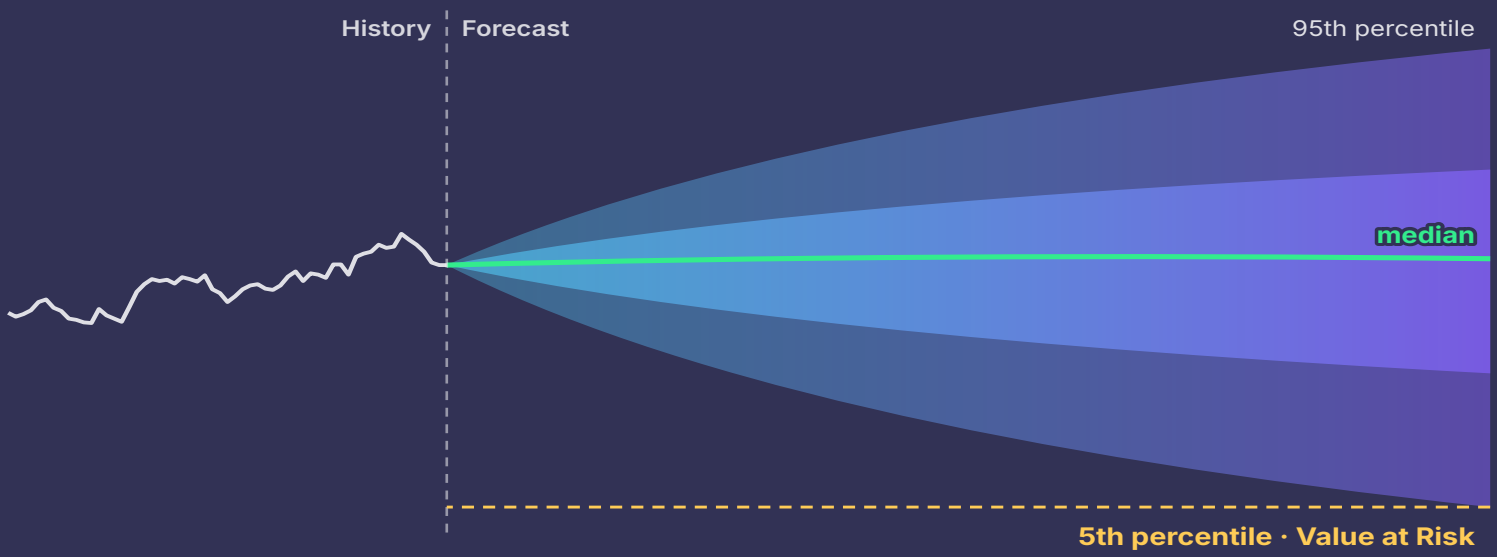
izi Risk

MARKET-RISK MODEL · IZIRISK HUB

Thousands of futures for your portfolio.

Load your prices or fetch them with your own data-provider key, simulate the portfolio with 17 stochastic models, validate the result, see where the risk comes from, optimize the weights and get AI reports with their charts — all in your browser.



Portfolio managers
Risk and scenarios for every portfolio

Wealth advisors
Clear outcome ranges for the client

Treasuries and institutions
Institutional analytics without a dedicated system

THE PROBLEM

A single volatility figure does not tell you how much you can lose.

Many portfolios are described by an average return and a standard deviation. That pair of numbers assumes the future is bell-shaped, and hides exactly what matters: jumps, periods of turbulence and tail losses.

WHAT AN AVERAGE SHOWS

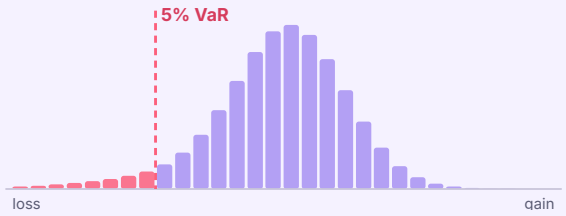
Portfolio value today

Expected return

Risk: one standard deviation

A single average scenario and a single measure of dispersion, the same for a bond portfolio and a crypto portfolio.

WHAT THE SIMULATION SHOWS



Thousands of possible final values: the most likely one, a bad month's, and the tail average, which is the Expected Shortfall.

1 Ignored tails
Markets jump and switch regimes; a bell curve underestimates large losses.

2 One model for everything
A fixed-income portfolio and a tech or crypto portfolio do not behave alike.

3 Risk without an owner
Without attribution, no one knows which asset, sector or country drives the risk.

HOW IT WORKS

From prices to decisions, on one page of iziRisk Hub

Loads and cleans
Your price files, your EODHD or Tiingo key, or 12 model portfolios; a quality check repairs gaps.

Chooses and calibrates
Expert scores and a fit to your data (AIC) side by side; each model fitted to every asset.

Simulates
Thousands of correlated paths per asset, with jumps, clustering or regimes where the data support them.

Tests and improves
VaR, ES and the full distribution; backtest, stress, convergence; attribution and optimization.

