

**32146 - Data Visualisation and Visual Analytics
Assessment 1
Data Visualisation Foundations**

**Genesis Mineral Ltd. (GMD) 2024: A Comprehensive
Market Analysis for Investors**

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Executive Summary

This report provides a detailed market analysis of Genesis Minerals Limited (GMD) stock performance in 2024, leveraging data visualizations to uncover key investment insights. Using data sourced from DatAnalysis, the report examines critical financial metrics, including stock price movements, trading volume, market capitalization, price-to-earnings (PE) ratios, and returns.

The analysis highlights a **49% increase in stock value** over the year, with notable price fluctuations driven by key company developments, such as the **restart of the Laverton Mill** in October 2024. Despite periods of volatility, GMD maintained an **overall upward trajectory**, reflecting strong market confidence.

Portfolio simulations indicate **an 84% return on a well-timed trade**, with maximum profit opportunities observed in March, July, and October. The study suggests that a **hybrid investment strategy**—combining long-term holdings with opportunistic short-term trades—can maximize returns while mitigating risks.

Given GMD's **sustained growth, resilience to share issuance, and strong investor sentiment**, the company presents a **compelling investment opportunity**. Investors should stay informed about **market trends, earnings reports, and macroeconomic factors** to optimize trading strategies and capitalize on GMD's growth potential.

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Introduction

Assignment Overview

This report provides a comprehensive market data analysis of **Genesis Minerals Limited** and its stock performance in 2024. The objective is to equip potential investors with data-driven insights into stock price trends, trading volume fluctuations, volatility, and overall market behaviour throughout the year. By utilising visualizations of key performance indicators, the analysis will highlight critical trends and offer strategic investment recommendations.

Company overview

Genesis Minerals Limited (GMD) is an Australian gold exploration and mine development company focused on the production, exploration and development of mineral interests in the Leonora and Laverton regions, wholly within Australia, with its main Leonora Gold Project located within the prolific Leonora District of the northern goldfields, Western Australia. Genesis's vision is to build a premium gold miner that is sustainable, high quality, and +300koz pa.

Data Collection and Preparation

The dataset for analysis of Genesis Minerals Limited 2024 stock performance was outsourced from the DatAnalysis platform and covers data from January 1 2024 to December 31 2024.

The raw data needed some processing and enhancement for analysis and visualization.

Some key data points collected were :

- Stock Prices (Open, High, Low, Close)
- Volume (Daily traded volume)
- Market Capitalization (Total company value)
- Stock Issued (Outstanding shares)
- Price Change & Daily Return (%) (Stock movement insights)
- PE Ratio & Dividend (Where available)

Data Modifications & Cleaning:

- Handling Missing Data – Removed a few incomplete rows for accuracy.

- Recalculations – Derived daily returns, price volatility, and market capitalization changes.
- Data Cleaning – Removed duplicates and inconsistencies. Dataset Characteristics & Data Types

The dataset is structured in Excel format with key columns such as Date, Stock Prices, Volume, market capitalization, Price Change, PE Ratio, and Daily Returns.

Dataset Characteristics & Data Types

- Numerical Data: Stock prices, volume, market cap, price change, returns, volatility.
- Categorical Data: Date, ASX Code, Company Name.

Data Visualization

Closing Price VS Volume



Figure 1 : Closing Price Vs volume

Figure 1 represents a combo chart depicting GMD'S closing stock price as line chart and its trading volume through a bar chart for the year 2024.

- A dual Y-axis featured both price and volume, ensuring clarity.

- The stock price followed an upward trajectory, increasing its value by 49% in 2024.
- Two key price levels are marked, \$2.21 and \$2.30, due to increased trading volume.
- Further research shed light on the increased trading volume on 18/10/2024 as GMD released its quarterly activity report, which included the restart of its Laverton Mill, culminating in its lower AISC.
- Despite the spikes in trading volume, price changes remained stable, implying high volume doesn't necessitate drastic price movements.
- Various visual elements such as the trend lines, data labels, arrows and color differentiation were employed to enhance clarity.
- Overlapping data and axis scaling were key visualization challenges mitigated by using dual Y-axis, trend smoothing and using a combination chart of line and bar charts, ensuring that the stock price trend and its correspondent volume fluctuations were effectively conveyed.

