



Dear friends, investors, and valued business partners,

On behalf of quantumrock, I am writing to express my sincerest gratitude for your unwavering support and trust. 2022 has been a challenging year for all traditional asset classes as they experienced the worst capital market environment in the last decades. Given this backdrop, we are glad to report that quantumrock has emerged as a winner thanks to the strategies and technology developed by our team.

Our equity and volatility trading strategies successfully seized the opportunities arising from the historically bad market environment, with many of our approaches outperforming their peers, especially our *Equity Alpha* and *Absolute Return* strategies. We attribute much of this success to our synergetic system of Al-based technology and capital market expertise. By adhering to our high-tech approach and implementing dynamic alpha-driven strategies that seek to minimize losses without sacrificing returns, we were able to protect our portfolios from a large portion of the market downturns while capturing gains from areas where our algorithms saw opportunities. With our Al-based market timing methodologies and systematic pattern analysis, we were able to capitalize on those opportunities, which contributed greatly towards preserving capital and generating outstanding alpha and healthy diversification in our *Absolute Return* and *Equity Alpha* strategies for our investors over the past year.

At quantumrock, we strive to generate superior returns for all our investors by constantly exploring and developing new and untapped alpha sources. In 2023, we will, thus, venture into hard assets in the form of coloured gemstones - a historically uncorrelated asset to all traditional asset classes. Our clients will, for the first time, be able to participate in the historically stable performance of gemstones through liquid and transparent funds. More to come!

Thank you again for your continued support – please don't hesitate to reach out if there is anything else we can do for you or provide further information about how quantumrock's investment strategies have been successful in navigating through these turbulent times and into 2023.

Sincerely,

Stefan Tittel

CEO at quantumrock



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Get in Touch



About quantumrock Equity Alpha

The quantumrock Equity Alpha strategy combines various alpha sources from long volatility (VIX Futures), short equity (S&P500 Futures), and equity recovery strategies (S&P500 Futures). quantumrock's proprietary Machine Learning Platform screens the markets for trading signals predicting market corrections to generate so-called Crisis Alpha by timing positions according to the identified trading signals. The quantumrock Equity Alpha product aims to enhance client portfolios in crisis times showing its capabilities best when added to a portfolio. Investors tend to typically see an improvement in their portfolio metrics, particularly in the form of an improvement in average returns and a reduction in volatility and maximum drawdown of the portfolio.

Société Générale is currently launching a Luxembourg-domiciled AIF for the *quantumrock Equity Alpha* strategy which is expected to be available for investments in Q1 2023. The strategy is further available through Paladigm Capital's Stuttgart-listed certificate.

Indicative Historical Performance 2600 Bloomberg Ticker: 2400 **QREQA** 2200 2000 1800 **Product Partners** 1600 1400 SOCIETE GENERALE 1200 1000 800 07.2016 07.2017 07.2018 07.2020 07.2021 07.2019 07.2022 PALADIGM CAPITAL -Gross -Net

Source: The strategy is trading as part of the *quantumrock Absolute Return* strategy which has a track record since 02|07|2016. The *quantumrock Equity Alpha* strategy's gross returns are published daily on Bloomberg (Ticker: QREQA) and result from a frozen calculation algorithm, which is stored in an audit-proof manner with a timestamp and, if necessary, is traceable/reproducible for third parties upon request. The metrics depicted below reflect gross values unless indicated otherwise. The gross performance considers all costs incurred at portfolio level (e. g. trading costs) and assumes reinvestment of any distributions. Costs incurred at customer level such as management and performance fees are not included. Net figures additionally include a management fee of 0.95% p.a. and 15% performance fee. For product-specific returns, please contact our respective product partners. The returns of individual products and share classes may differ due to deviating cost structures.

Indicative Metrics

(as of December 31st, 2022)

Performance	Gross	Net					
Periorillance	UIUSS	Net			Rolling Yearly Performance	Gross	Net
2022	23.0%	17.2%	Average performance p.a.	14.8%		07.00/	15.0 0/
2021	6.6%	5.4%	Average performance p.a.	14.070	Dec. 31st, 2022 - Dec. 31st, 2021	23.0%	17.2%
2021	0.070	3. 4 /0	Volatility annualized	11.8%	Dec. 31st, 2021 - Dec. 31st, 2020	6.6%	5.4%
2020	33.9%	25.5%		11.070			
2010	0.00/	0 /0/	Sharpe Ratio	1.27	Dec. 31st, 2020 - Dec. 31st, 2019	33.9%	25.5%
2019	0.8%	-0.4%			Dec. 31st, 2019 - Dec. 31st, 2018	0.8%	-0.4%
2018	46.4%	38.1%	Sortino Ratio	2.07	Dec. 3181, 2019 - Dec. 3181, 2010	0.670	-0.4 /0
					Dec. 31st, 2018 - Dec. 31st, 2017	46.4%	38.1%
2017	-1.7%	-2.6%			·		

quantumrock Equity Alpha in Comparison

The quantumrock Equity Alpha strategy showed outstanding performance figures in 2022 in line with the strategy's intended purpose as an alpha-driven tail hedge. Somewhat disappointing, however, was the performance in January 2022 when the strategy lost value congruent to the two major asset classes, stocks and bonds, instead of delivering negatively correlated positive performance contributions in such a phase as typically expected. From February 2022 onwards, the strategy's performance was in line with what is expected from a long volatility strategy in strongly falling equity markets, and quantumrock Equity Alpha closed 2022 with robust positive outperformance. It is worth noting that the alpha sub-strategies trading the S&P 500 Future on the short side performed significantly better than those going long the VIX Future in 2022, underlining that quantumrock Equity Alpha is a well-diversified Crisis Alpha strategy. This can be explained by the fact that the volatility markets rose only moderately in the last twelve months relative to the massive price decline in the two major asset classes, stocks and bonds.

