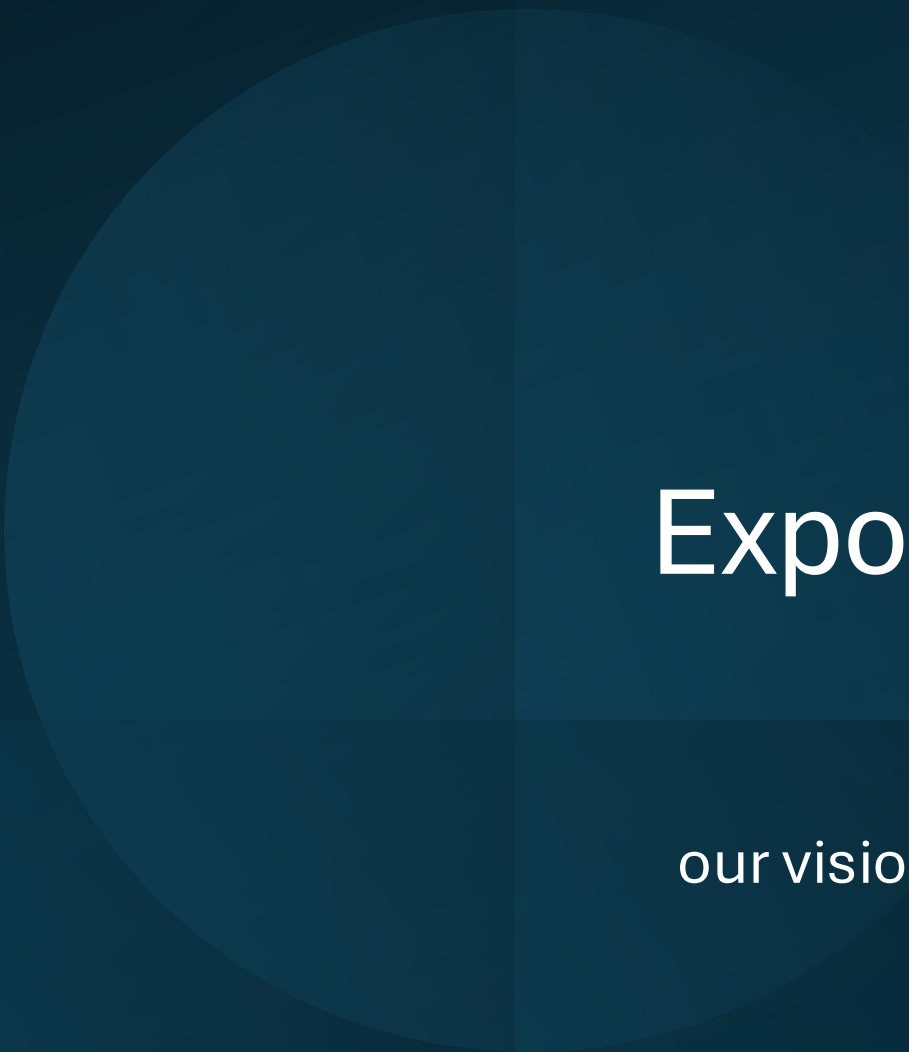




Exponential Quantum

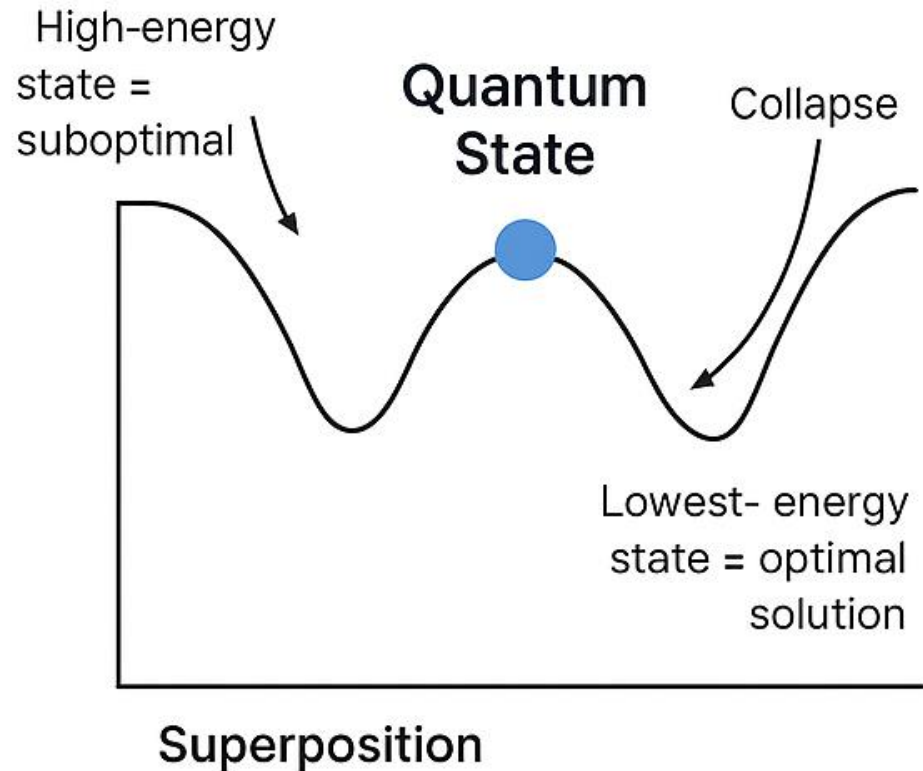
our vision, developments and products

Outline

- Quantum Annealing
- Standard Portfolio Optimization Objectives
- QCAS
- QCPO
- QCAS + QCPO Combined Optimization
- Quantum Insight
- QCPO for Institutional Funds
- Exponential Quantum Funds