Sock Movement Analysis

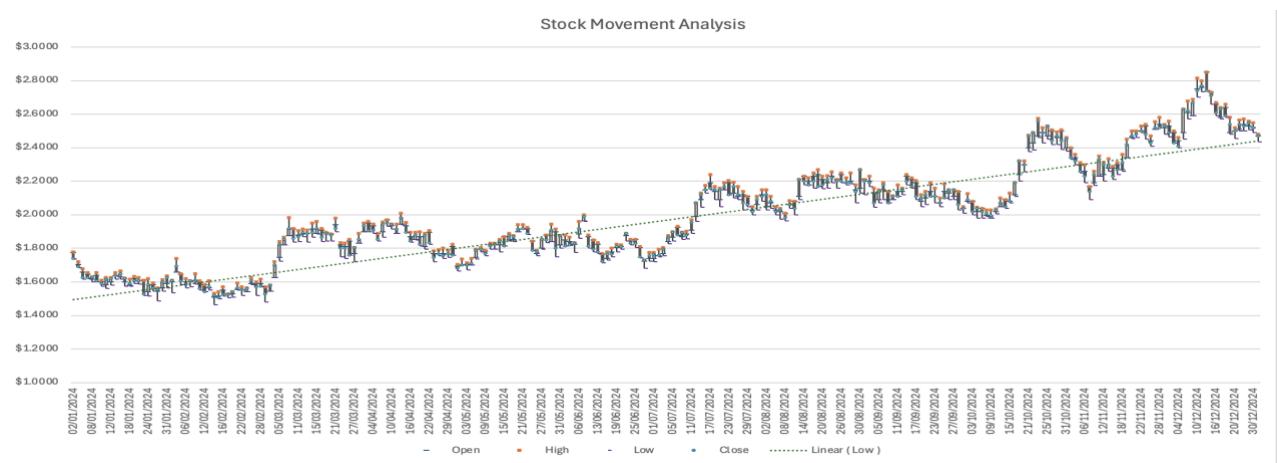


Figure 2: Stock Movement Analysis

Figure 2 represents a combination chart of line and scatter chart to depict the open/close/high/low price of the GMD stock price movement (candlestick chart) throughout 2024.

- A linear trend for the low prices has been included to depict the overall price movement throughout the year.
- The stock price initially declined in the month of January, reaching \$1.40 before entering into an upward trend, which followed throughout the year.
- A period of steady price growth followed, peaking above \$2.80 towards the end of the year, reflecting an overall positive performance.
- Periods of volatility are indicated by the frequent fluctuations in the open, high, low and close prices.
- The fluctuations in price indicate intermittent corrections specifically visible in the second half of the year where there were multiple peaks and dips, most likely due to overall market reactions caused by both internal and external factors.
- The scatter plot-style visualization, error bars, trend lines and color-coded price points help highlight fluctuations and trends.
- The use of a linear trend line for low prices provides insights into the stock's long-term trajectory.
- To address the challenges related to overlapping data points and frequent price movements, candlestick-style elements and data markers were used to distinguish between high, low, open and close prices, successfully conveying stock volatility and price movements.