quantumrock Equity Alpha vs. S&P 500 and VIX Future



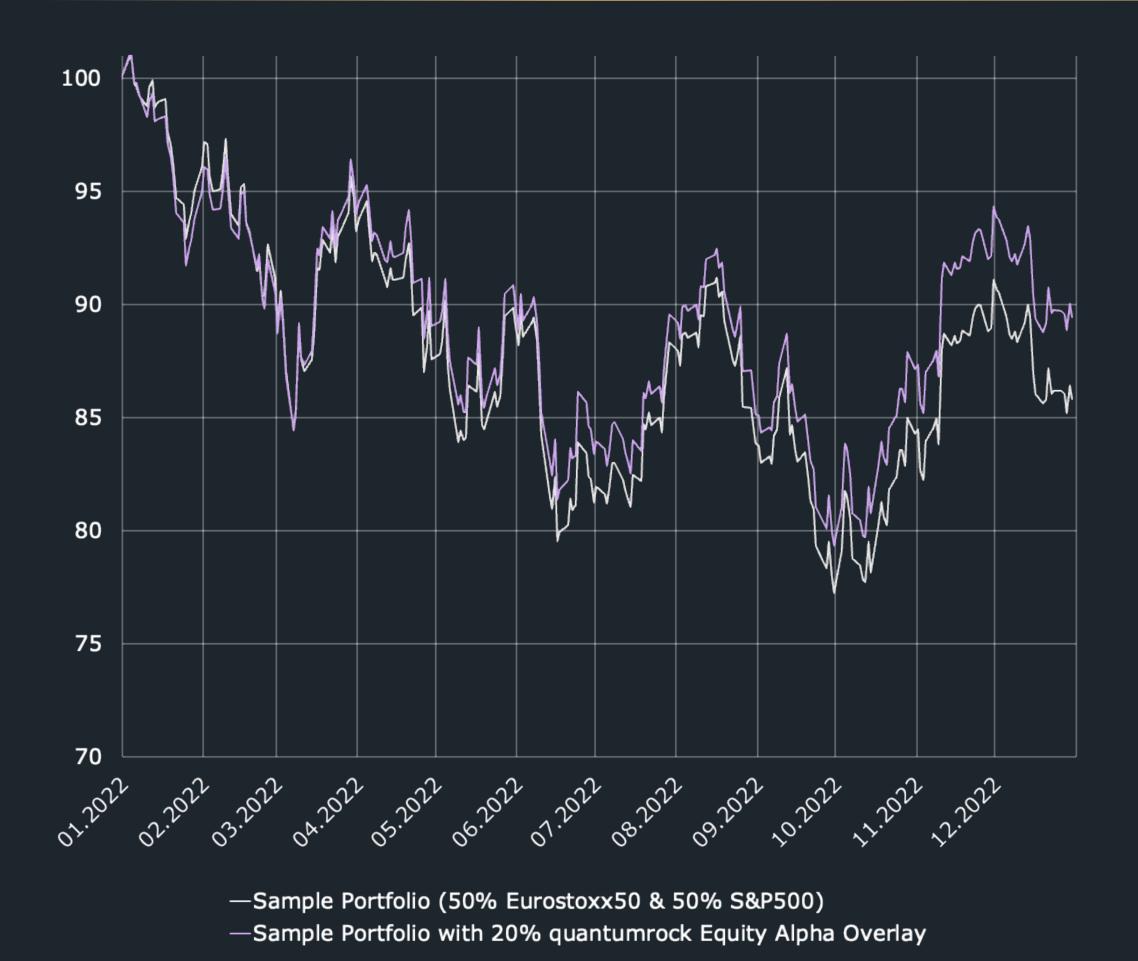
Source: Bloomberg; data are gross of fees. For illustration purposes, the charts of the VIX Future and S&P500 are adjusted to match the realized volatility of QREQA.

quantumrock Equity Alpha Peer Group



Source: Bloomberg; data are net of fees.

quantumrock Equity Alpha as Diversifier



Source: Bloomberg; data are gross of fees. The combined portfolio consists of 50% Eurostoxx50, 50% S&P500 exposure, and, in addition, 20% exposure in the *quantumrock Equity Alpha* strategy as an overlay.

	Performance realized in 2022	Volatility realized in 2022	Sharpe Ratio (over last 7 years)
Sample Portfolio	-12.25%	22.62%	0.59
Sample Portfolio with 20% quantumrock Equity Alpha	-8.37%	22.26%	0.75
Enhancement	+3.88%	-0.36%	+0.16

An addition or overlay of the *quantumrock Equity Alpha* strategy to equity portfolios typically leads to an improvement in the portfolio's performance and risk metrics. As during the last major crisis for equity markets in 2020, *quantumrock Equity Alpha* again showed outstanding enhancement capabilities over the previous twelve months. The portfolio's maximum drawdown and volatility tend to decrease by adding or overlaying an equity portfolio with the *quantumrock Equity Alpha* strategy. At the same time, performance tends to increase, reflected in an enhancement of the portfolio's Sharpe ratio.

