company A	1,516.0
10	Company F	1,611.0
11	Company H	1,629.0
12	Company J	1,686.0
13	Company I	1,961.8
14	Company N	2,126.0
15	Company K	N/A*

Rank	Company	GPM, 2024 (%)
1	Company E	75.7
2	Company C	62.0
3	Company D	57.0
4	Company M	56.4
5	Company I	43.1
6	Company F	41.2
7	Company H	41.1
8	Company A	40.3
9	**The Company**	**37.9**
10	Company L	32.5
11	Company G	32.5
12	Company J	30.9
13	Company K	18.1
14	Company B	16.6
15	Company N	6.2

** Due to the fact that Chinese gold producers generally do not disclose AISC (All-In Sustaining Cost) data, they have not been included in the ranking.*

Source: Annual Reports, Frost & Sullivan

Background of Global Gold Producers

- Company A was established in 1921, is headquartered in Denver, United States, and is listed on the New York Stock Exchange.
- Company B was established in 1983, is headquartered in Toronto, Canada, and is listed on the New York Stock Exchange and Toronto Stock Exchange.
- Company C was established in 1957, is headquartered in Toronto, Canada, and is listed on the New York Stock Exchange and Toronto Stock Exchange.
- Company D was established in 1958, is headquartered in Navoi, Uzbekistan, and is not publicly listed.
- Company E was established in 2006, is headquartered in Moscow, Russia, and is listed on London Stock Exchange and Moscow Exchange.
- Company F was established in 2004, is headquartered in Johannesburg, South Africa, and is listed on Johannesburg Stock Exchange, New York Stock Exchange and Australian Securities Exchange.
- Company G was established in 1993, is headquartered in Toronto, Canada, and is listed on Toronto Stock Exchange and New York Stock Exchange.
- Company H was established in 1998, is headquartered in Johannesburg, South Africa, and is listed on Johannesburg Stock Exchange, New York Stock Exchange and Toronto Stock Exchange.
- Company I was established in 2003, is headquartered in Perth, Western Australia, Australia, and is listed on Australian Securities Exchange.
- Company J was established in 1950, is headquartered in Randfontein, South Africa, and is listed on Johannesburg Stock Exchange.
- Company K was established in 2000, is headquartered in Jinan, China, and is listed on Shanghai Stock Exchange and Hong Kong Stock Exchange.
- Company L was established in 2017, is headquartered in London, United Kingdom, and is listed on London Stock Exchange and Toronto Stock Exchange.
- Company M was established in 2007, is headquartered in Vancouver, Canada, and is listed on Toronto Stock Exchange and New York Stock Exchange.
- Company N was established in 2013, is headquartered in Johannesburg, South Africa, and is listed on Johannesburg Stock Exchange and New York Stock Exchange.

Source: Frost & Sullivan

Entry Barriers of Global Gold Mining Industry

Entry Barriers	Description
Policy Barrier	Policy barriers present significant challenges for new entrants in the global gold mining industry. Governments in key gold-producing countries impose strict regulatory frameworks, including complex permitting processes, environmental compliance requirements, and land-use restrictions, which can delay projects for years. Many jurisdictions also enforce resource nationalism, such as higher royalties, export restrictions, or mandatory local ownership, reducing profitability for foreign investors. Additionally, political instability in some gold-rich regions creates uncertainty over contract enforcement and property rights, deterring long-term investment. These policy hurdles favor established mining firms with the expertise and financial resources to navigate regulatory landscapes, while raising the risk and cost for newcomers, further consolidating industry dominance among a few major players.
Resource Barrier	The global gold mining industry faces significant resource barriers to entry, primarily due to the limited availability of high-quality gold deposits and the high capital intensity required for exploration and development. First, economically viable gold reserves are geographically concentrated in a few regions (e.g., China, Russia, Australia, and Africa), and most easily accessible deposits have already been exploited, forcing new entrants to explore in remote or politically unstable areas. Second, the industry requires massive upfront investments in exploration, mine development, and infrastructure with long payback periods, deterring smaller players. Additionally, declining ore grades and stricter environmental regulations further increase operational costs, making it difficult for newcomers to compete with established miners who benefit from economies of scale, existing reserves, and advanced extraction technologies.
Capital Barrier	Capital barriers pose a formidable challenge for new entrants in the global gold mining industry. Developing a gold mine requires enormous upfront investments, often exceeding billions of dollars, to cover exploration, feasibility studies, infrastructure, and production setup—with no guaranteed returns. The industry's long payback periods (often 10+ years) and exposure to volatile gold prices further deter risk-averse investors. Established players benefit from economies of scale, existing cash flows, and access to cheaper financing, while newcomers face high borrowing costs or equity dilution to secure funding. Additionally, stringent environmental and ESG (Environmental, Social, and Governance) standards now demand even greater capital for sustainable operations, widening the gap between incumbents and potential competitors. These financial hurdles reinforce the dominance of well-capitalized majors and limit market entry for smaller firms.
Technology Barrier	Technology barriers significantly restrict new entrants in the global gold mining industry. Modern gold extraction and processing rely on advanced technologies, such as automated drilling, sensor-based ore sorting, and bioleaching, which require specialized expertise and high R&D investments. Established firms leverage proprietary technologies and decades of operational data to optimize recovery rates and reduce costs, while newcomers face steep learning curves and inefficiencies. Additionally, deeper and lower-grade deposits demand cutting-edge exploration tech and sustainable solutions, raising entry costs further. Without access to these innovations, smaller players struggle to compete, reinforcing the dominance of tech-equipped industry leaders.