Capital vs Issued Shares Analysis

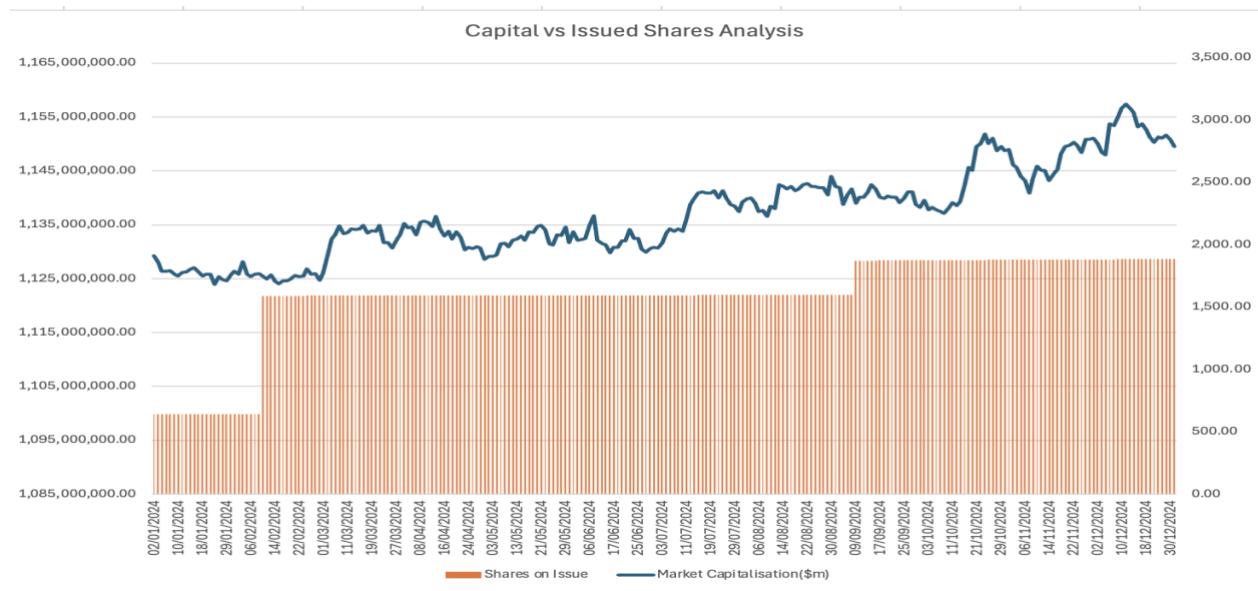


Figure 3: Capital vs Issued Shares

Figure 3 depicts a dual-axis combination chart that depicts and tries to derive insights between issued shares represented by orange charts and market capitalisations depicted by the blue line throughout 2024. The X-axis represents the timeline, while the Y-axis corresponds to the issued shares on the left-hand side and market capitalisation in millions of dollars to the right.

- The chart highlights periods of share issuance, notably in late January, late March and in September 2024, where shares issued increased significantly.
 - Despite additional issuances of shares, market capitalizations exhibited an overall uptrend, suggesting that the company's stock price appreciated over time.
 - Market capitalization showed a steady rise from mid-March, experiencing periods of volatility before peaking towards the end of the year.
 - The increase in shares issued in March and September did not cause any immediate decline in market capitalisation, indicating the company's ability to maintain its stock price.
 - The dual Y-axis approach ensures clear visualisations of both share issues and market capitalization despite their different scales.
 - The use of color-coding effectively differentiated share issues and market capitalization, while the combination of bar and line charts helped identify the fluctuations in data effectively, thereby demonstrating the company's growth trajectory and capital-raising strategies over time.
 - The chart provides a clear overview of the correlation between equity issuance and market capitalization movements, demonstrating the company's growth trajectory and capital-raising strategies over time.

