

Building the world's first useful quantum computer

FAQS

PALO ALTO, CALIFORNIA

HEADQUARTERS

280+

TEAM MEMBERS

~400

PATENTS ISSUED & PENDING

\$730M

FUNDS RAISED (NOV 2023)

\$3.2B

VALUATION (NOV 2023)

Quantum computing will transform every industry that relies on intensive computation



1T

VALUE TO BE CREATED



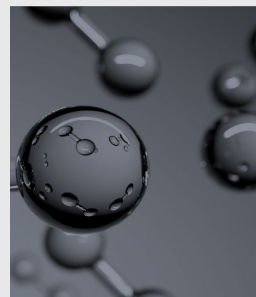
Pharmaceuticals

Drug Design
Personalized Medicine



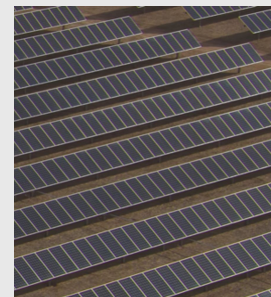
Financial Services

Derivative Pricing
Portfolio Optimization



Chemicals

New Catalysts
Green Chemistry



Materials

New Solar Cells
Super Conductors

Quantum Computing's Impact

Quantum Computing Today

The quantum computers that exist today are small systems that are still many orders of magnitude away from size of system needed for fault-tolerance. PsiQuantum's stance from day one has been that you need in the regime of one million qubits and error-correction to solve commercially useful problems.

Photonic Approach

PsiQuantum has taken a photonic approach, which enables hyperscaling by leveraging:

- High volume, modular photonic semiconductor manufacturing
- Optic fiber connectivity
- Existing cryogenic infrastructure

The Road Ahead

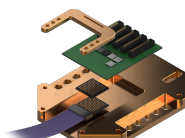
We have moved past proving the science and are now focused on systems integration and validation. The first useful, fault-tolerant quantum computing system is now in clear view.

Blueprint



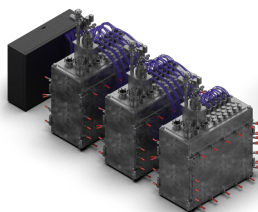
SEMICONDUCTORS

8M Photonic Chips Manufactured



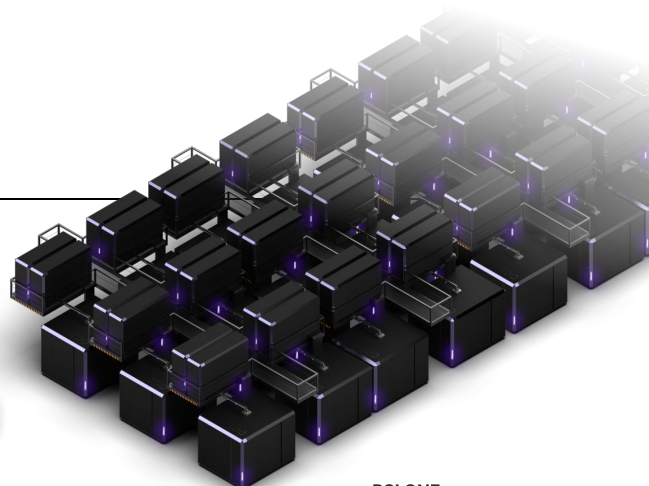
PACKAGING

99% Interconnect Fidelity



ALPHA SYSTEM

100W Cooling Power



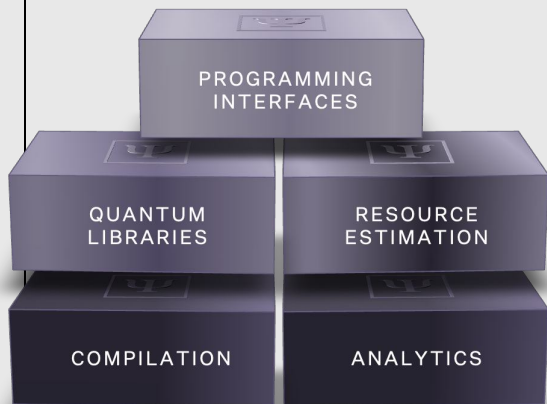
PSI ONE

First Useful Quantum Computer

Building the world's first useful quantum computer

Software

In parallel to building the world's first useful, fault-tolerant quantum computer, PsiQuantum is developing a full stack of software tools to accelerate algorithm development with our partners



Software

Building our programming tool “Workbench”, speeding up fault-tolerant algorithm development by 10x through algorithm libraries, visualizations, resources estimation tools and more.

Algorithms

Programming commercially useful problems as fault-tolerant algorithms on our proprietary software “Workbench”. This process involves algorithm optimization through iterations of resource estimation and refinement.

Compilation

PsiQuantum’s compilation team translates quantum algorithms into gate-level circuits. The machine code instructions that allow the computer to run a solution with customers.

Visualization

Developing tools across use cases that visualize our computational results (such as chemical observables and resource estimates) as intuitive graphs, charts and schematics.

Solutions



Healthcare

Up to 30% reduction in drug discovery costs



Green Tech

Potential to reduce 150Gt of CO2 emissions by 2050



Finance

Up to \$700bn value at stake by 2035



Transportation

Up to 60% reduction in green hydrogen costs



Security

9 hours vs 34 billion years to decrypt RSA 2048

Example: Drug Discovery

Industry Challenge

Finding effective medicines that will metabolise well in the body

Conventionally Intractable

Simulating all possible states and interactions of large molecules

Workarounds & Costs

Simplifications in calculations, leading to unknowable errors

Quantum Difference

More accurately simulate drugs, leading to faster, more effective trials

Quantum Impact

Reducing the cost of new drugs by half and slashing time to market

Partners

BlackRock



FOUNDERS FUND



playground

TEMASEK



INDUSTRY

PUBLIC - PRIVATE