About quantumrock Absolute Return

The quantumrock Absolute Return strategy targets market-independent returns via a dynamic combination of the most liquid asset classes: US equities (S&P500 Futures), US fixed income (10-Year US Treasury Futures) and volatility (VIX Futures). The AI-driven investment approach aims to identify the optimal allocations to the three asset classes on a daily basis to generate market-neutral returns. To achieve this goal, the strategy combines long equity and bond bias (beta) and alpha-generating sub-strategies resulting in highly dynamic allocations to the three asset classes. In addition to market-neutral returns, the quantumrock Absolute Return strategy tries to generate so-called Crisis Alpha during market turmoil by combining various crisis alpha sources from long volatility, short equity, and equity recovery sub-strategies.

The quantumrock Absolute Return strategy is available through Deutsche Bank's dbSelect platform, a UCITS fund, and a Singaporean VCC. Société Générale is currently launching a Luxembourg-domiciled AIF for the quantumrock Absolute Return strategy which is expected to be available for investments in Q1 2023.

Historical Performance

The following graph and metrics result from *quantumrock Absolute Return's* track record since the strategy's inception in July 2016. Overall, the volatility contribution from the average beta long bias in S&P 500 Futures is approximately 3.2% and about 1.8% from 10-year US Treasury Futures. The alpha-generating sub-strategies contribute about 5% to the strategy's overall target volatility of 10%.



Source: The strategy has been traded in various investment products since 02|07|2016. The figures for gross and net returns over the total term are made up of the product trading the largest volume in the respective time period, i.e. the managed account U1512035 at Interactive Brokers (02|07|2016 to 09|02|2018), the Opus Charter. Iss. S.A. Cpmt90 certificate with ISIN DE000A2HPGN7 (09]02|2018 to 29|04|2020) and the Deutsche Bank certificate on their dBSelect platform with Bloomberg ticker FXSTQRKI (since 29|04|2020). The *quantumrock Absolute Return* strategy's gross returns are published daily on Bloomberg (Ticker: QRABSR) and result from a frozen calculation algorithm, which is stored in an audit-proof manner with a timestamp and, if necessary, is traceable/reproducible for third parties upon request. The metrics depicted below reflect gross values unless indicated otherwise. The gross performance considers all costs incurred at portfolio level (e. g. trading costs) and assumes reinvestment of any distributions. Costs incurred at customer level such as management and performance fees are not included. Net figures additionally include a management fee of 2% p.a. and 20% performance fee with high watermark. The returns for individual products and share classes may differ due to deviating cost structures.

Metrics

(as of December 31st, 2022)

Performance	Gross	Net			Rolling Yearly Performance	Gross	Net
2022	-11.2%	-13.7%		0.00/			
2021	2.5%	0.5%	Average performance p.a.	9.0%	Dec. 31st, 2022 - Dec. 31st, 2021	-11.2%	-13.7%
			Volatility annualized	12.3%	Dec. 31st, 2021 - Dec. 31st, 2020	2.5%	0.5%
2020	30.9%	22.1%	Sharpe Ratio	0.75	Dec. 31st, 2020 - Dec. 31st, 2019	30.9%	22.1%
2019	18.3%	14.5%					14.5%
2018	3.4%	1.0%	Sortino Ratio	1.08	Dec. 31st, 2019 - Dec. 31st, 2018	18.3%	
2017	4.8%	2.5%			Dec. 31st, 2018 - Dec. 31st, 2017	3.4%	1.0%

quantumrock Absolute Return in Comparison

In 2022, the *quantumrock Absolute Return* strategy significantly outperformed its underlying beta portfolio, with has average exposures similar to a classic 30/70 balanced portfolio, due to its dynamically allocating alpha-searching sub-strategies. However, the two core asset classes of the strategy, stocks and bonds, suffered dramatically in 2022 and, on top of that, showed a positive correlation during the last twelve months, leading to a price decline that the alpha strategies could only partially compensate. Moreover, at the beginning of the year, the alpha strategies' performance contribution was negative, leading to underperformance compared to the balanced portfolio. As the year progressed, however, the AI was able to identify more promising patterns so that the alpha strategies could rein in their initial losses and close the year in positive territory overall. The positive contribution of the alpha-searching sub-strategies to the *quantumrock Absolute Return* strategy can also be seen in the peer group analysis. The strategy was able to keep losses at a lower level than comparable investment products with similar volatility. We expect further outperformance of the peer group in the medium to long term.

