

QUICK for Finance

Prepare today the analytical and risk models of tomorrow with quantum computing.



Financial institutions face increasing complexity in market modeling, risk management, and derivatives valuation. These models, often based on partial differential and stochastic equations, require significant computing power to ensure precision and speed.

QUICK is a hybrid quantum–classical simulation platform designed to solve large-scale partial differential equations (PDEs) while ensuring a high level of accuracy.

Based on our proprietary H-DES algorithm, QUICK enables experimentation, prototyping, and preparation today for the quantum computing revolution.

Use cases of PDE solving and optimization with quantum computing in finance

Valuation of complex derivative products

Exotic financial instruments require solving generalized Black–Scholes-type equations, often in high-dimensional spaces.

With QUICK: H-DES enables efficient solving of these multidimensional PDEs to estimate the price and sensitivity of derivative products.

Impact

- Reduced pricing and calibration computation time
- Improved accuracy on volatility surfaces
- Ability to value more sophisticated or complex-structured products previously inaccessible

Portfolio optimization and dynamic capital allocation

Asset managers must solve complex optimization problems under multiple constraints (regulatory, liquidity, budget, sector exposure, etc.).

With QUICK: H-DES efficiently solves these multi-objective, constrained optimization problems to identify the Pareto front of optimal portfolios.

Impact

- Significant reduction in computation time with faster decision-making
- More comprehensive exploration of return and risk
- Improved risk-adjusted portfolio performance

Modeling market dynamics and pricing under uncertainty

The dynamics of interest rates, currencies, or structured products are governed by coupled systems of equations that depend on time and multiple parameters.

With QUICK: Fast solving of coupled stochastic differential equations, enabling testing of various market scenarios.

Impact

- Finer exploration of extreme scenarios
- Reduced risk of under-modeling
- Decision-support tool for strategy and risk management

Why adopt QUICK now?



Hardware-agnostic



Ready for the quantum era



Accessible and integrated

Our Vision

Supporting financial stakeholders in their transition to industrial quantum computing. By combining advanced mathematical solvers, an open architecture, and connectors to leading quantum platforms, QUICK provides financial institutions with the tools to prepare today the analytical and risk models of tomorrow.