⚠ **Why correlation matters.** If each asset were simulated on its own, the portfolio would look more diversified than it is. In sell-offs assets tend to move together; the model correlates the shocks using the portfolio's own historical correlation matrix.

Where the prices come from. Upload your own price files (Excel, Bloomberg, your broker) or fetch daily prices with your own EODHD or Tiingo key, under your own licence; iziRisk neither stores nor logs the key. The Excel workbook keeps using STOCKHISTORY.

17 FORECASTING MODELS

The right model for the portfolio, checked against what really happened.

Each model is fitted to every asset's own history; a feature the data do not support falls back to a simpler model, and says so. Expert scores and a fit comparison (AIC) on your data guide the choice.

17 stochastic models, fitted to your data

3 validation tests, plus risk attribution

4 AI reports, each with its charts

5 languages: EN, ES, PT, FR, DE

The models, by family

DIFFUSION AND REVERSION

Geometric Brownian Motion
Constant drift and volatility; the industry benchmark.

Ornstein-Uhlenbeck
Prices that revert to a long-run level.

Student-t
Normal-like moves with fatter tails, set by the degrees of freedom.

Normal Inverse Gaussian
Skew and semi-heavy tails; a common fit for daily returns.

VOLATILITY

GJR-GARCH (asymmetric)
Volatility that rises more after losses than after gains.

Heston
Random volatility, linked to price moves.

Hull-White
Mean-reverting stochastic volatility.

CEV
Volatility that depends on the price level.

EGARCH
Log-volatility that reacts to the size and sign of each shock.

JUMPS AND FAT TAILS

GARCH + jumps
Volatility clustering and occasional jumps.

Merton
Normal moves plus jumps.

Kou double exponential
Up and down jumps with different tails.

Variance Gamma
Fat tails and skew from random time.

GARCH with Student-t shocks
Volatility clustering, with shocks that can be extreme.

ECONOMETRIC

Regime switching
Calm and turbulent states, with different risk.

VAR (vector autoregression)
Each asset responds to the past of all the others.

Filtered historical simulation
A GARCH filter and shocks drawn from the asset's own history.

Validation and risk attribution

Walk-forward backtest
Recalibrated at every test date; Kupiec, Christoffersen and conditional coverage on both tails, PIT histogram, forecast error.

Stress tests
Eight editable scenarios that shock volatility and correlation, on the same random numbers, against the worst loss in the history.

Convergence
Batch-means confidence bands: how many iterations a VaR or ES precision really needs.

Risk attribution
Standalone, component, marginal and incremental VaR and ES by asset, sector, category, type, country and exchange, with tornado charts.

Portfolio optimization, long-only, on the simulated futures

Markowitz
Minimum volatility, the efficient frontier and the maximum-Sharpe portfolio.

Mean–CVaR
Minimum Expected Shortfall on the model's own scenarios — jumps and fat tails included.

Risk parity
Every holding carries the same share of volatility, or of Expected Shortfall.

Returns and limits
Shrunk history or Black–Litterman with your views; weight, group and turnover limits; apply the result and re-test it.

RESULTS AND REPORTS

Every result answers a committee question

Value distribution
What values can the portfolio reach at the end of the horizon, and how likely is each?

VaR and Expected Shortfall
How much can we lose in a bad period, and how much on average when it happens?

Fan chart and S-curve
How does the range of outcomes widen day by day over the horizon?

Model comparison
Does the conclusion change with another model, and which one do the data prefer?

Your prices, your licence
Upload files or fetch them with your own provider key; a quality check repairs them.

Saved portfolios and runs
Shared across your organisation; a saved run can never be altered afterwards.

Portfolio library
Twelve model portfolios and a classified inventory of 180 assets, plus your own.

Help on every screen
Hover explanations of every section and figure, in five languages, switchable on and off.

Four AI reports, one for each reader — each as PDF or PowerPoint, with its charts

Technical
For risk specialists and validators: every figure, the model choice, the validation evidence, optimization and limitations.

Regulatory
For supervisors and audit: scope, assumptions, outcomes analysis and numbered findings, against Basel and SR 11-7 practice.

Executive
For management and the board: the bottom line, what drives it, what a better mix would save, and what to do.

Plain-language
For private investors: what could happen to the money, in everyday words — not investment advice.

Plans

Free
The 12 model portfolios on synthetic prices, the GBM model, up to 200 iterations and 10 AI reports, to learn the method.

Professional
Your own prices and positions, all 17 models, up to 100,000 iterations, validation, attribution, optimization, saving and 150 AI reports a month.

Enterprise
Professional for every seat of your organisation, with shared portfolios and runs, roles and two-factor sign-in.

Next step: a demo on your portfolio

We load one of your portfolios, fetch its prices, simulate it with the best-suited models and walk you through VaR, Expected Shortfall, validation, risk attribution, an optimized alternative and the AI reports. Your team sees the method on a portfolio it already knows.

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