Quantum Annealing

Optimizing with Quantum Physics



How It Works

- Begins in a superposition of all possible solutions
- Slowly reduces quantum fluctuations
- System settles into lowest energy state, representing optimal solution:

Why It Matters

- 🔍 Built for optimization : Excels at solving QUBO models
- ⚡ Parallel search—Leverages quantum parallelism
- 🌐 Real hardware: Already accessible via D-Wave and Amazon Braket

Standard Portfolio Optimization Objectives

- **Maximizing Expected Return** – Allocates more weight to assets with strong historical performance.
 - Minimizing Portfolio Risk (Volatility)** – Uses covariance matrices to reduce exposure to highly volatile assets.
 - Diversification** – Ensures the portfolio is spread across multiple assets to avoid over-concentration in a few stocks.
 - Risk-Adjusted Performance (Sharpe Ratio Optimization)** – Seeks the best return per unit of risk taken.
 - Sector & Industry Constraints** – Avoids overexposure to a single sector by maintaining balanced allocations.
 - Position Limits** – Imposes maximum and minimum weights on individual assets to prevent excessive concentration.

Macroeconomic & Momentum Objectives

- **Macroeconomic Sensitivity Adjustments**
 - Adjusts allocations based on **interest rates, inflation (CPI), unemployment, and market volatility (VIX)**.
 - Helps navigate different economic cycles and minimize exposure to adverse conditions.
- **Momentum-Based Optimization**
 - Integrates **price trends and asset momentum** to capture **strong-performing assets**.
 - Avoids underperforming stocks by reducing weights in declining trends.
- **Adaptive Risk Management**
 - Dynamically **adjusts risk exposure** based on economic conditions and asset behavior.
 - Ensures optimal positioning during different market phases.

QCAS

- By leveraging quantum computing, QCAS (Quantum Computing based Asset Selection) efficiently analyzes complex relationships between assets, ensuring an optimal selection that aligns with your investment objectives.
- **Diversification & Risk Control** – Avoid highly correlated assets and over-concentration.
- **Adaptive Selection** – Adjusts dynamically based on market conditions.
- **Enhanced Performance** – Focuses on assets with the highest probability of improving portfolio returns.

QCPO

- With **QCPO (Quantum Computing based Portfolio Optimization)**, your selected assets are optimized to achieve the best possible allocation, balancing **return potential and risk exposure** while considering real-world constraints such as **correlations, macroeconomic factors, and concentration limits**.
- **Risk-Return Tradeoff** – Maximizes expected returns while minimizing volatility.
- **Quantum-Enhanced Efficiency** – Solves complex portfolio optimization problems faster than classical methods.
- **Incorporates Real-World Constraints** – Adapts to changing market conditions and macroeconomic indicators.
- **Customizable Optimization** – Tailored to your investment strategy and risk tolerance.

QCAS + QCPO Combined Optimization

Exponential Quantum Funds integrate both QCAS and QCPO to achieve advanced portfolio management

- **Selection:** QCAS identifies the best-fit 15–20 assets.
- **Optimization:** QCPO assigns ideal weights.
- **Execution:** Portfolio is updated regularly based on market data.

QUANTUM INSIGHT

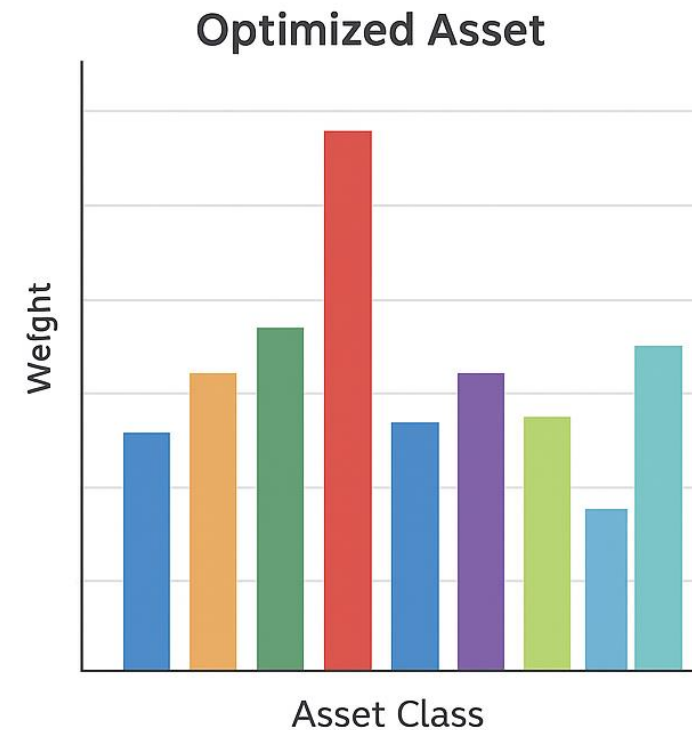
A newsletter providing insights into the assets selected by the QCAS and other potential trading advantages.



QCPO for Institutional Funds

Our QCPO (Quantum Computing based Portfolio Optimizer) will optimize institutional funds by adjusting the asset allocation to minimize risk, maximize returns, and align with macroeconomic factors.

- **Minimize risk**
- **Maximize returns**
- **Align with macroeconomic factors**



Exponential Quantum Funds

Our Exponential Quantum Funds utilize QCAS + QCPO

This technology enables us to select and optimize the portfolio for our funds.