quantumrock Absolute Return vs. Balanced Portfolio



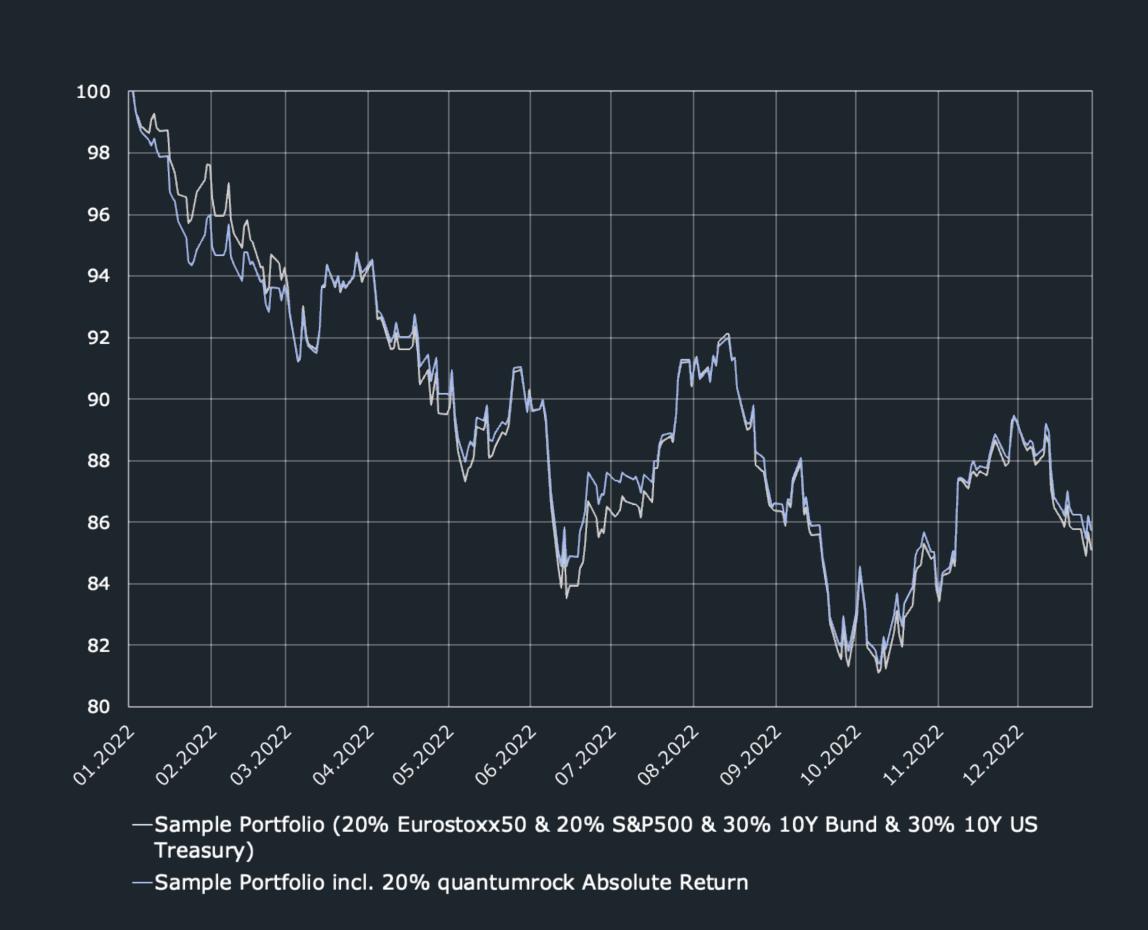
quantumrock Absolute Return Peer Group



Source: Bloomberg; data are net of fees.

Source: Bloomberg; data are gross of fees.

quantumrock Absolute Return as Diversifier



Source: Bloomberg; data are gross of fees. The combined portfolio consists of 16% Eurostoxx50, 16% S&P500, 24% 10Y Bund, 24% 10Y US Treasury exposure, and, in addition, 20% exposure in the *quantumrock Absolute Return* strategy.

	Performance realized in 2022	Volatility realized in 2022	Sharpe Ratio (over last 7 years)
Sample Portfolio	-14.78%	12.81%	0.55
Sample Portfolio with 20% quantumrock Absolute Return	-14.19%	11.53%	0.67
Enhancement	+0.58%	-1.28%	+0.11

Including the *quantumrock Absolute Return* strategy in a traditional mixed allocation tends to improve performance and risk metrics, a scenario that was again observed, albeit modestly, in 2022. An allocation to *quantumrock Absolute Return* would, in most instances, have led to slightly lower volatility and slightly improved performance on a portfolio level during the last twelve months. Thus, the strategy once again lived up to its claim of being a good diversifier in broad mixed portfolios. Since the strategy's launch in 2016, *quantumrock Absolute Return* has demonstrated portfolioenhancing properties, mainly resulting from the negative correlation of the Crisis Alpha sub-strategies to international equity markets.