Yield Analysis

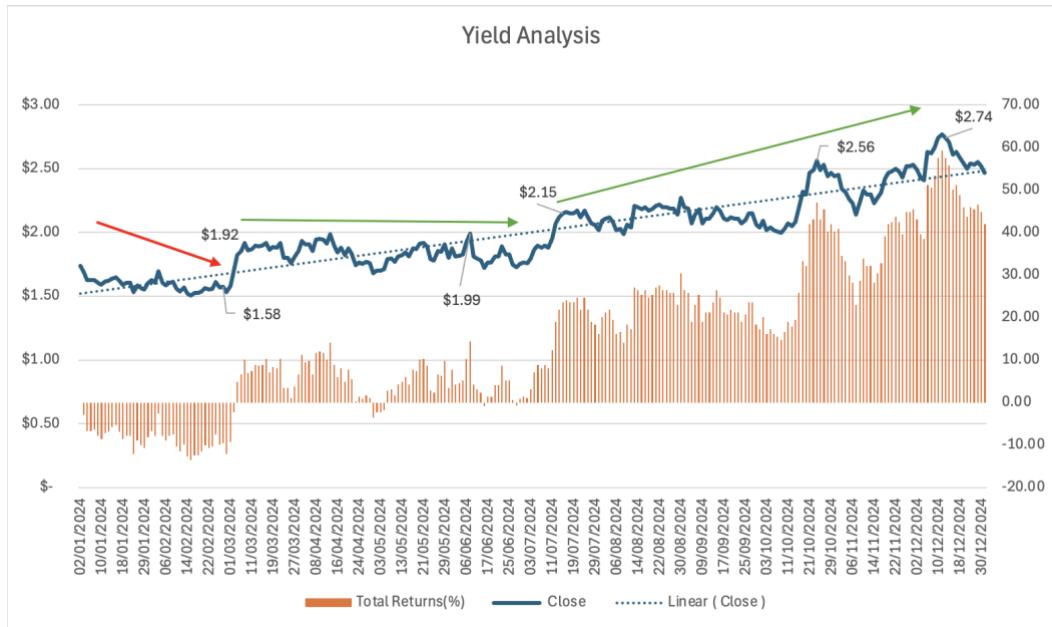


Figure 4: Yield Analysis

Figure 4 represents a dual-axis chart that analyses the relationship between the stock's closing price, depicted in blue and total return percentage, shown in orange. A dotted trend line represents the overall trajectory of the stock's closing price. The chart utilizes the use of a dual Y-axis for clarity, with the left axis displaying the stock price in dollars and the right axis representing the total return percentage.

- The stock experienced an initial downtrend which is highlighted by the red arrow from early January to mid-February 2024, evident by the negative returns, which was later followed by a notable recovery.
- A strong uptrend, marked by the green arrow, can be observed from late February onwards, with the stock price consistently rising and crossing the trend line, reflecting positive market sentiment.
- From June onwards, the stock price remained volatile but maintained a general uptrend, which was evident by the increasing returns.
- A significant surge in total returns is observed from mid-July to December, coinciding with and upward movement in stock price.
- The dotted trend line indicated an overall positive growth despite periods of volatility and temporary corrections.
- The combination of a line chart for stock price and a bar chart for total returns helps differentiate trends effectively with the additional use of coloured arrows to indicate the overall movement of stock price.

- Adjusting the axis scaling ensures clear visibility of both the closing price and total return percentage, thereby preventing any visual distortions.
- This analysis highlights the stock's growth over time, with temporary dips that may indicate short-term market corrections or reactions. Investors should consider these factors while assessing the long-term yield performance of the stock.

