Your mandate rules have a price. Our quantum benchmark certifies it.

One unedited run: enhanced-indexing the S&P 500 with 20 instruments — and a referee that re-solves the mandate to **price every rule in tracking error.**

S&P 500 · 500 assets

Basket of K = 20

Certified optimum: 4.473%

Every rule priced

HOW IT WORKS

From your Excel workbook to a stop-or-go decision

The quantum solver proposes — and an exact classical referee **proves** what the true optimum is, then prices every mandate rule against it.

YOUR DATA

Excel workbook

Index, universe, mandate rules — your inputs, unchanged.

STEP 1

Quantum algorithm

QAOA samples 20-name baskets from the 500-asset universe.

STEP 2

Certified referee

Exact MIQP (SCIP) — a proven optimum, not a best guess.

STEP 3

Rule pricing

Re-solve without each rule — the Δ is its cost in tracking error.

OUTCOME

Decision

Stop or go — with evidence.

THE PUBLISHED SAMPLE RUN

One run, numbers unedited

S&P 500 universe (500 assets) → basket of K = 20 · enhanced indexing with return tilt · 17 selection qubits · numbers unedited

4.473%

Certified minimum tracking error

SCIP dual bound proves no basket beats it · MIP gap 0.

0.00%

QAOA gap to certified optimum

Its basket is a certified-optimal one.

+3.39%

Greedy heuristic gap

The industry-standard shortcut missed; random baseline +1.20%.

Run: 110 s end-to-end · QAOA 53.8 s (p=2, 3 restarts, exact readout) · referee proof 11.2 s · 17 qubits, 544 two-qubit gates

Every rule priced by the referee

Certified cost = optimum re-solved with only that rule removed. **Unedited from the report.**

Technology band

+0.332%

4–6 names required · landed at 6

Climate-transition band

+0.339%

2–4 names required · landed at 4

Both rules together

+0.339%

the package overlaps — it costs no more than its strictest rule

The irreducible floor: the instrument pool and exclusions alone impose 3.098% tracking error before any mandate rule applies — whatever the pool cannot replicate shows up openly, not hidden in a heuristic.

EVIDENCE, NOT PROMISES

Why we publish the boring numbers too

VERIFIED, NOT ASSERTED

A number a risk committee can sign off

The referee's dual bound proves **4.473% cannot be beaten by any method** — that's what turns "our result looks good" into a statement a risk committee can sign off.

CONSTRAINTS STOP BEING OPINIONS

The mandate discussion becomes numbers

Each mandate rule is re-solved out and priced: the climate band costs **0.339%** tracking error, the tech band **0.332%**, both together **0.339%**. Now the mandate discussion is about numbers, not beliefs.

NO MAGIC CLAIMED

The caveats are printed in the report

Only **3.6%** of raw quantum readout hit the 20-name cardinality; candidates were repaired, and the best one reached the optimum after a **single disclosed polish swap**. On today's hardware this 544-two-qubit-gate circuit would retain **~7% fidelity**. It's all printed in the report.

Let’s explore — no strings attached.

A relaxed 30-minute call or a live demo, management-friendly or physicist to physicist — **your data, your questions, real runs.**

Book a call · qubit-lab.ch

sample report: **gated download at qubit-lab.ch**

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Source: published sample report of 12 Jul 2026 (S&P 500 demo mandate, 500-asset universe, 20 ISINs), gated download at qubit-lab.ch. All figures are unedited solver output on demo data — illustrative only, not investment advice, not indicative of results on other problems.