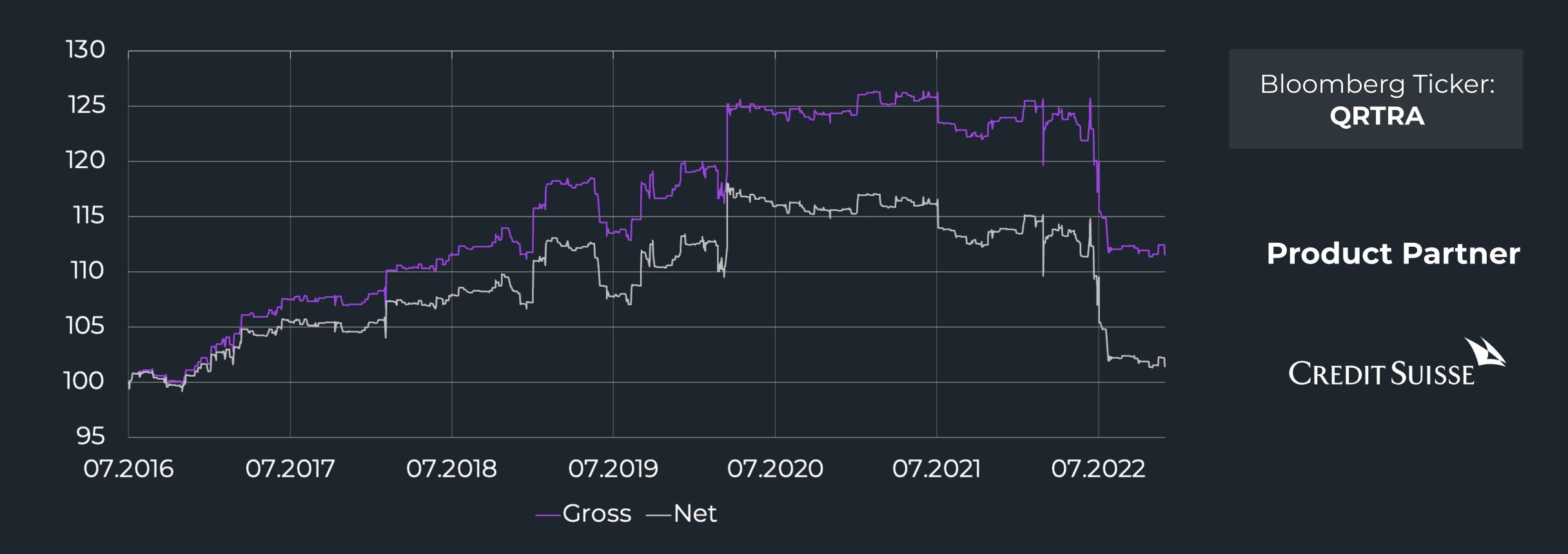
About quantumrock Fixed Income Alpha

The quantumrock Fixed Income Alpha strategy combines systematic sub-strategies that predict the US treasury market's short-termed movements and take short positions in the 10-Year US Treasury Future accordingly. The strategy observes the current level of the implied volatility of the 10-Year US Treasuries and the implied volatility of the S&P 500. By comparing those figures closely, the quantumrock Fixed Income Alpha takes opportunistic short position in US 10-Year Treasury Futures. It further observes the S&P 500 during sell-offs with high volatility and analyses the behavior of the 10-Year US Treasury future's volatility during this market phase. The quantumrock Fixed Income Alpha predicts recovery dates in the equity market that will incur a risk-off environment and a sell-off in the treasury market.

The product aims to diversify long bond portfolios and is available via an index published by Credit Suisse.

In 2022, the quantumrock Fixed Income Alpha strategy did not live up to its claim. Most sub-strategies used aim to exploit mean reversion effects in the bond market. However, these effects failed to materialize in 2022 as the bond markets declined in value in an unprecedented trend-like manner. Thus, reasonable indications for the strategy were rare and mostly subject to errors. Although sharply falling bond markets tend to be a complex environment for the strategy, extremely negative performance is a rare event from a statistical point of view. The product should, however, be able to return to the results observed before 2022 and thus also meet the expectation of optimizing bond portfolios in the future.

Indicative Historical Performance



Source: The strategy is trading as part of the *quantumrock Absolute Return* strategy which has a track record since 02|07|2016. The *quantumrock Fixed Income Alpha* strategy's gross returns are published daily on Bloomberg (Ticker: QRTRA) and result from a frozen calculation algorithm, which is stored in an audit-proof manner with a timestamp and, if necessary, is traceable/reproducible for third parties upon request. The metrics depicted below reflect gross values unless indicated otherwise. The gross performance considers all costs incurred at portfolio level (e. g. trading costs) and assumes reinvestment of any distributions. Costs incurred at customer level such as management and performance fees are not included. Net figures additionally include a management fee of 0.95% p.a. and 15% performance fee. For product-specific returns, please contact our respective product partners. The returns of individual products and share classes may differ due to deviating cost structures.

Indicative Metrics

(as of December 31st, 2022)

Performance	Gross	Net			Rolling Yearly Performance	Gross	Net
2022	-11.7%	-12.7%		7 50/			
2021	-0.4%	-1.5%	Average performance p.a.	1.5%	Dec. 31st, 2022 - Dec. 31st, 2021	-11.7%	-12.7%
2020	-0.4 <i>%</i>	2.5%	Volatility annualized	5.5%	Dec. 31st, 2021 - Dec. 31st, 2020	-0.4%	-1.5%
			Sharpe Ratio	0.27	Dec. 31st, 2020 - Dec. 31st, 2019	4.3%	2.5%
2019	6.5%	4.9%			Dec. 31st, 2019 - Dec. 31st, 2018	6.5%	4.9%
2018	3.5%	1.7%	Sortino Ratio	0.18		0.5%	
2017	6.2%	4.4%			Dec. 31st, 2018 - Dec. 31st, 2017	3.5%	1.7%