PE Analysis

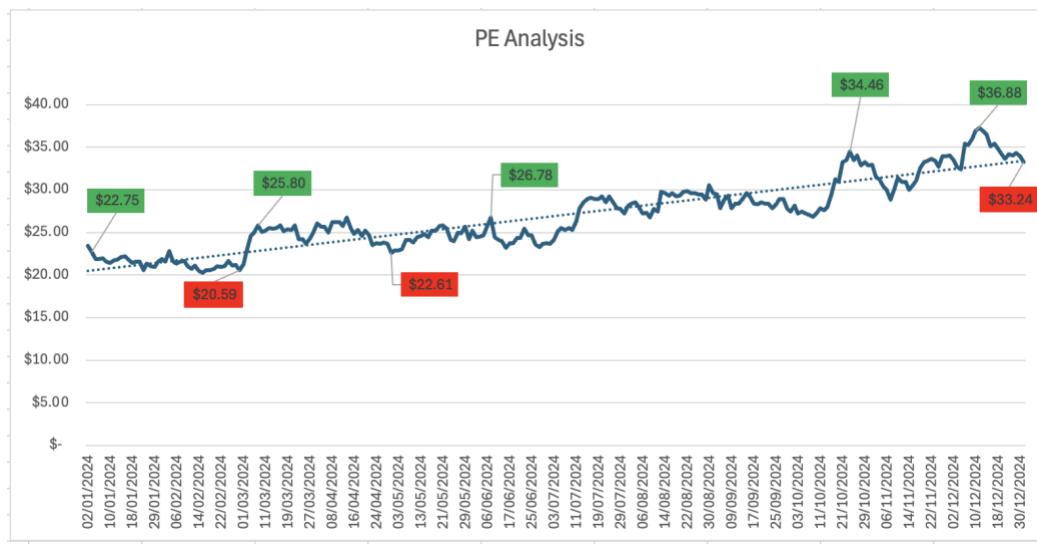


Figure 5: PE Analysis

In Figure 5, the PE ratio trends for 2024 are visualised using a blue line with a dotted trend line indicating an overall uptrend. The chart includes clear axis labels, a title and color-coded labels to highlight key insights, such as highs indicated by green and lows as indicated by red.

- The PE ratio begins at a relatively moderate level in early 2024, around 22.75 and experiences fluctuations throughout the year.
- The lowest recorded PE ratio was 20.59, which occurred during the first quarter, while the highest recorded PE value was 36.88 towards the end of the year.
- There are multiple peaks and troughs, reflecting periods of investor optimism and pessimism as seen from the dip to 22.61 in April and then its rebound to 26.78 and later surge to 34.46 as the highest PE value of the year.
- The overall trend appears to be positive, as indicated by the trend line suggesting increasing investor confidence, driving the price of the stock over the year.

- The inclusion of high and low points with color-coded labels makes it easy to interpret the significant shifts in the graph, emphasizing the volatility while reinforcing the broader upward trend.
- This visualisation effectively conveys both the short-term as well as the long-term growth trend in the PE ratio for 2024.

Yearly portfolio.