Source: Frost & Sullivan

Supplemental Statements (1/2)

- The proportion of monetary gold in asset reserves for emerging countries (non-OECD countries) is 8.9%, significantly lower than the average level of 25.2% in developed countries (OECD member countries).
- Financial institutions can enhance their risk-return profile by incorporating gold into their asset portfolios, which further increases investor interest in gold allocation.
- Gold has officially surpassed the euro to become the second-largest reserve asset for global central banks, with gold accounting for 20% of global official reserves in 2024, surpassing the euro's 16% for the first time, and second only to the dollar's 46%.
- In recent years, due to decreasing global gold mine exploration budgets, the proportion of investment in gold exploration within the global commodity exploration budget has decreased from approximately 65% in the 1990s to 44% in 2024.
- From 2019 to 2024, the average acquisition cost of gold resources for all related transactions in the industry was approximately US$92.9 per ounce, which is 52% higher than the Company's acquisition cost.
- From 2019 to 2024, the average exploration cost in terms of gold resources controlled by the Company's mines was as low as US$12.2 per ounce, which was significantly below the industry average of US$31.5 per ounce.
- Through effective cost control measures, five of the six mines operated by the Company across the years achieved unit cost reduction in mining and processing in 2023 and 2024, while global gold companies were generally experiencing cost increase in the same periods amidst the global inflationary environment.
- The copper smelting plant constructed and operated by the Company was the first enterprise who has the capacity to produce high-purity copper in Tajikistan.
- It is the industry norm to sell mineral products to global traders, who then resell the products to end users.
- Similar centralized sales arrangements are in place for the Company and other major mining companies.
- Gold mining has long been considered a sellers' market, where gold mining companies hold a bargaining advantage over their downstream customers.
- The Company's gold mining and ore processing business is generally not subject to any seasonal fluctuations.
- The Colombia Buritica´ Gold Mine is a globally recognized large-scale gold mine with exceptionally high grades.
- Newmont Golden Ridge is a company registered in Ghana and owns 100% of the Ghana Akyem Gold Mine, which is located in one of the world's major gold metallogenic belts.
- "Tajikistan Jilau/Taror Gold Mines", operated by Zeravshan, is the largest gold producer and largest gold mine in terms of gold resources in Tajikistan.
- The Kyrgyzstan Taldybulak Levoberezhny Gold Mine is the third-largest gold mine in Kyrgyzstan.
- The Australia Norton Gold Mine is one of Australia's largest gold producers and the only large heap leach project with an annual processing capacity exceeding 5 million tonnes.

Source: Frost & Sullivan

Supplemental Statements (2/2)

- The Guyana Aurora Gold Mine is the only large-scale gold mine project in Guyana with production volume of over 100 koz per year.
- The Colombia Buriticá Gold Mine is one of Colombia's largest producing gold mines, a globally ultra-high-grade large gold mine, and Colombia's first large modern underground mine.
- The Suriname Rosebel Gold Mine is a world-class gold mine and one of South America's largest producing open-pit gold mines.
- The Ghana Akyem Gold Mine is one of Ghana's largest gold mines.
- The PNG Porgera Gold Mine is Papua New Guinea's second-largest gold mine.
- The market price of gold is largely subject to market forces, in particular, the supply and demand for gold products.
- The gold price is affected by numerous factors beyond the Company's control, for example, the global economic cycles, fluctuations in the global currency markets, general supply of and demand for gold, gold sales and purchases by central banks, macroeconomic factors such as GDP growth prospects, inflation and interest rates of major economies, geopolitical conflicts, and speculative trading activities.
- Historically, the gold price has experienced significant volatility. This is primarily because gold is often seen as a safe-haven asset during times of geopolitical uncertainty.
- Since November 2022, the gold price has climbed due to market turbulence, rising recession expectations, slower interest rate hike prospects, and more gold purchases from central banks which underpinned the gold demand.
- The mining efficiency of the Company is also measured by the recovery rate, in particular, the gold processing recovery rate of the Company's mines. The processing recovery rate of the Company is affected by both the grade and mineralization characteristic of the ores and the specific processing techniques employed. A lower recovery rate would result in increased cost of sales per unit.
- The gold industry is capital-intensive, requiring substantial upfront investment in equipment, land, and compliance with stringent safety and environmental regulations. This high barrier to entry means that only entities with significant financial resources can engage in large-scale gold mining operations.
- Government policies play a significant role in shaping the gold mining industry, and can impact various aspects of mining operations, from exploration and extraction to environmental management and economic contributions.
- The local, provincial, and central authorities of Tajikistan, Kyrgyzstan, Australia, Guyana, Colombia, Suriname, Ghana and Papua New Guinea each exercise a substantial degree of control over the gold and mining industry within their respective territories.
- Refined gold ores had a lower unit price compared to gold ingots and were primarily derived from high-depth gold ore, which has a higher discount coefficient, further reducing the average selling price.
- From 2022 to 2024, the Company's sales volume is generally correlated with its production volume.
- Zijinshan Gold and Copper Mine is one of the largest gold mines in China.
- The intra-group lending and borrowing activities and cash-pooling services are common for conglomerates headquartered in Hong Kong.
- From 2019 to the first half of 2025, the average exploration cost at the gold mines was US$32.3 per ounce globally.
- In the future, gold prices are anticipated to gain further long-term support as the grade of gold mines continues to decline and extraction costs continue to increase.
- The weighted average capital expenditure intensity was US$3,500 to US$4,000 per ounce in terms of gold production capacity for global gold mining industry.
- The average level of the fatality rate in the gold mining industry was 0.04 per million work hours in 2024.
- The fatality rate range in the gold mining industry was 0.00 to 0.11 per million work hours in 2024.

Source: Frost & Sullivan