About quantumrock Gemstone Opportunities

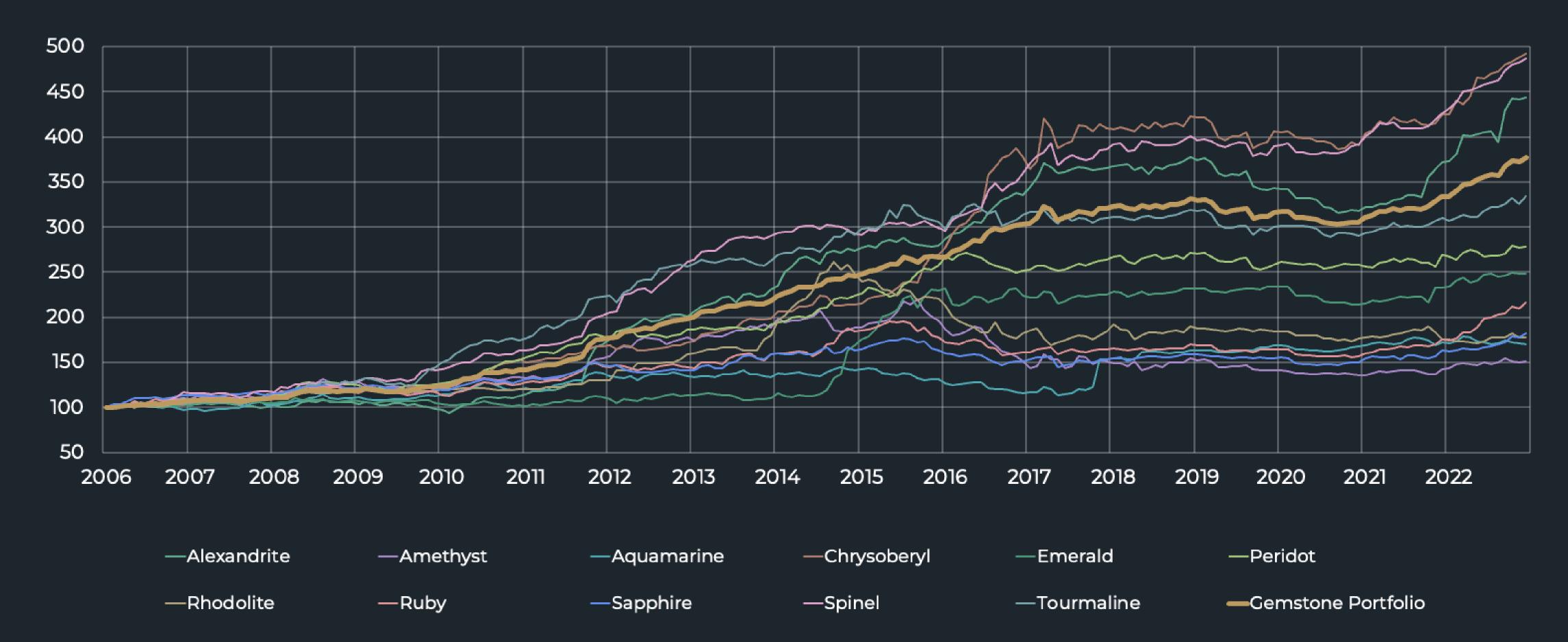
Gemstones are an intriguing asset class, giving investors a unique opportunity to diversify their portfolios and potentially generate more stable returns than those of traditional investment products. Due to their relative rarity compared to conventional assets like stocks and bonds, gemstones tend to remain relatively unaffected by market volatility and therefore have provided investors with reliable sources of return year after year. Additionally, many rare types of gems increase in value over time as demand increases and supply decreases, allowing investors to benefit from long-term appreciation potential. Moreover, gemstones offer a unique opportunity for investors looking for an inflation-hedging option outside traditional asset classes and show minimal correlation to other asset classes. As such, they can mitigate risk in an investor's portfolio while providing them access to growth potential. With relatively low correlations and high return potential even during market downturns, precious stones offer a solid addition to any well-diversified portfolio.

Product Partners

We are currently structuring the first institutional-grade gemstone investment vehicles for our clients. These products will allow investors to add the potentially lucrative, stabilising and enhancing benefits of gemstones to their portfolios. Gemstones may be especially attractive now, given the current economic environment, as having an asset that offers the possibility for inflation protection may become increasingly important for investors seeking stability in uncertain times.

Market Overview

quantumrock has developed a proprietary AI-based approach to estimate the market prices of gemstones using information from various sources, such as renowned pricing guide publications and daily sale prices achieved by our partner IGI Inex, as well as Machine Learning and advanced statistical methods. With our technology, we were able to model the historical price developments of a synthetic portfolio consisting of the most traded gemstone categories. The portfolio illustrates the highly compelling developments of the gemstone market over the last 15 years and the potential for investors that can be tapped by making the asset class investable.