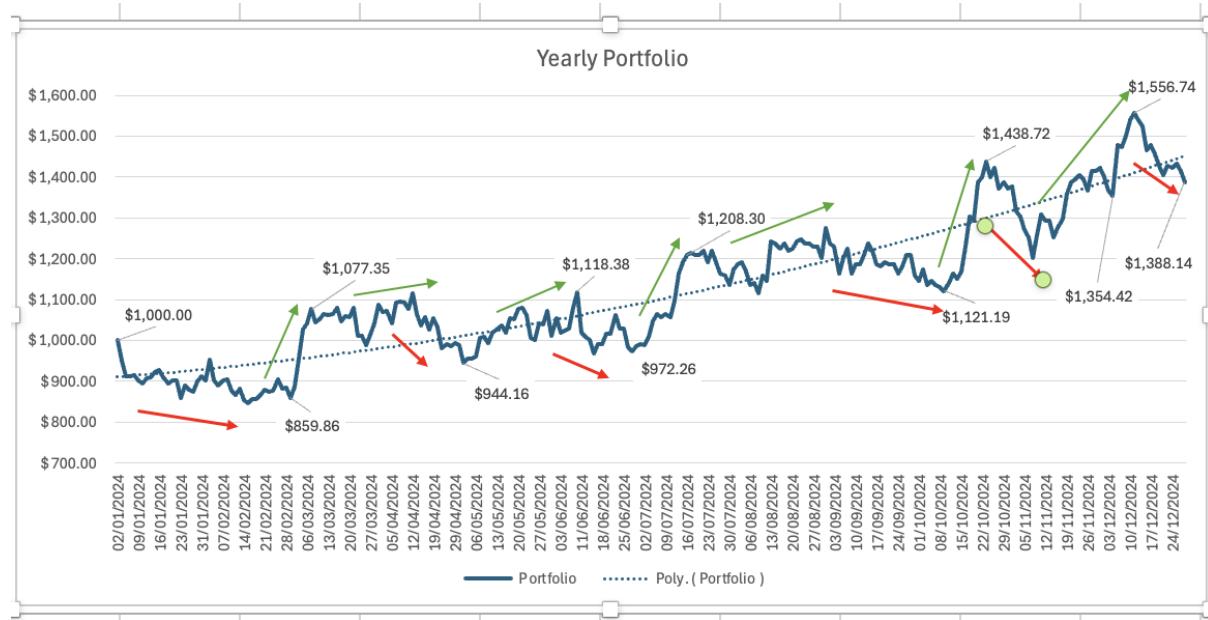


Figure 6: Yearly Portfolio

Figure 6 is a line graph that illustrates the performance of a portfolio throughout 2024 with a dotted polynomial trend line to highlight the overall upward trajectory.

- Key portfolio values are labelled at significant points, with green arrows marking upward trends and red arrows indicating the downward trends.
- The initial portfolio value is kept at \$1000, which then experiences fluctuations with an early drop in value of \$859.86 followed by a steady climb of \$1077.35.
- Several declines occur throughout the year, such as the dip to \$944.16 and later to \$972.26, but the portfolio exhibits overall growth.
- The most significant rise occurs towards the end of the year, peaking at \$1556.74 before experiencing a minor decline to \$1388.14. The visualisation effectively conveys the portfolio value throughout 2024 while emphasising the long-term trend by using labels and arrows to highlight key movements in stock

price ultimately affecting the value of the portfolio and offering key market insights.

Single Trade Profit

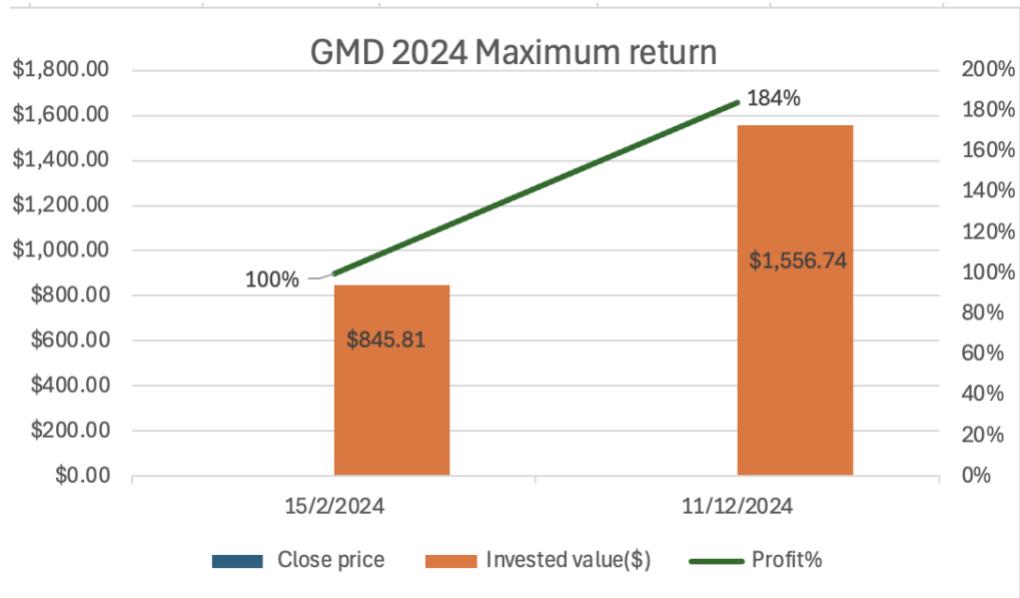


Figure 7: Single Trade Returns.