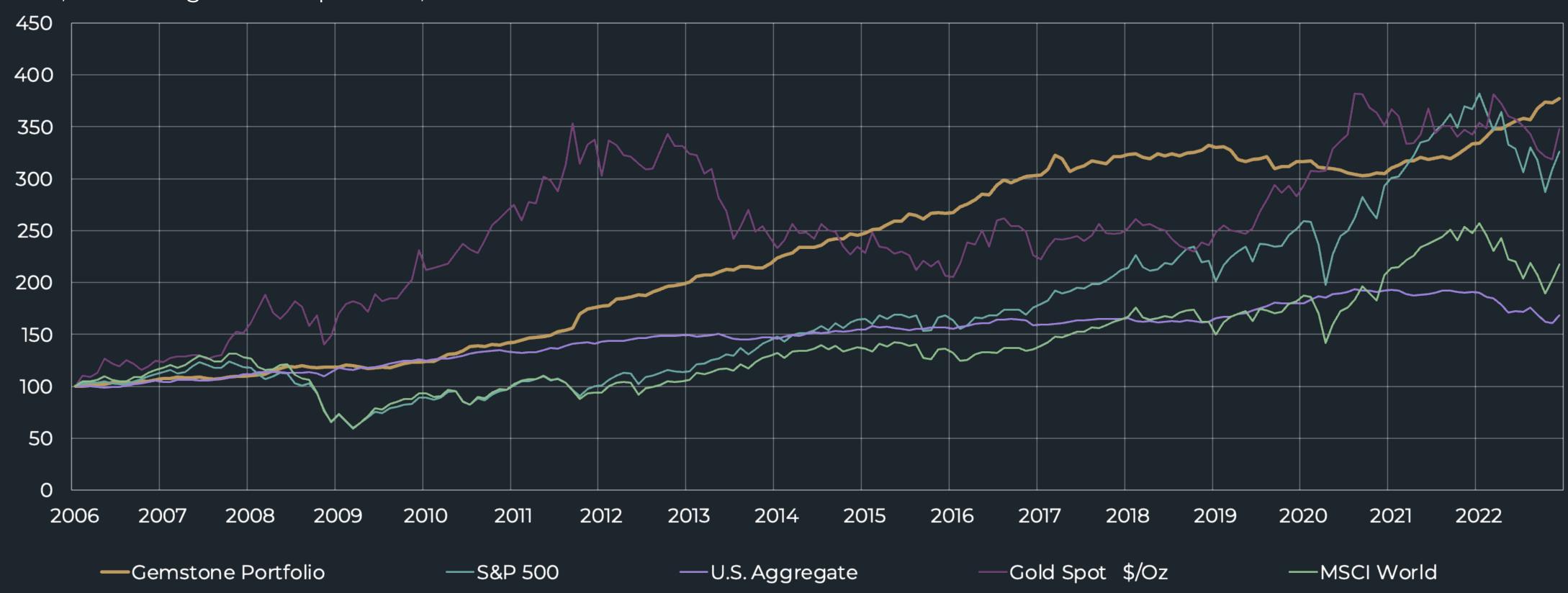


Source: Quantumrock; Bloomberg; data are gross of fees. quantumrock has developed an Al-based approach to estimate the market prices of gemstones using information from various sources, such as renowned pricing guide publications and daily sale prices achieved by our partner IGI lnex, as well as Machine Learning and statistical methods. All data on this and the following page has been generated using quantumrock's Al methods and has not been audited. The infomation is purely infomative and must not be used as the foundation for any investment decision. In the data and metrics no trading or other costs and fees are included.

	Alexandrite	Amethyst	Aquamarine	Chrysoberyl	Emerald	Peridot	Rhodolite	Ruby	Sapphire	Spinel	Tourmaline	Gemstone Portfolio
Average return p.a.	8.2%	2.4%	4.3%	8.9%	6.1%	6.7%	3.3%	4.5%	3.5%	9.3%	7.1%	8.0%
Volatility annualized	7.9%	8.6%	8.4%	7.4%	8.8%	5.6%	8.2%	6.9%	5.7%	6.2%	6.6%	4.4%
Sharpe Ratio	1.04	0.28	0.51	1.20	0.70	1.19	0.40	0.65	0.62	1.50	1.08	1.81

Gemstone Portfolio in Comparison

Historically, the Gemstone Portfolio shows outstanding metrics, especially compared to other, more traditional, asset classes like US equities, bonds or gold. On top of that, there is no correlation between those asset classes and the Gemstone Portfolio.