Figure 7 illustrates the single trade profit by an investor. The chart uses a bar graph combined with a trend line to illustrate the maximum return achieved from a well-timed investment in 2024. The chart emphasises growth between two key dates, 15th February 2025 and 11th December 2024.

- The chart uses colour coding, data labels and trend lines to enhance readability and highlight key information.
- The invested value bar displays the initial investment of \$1000 while the profit bar indicates the resulting profit of \$710.93 at the exit point.
- These distinct bars help in direct visual comparison, highlighting substantial gains whilst displaying the percentage return of approximately 84% as labelled on the chart, allowing investors to quickly grasp the significance of the trade.
- The single trade analysis showcases the potential for significant gains by capitalising on the volatility of the stock by earning 84% returns for the year, highlighting the importance of strategic decision-making and timely use of information.

Portfolio summary based trade.

This trade exemplifies how a well-timed decision can lead to substantial portfolio gains throughout 2024. As shown in GMD 2024 Maximum Return Chart, an initial market value of investment of \$845.81 as on 15 February surge to whooping \$1,556.74 by 11 December 2024, reflecting a 84% return, this highlights the impact of strategic market entry and exit points emphasizing the role of timing and trend analysis in maximising profits.

The portfolio's performance underscores the benefits of capitalizing on market fluctuations and maintaining a disciplined, data-driven approach for long-term success.

Maximum Trade

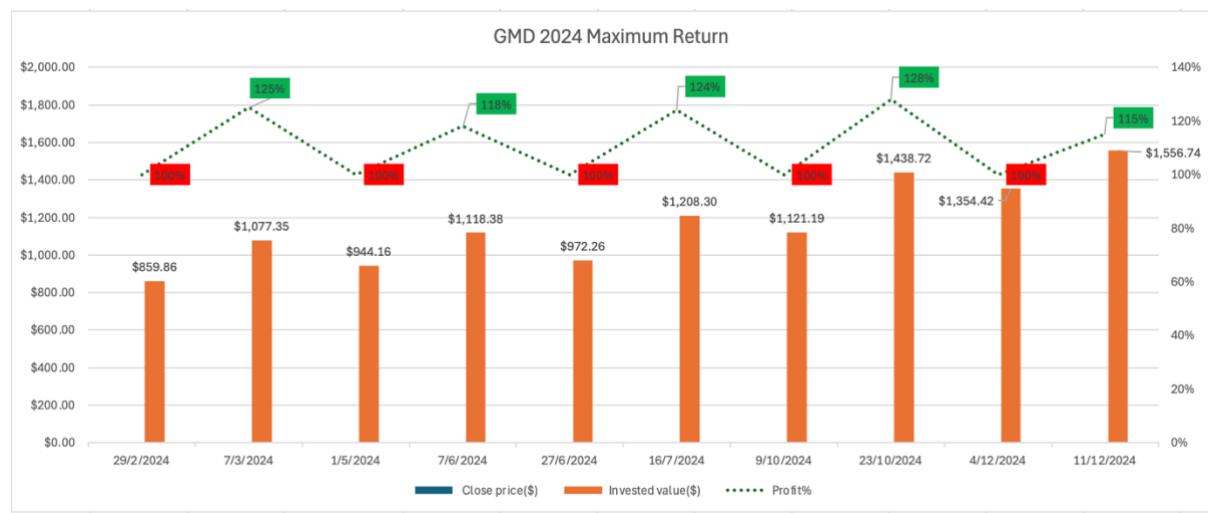


Figure 8: GMD Maximum Trades 2024

Figure 8 uses a Combination Chart, using bar and line graphs, to illustrate investment value fluctuations and profit percentages over time.

- The orange bars represent invested values, while the green dotted line tracks profit percentages.
- Labels at each point, along with distinct colours, enhance readability, making it easier to analyse investment performance.
- The portfolio shows strategic investments and exits, with notable peaks in profit percentage on **March 7 (125%)**, **July 16 (124%)**, and **October 23 (128%)**, reflecting well-timed trades.
- The highest investment value of **\$1,556.74** was recorded on December 11, showing overall portfolio growth.
- The dual-axis representation effectively highlights the correlation between investment value and profitability, giving better insight into trading decisions.
- One challenge was ensuring that the investment values and profit percentages were clearly distinguished, which was addressed through the use of different chart types and color-coding.

Portfolio Summary

The portfolio analysis highlights how strategic trading and timely decision-making resulted in consistent gains throughout 2024. By actively buying during dips and selling at peaks, the portfolio experienced steady growth, with investment values rising from **\$859.86** to **\$1,556.74** by the end of the year. Notable profit spikes, such as **125% on March 7**, **124% on July 16**, and **128% on October 23**, demonstrate the effectiveness of this approach. The **combo chart**, integrating bar and line graphs, effectively illustrates the relationship between investment value and profitability, reinforcing the advantages of active trading over a passive, buy-and-hold strategy.

Effectiveness of Visualization

- The visualisation techniques used in the analysis played a crucial role in conveying key financial trends effectively.
- Line charts help depict the overall price movements, allowing for deeper insights into the volatility and possible trends in price movements.
- Bar charts helped illustrate the trading volume, which helped to gain insights into the market activity and also investor sentiments.
- Scatter plots highlighted the risk levels and the impact of external factors that drive stock performance.
- These visual tools helped enhance the clarity of understanding complex financial data, enabling investors to identify profitable trading patterns, assess risk and make data-driven decisions.

Recommendations for Investors

Investment Strategy

Based on the analysis, GMD stock demonstrated strong performance in 2024, with a steady uptrend despite periodic fluctuations. The company's ability to maintain its market capitalization despite share issuances suggests strong investor confidence and financial stability. Investors should adopt a hybrid strategy—holding long-term positions to benefit from sustained growth while leveraging short-term volatility for

profitable trades. The observed returns, particularly in high-yield trades, highlight the stock's potential for significant gains when timed strategically.

Risk Assessment

Investing in GMD involves certain risks, primarily stemming from price volatility, external market factors, and investor sentiment. The fluctuations observed in the stock's movement, particularly in the second half of 2024, indicate sensitivity to market corrections. Additionally, key events such as earnings reports and operational updates contributed to increased trading volume, impacting stock price movements. To mitigate risks, investors should closely monitor market trends, company performance, and macroeconomic factors. A diversified portfolio can also help balance exposure to potential downturns.

Outlook

The long-term outlook for GMD remains positive, driven by its market resilience and ability to sustain investor interest. The company's financial strategies, including share issuance without significant declines in market capitalization, suggest robust management practices. Given the stock's upward trajectory and increasing returns, investors should consider a "buy and hold" strategy for long-term growth, while also capitalizing on short-term trading opportunities during periods of volatility. Staying informed about company announcements and industry trends will be essential for maximizing investment gains.

Conclusion

Summary of Key Findings

The analysis of GMD's stock performance in 2024 highlights consistent growth despite fluctuations. The portfolio strategy that combined strategic trading and long-term holdings yielded strong returns, with peak investment values reaching \$1,556.74. Notable profit spikes, including 125% on March 7, 124% on July 16, and 128% on October 23, demonstrate the effectiveness of active trading. The stock's ability to recover from market dips and maintain an upward trajectory further reinforces its investment potential.

Final Recommendations

Based on financial analysis and portfolio performance, GMD presents a strong investment opportunity. A balanced investment approach—holding core shares for long-term appreciation while actively trading based on market movements—is recommended. Investors should remain vigilant, closely monitoring market trends, earnings reports, and industry developments to optimize their trading strategy. Given the stock's growth potential and historical performance, GMD remains a compelling choice for investors seeking both stability and profitability.