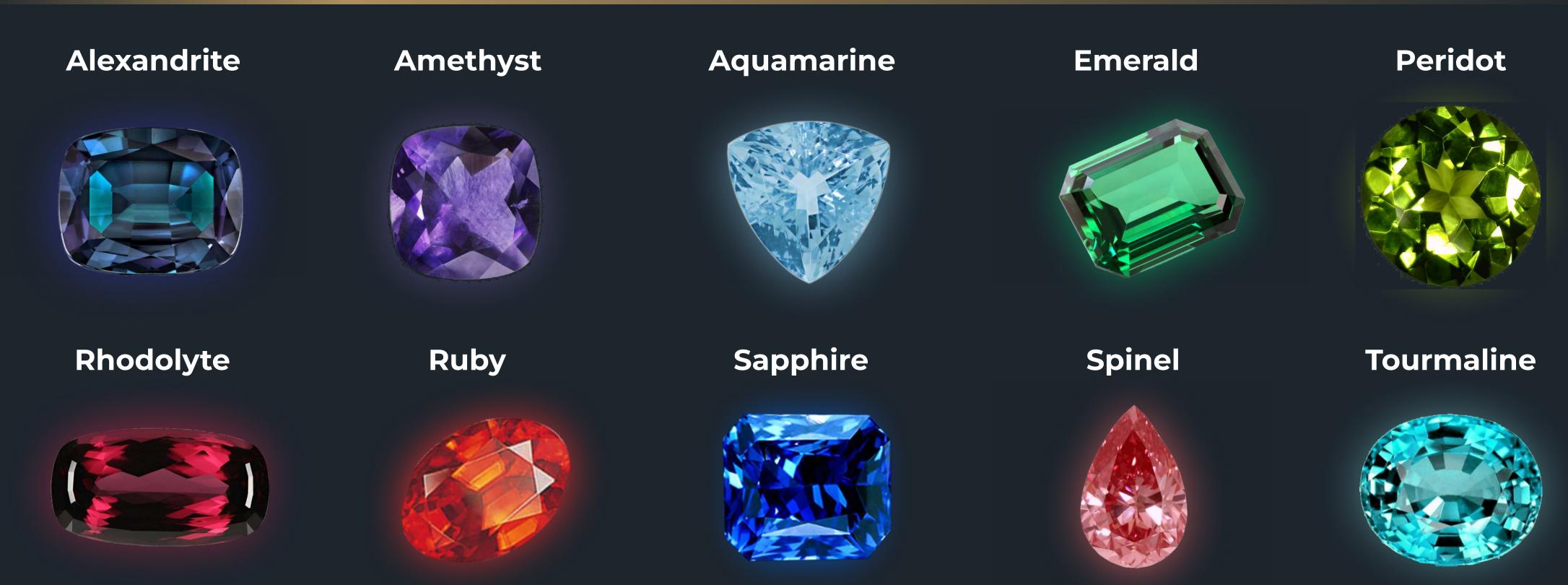


Source: Quantumrock; Bloomberg; data are gross of fees. quantumrock has developed an AI-based approach to estimate the market prices of gemstones using information from various sources, such as renowned pricing guide publications and daily sale prices achieved by our partner IGI Inex, as well as Machine Learning and statistical methods. All data on this page has been generated using quantumrock's AI methods and has not been audited. The infomation is purely infomative and must not be used as the foundation for any investment decision. In the data and metrics no trading or other costs and fees are included.

	Gemstone Portfolio	S&P 500 Index	U.S. Aggregate	Gold Spot \$/Oz	MSCI World
Annualized return	8.0%	7.98%	2.9%	9.3%	5.8%
Volatility	4.4%	16.4%	3.8%	17.4%	16.7%
Sharpe Ratio	1.81	0.49	0.75	0.53	0.35
Correlation to Gemstone Portfolio	1.000	0.018	-0.097	-0.061	-0.009

Source: Quantumrock; Bloomberg; data are gross of fees.

Main Gemstone Types in Gemstone Portfolio





About quantumrock

quantumrock is an Asset-Management-Tech company developing institutional-grade investment solutions from rare and unique alpha sources. The firm's proprietary, cutting-edge Al Platform (filed for patent) turns the time-consuming and error-prone process of finding new alpha sources into a scientific, automated, and scalable operation. Together with renowned product partners, the identified alpha sources are wrapped into the highest quality institutional-grade investment products and brought to investors. With quantumrock's investment solutions, clients can improve their funds and portfolios or tap new investment opportunities in equities, fixed income, factor investing, robo-advisory and hard assets. The AssetTech firm's client base is spread across the globe and ranges from large multinational banks to local family offices and technology companies. quantumrock collaborates with big-name product partners like Deutsche Bank and Société Générale and niche experts who are using quantumrock's solutions for their funds and products. The company is headquartered in Munich, Germany, and comprises 32 international deep tech engineers, capital market experts and top international executives from the banking and technology sector as employees and advisors.

Our Partners



























Disclaimer and Legal Notice

General disclaimers

All product related information in this document are solely intended for professional investors in the EEA within the meaning of the Financial Instruments Directive 2014/65/EU (MiFID II Directive) of the European Parliament, to Accredited Investors in the U.S. as defined in Rule 501 of Regulation D promulgated under the Securities Act or persons which are authorized to receive such information under any other applicable laws. The information and any disclosures provided in this document are in summary form and have been prepared solely for marketing and informational purposes only. Neither information nor any opinion expressed in this presentation has a binding character or constitutes a solicitation, an offer or a recommendation to buy, sell or dispose of any investment, to engage in any other transaction or to provide any investment advice or service. Such an offering of will be made only by means of a definitive confidential private offering memorandum and only in those jurisdictions where permitted by law. This document serves as promotional material and is not mandatory. The strategy information provided has been prepared for investors' general information. It is not designed to replace the investor's own market research nor any other legal, tax or financial information or advice. It does not contain all information required to make important economic decisions and may differ from information and estimates provided by other sources or market participants. We accept no liability for the accuracy, completeness or topicality of this document. All statements are based on our assessment of the present legal and tax situation. All opinions reflect the current views of Quantumrock and can be changed without prior notice.

Investment performance

The performance representations contained herein are not representations that such performance will continue in the future or that any investment scenario or performance will even be similar to such description. Any investment described herein is an example only and is not a representation that the same or even similar investment scenarios will arise in the future or that investments made will be profitable. No representation is being made that any investment will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between prior performance results and actual results achieved by a particular trading program. The gross performance shown in this document considers all costs incurred at portfolio level (e. g. trading costs) and assumes reinvestment of any distributions. Costs incurred at customer level such as management and performance fees are not included. Because clients have different fee arrangements and depending upon the timing of a specific investment, net performance for an individual client may vary from the gross performance stated herein. Actual returns will vary among clients in accordance with the terms of the pertinent investment management agreements. Investment returns and the principal value of an investment will fluctuate and may be quite volatile and depend, among other things, on the tax treatment of the personal circumstances of each investor. In addition to exposure to adverse market conditions, investments may also be exposed to changes in regulations, change in providers of capital and other service providers. Investors risk loss of their entire investment. Past performance is no guarantee of future results.

Forward looking statements

Certain information contained in this material constitutes forward-looking statements, which can be identified by the use of forward-looking terminology such as "may," "will," "should," "expect," "anticipate," "target," "project," "estimate," "intend," "continue," or "believe," or the negatives thereof or other variations thereon or comparable terminology. Such statements are not guarantees of future performance or activities. Due to various risks and uncertainties, actual events or results or the actual performance of the firm may differ materially from those reflected or contemplated in such forward-looking statements. Illustrative purposes only Examples of our processes and any other ideas presented herein are for illustrative purposes only. There is no guarantee that Quantumrock will acquire a position referenced in such examples or ideas or that any such position would be profitable.

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