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FROM EFFICIENCY TO IMPACT

TALENT, TECHNOLOGY & TRANSFORMATION

12TH Annual Business Centers Conference

Beyond the Hype: Building a Quantum-Ready Organization

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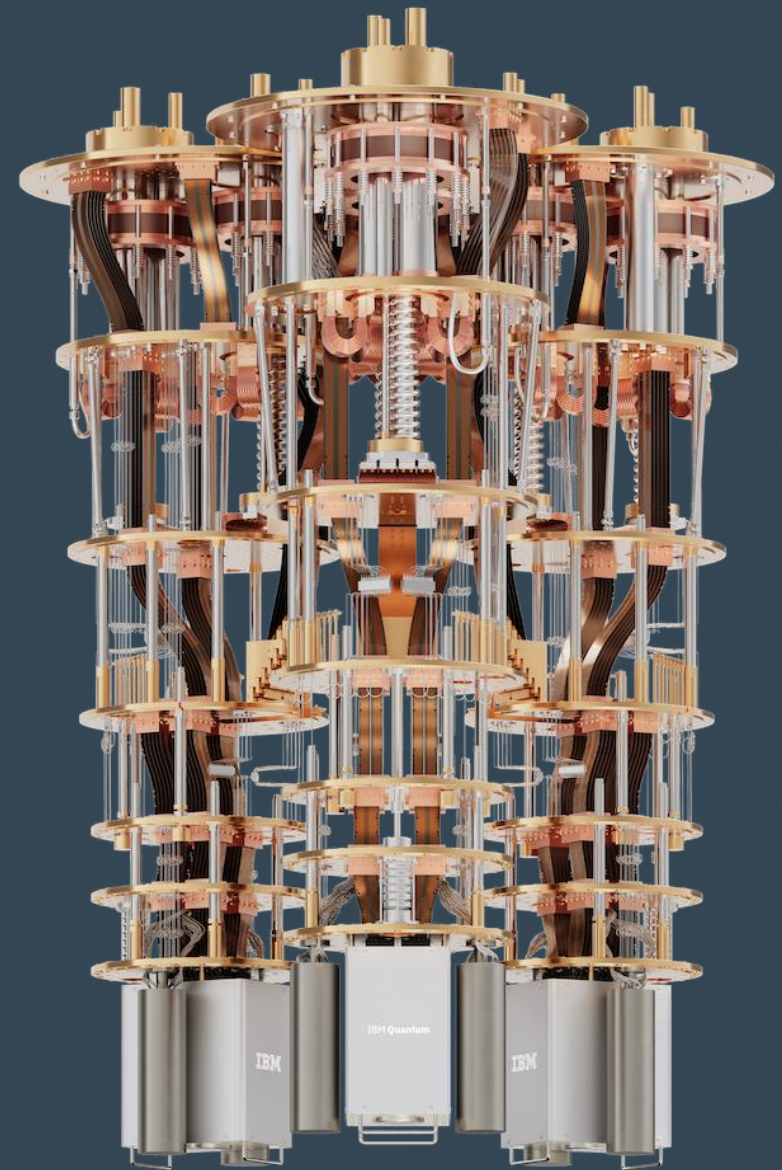
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Nature is quantum.

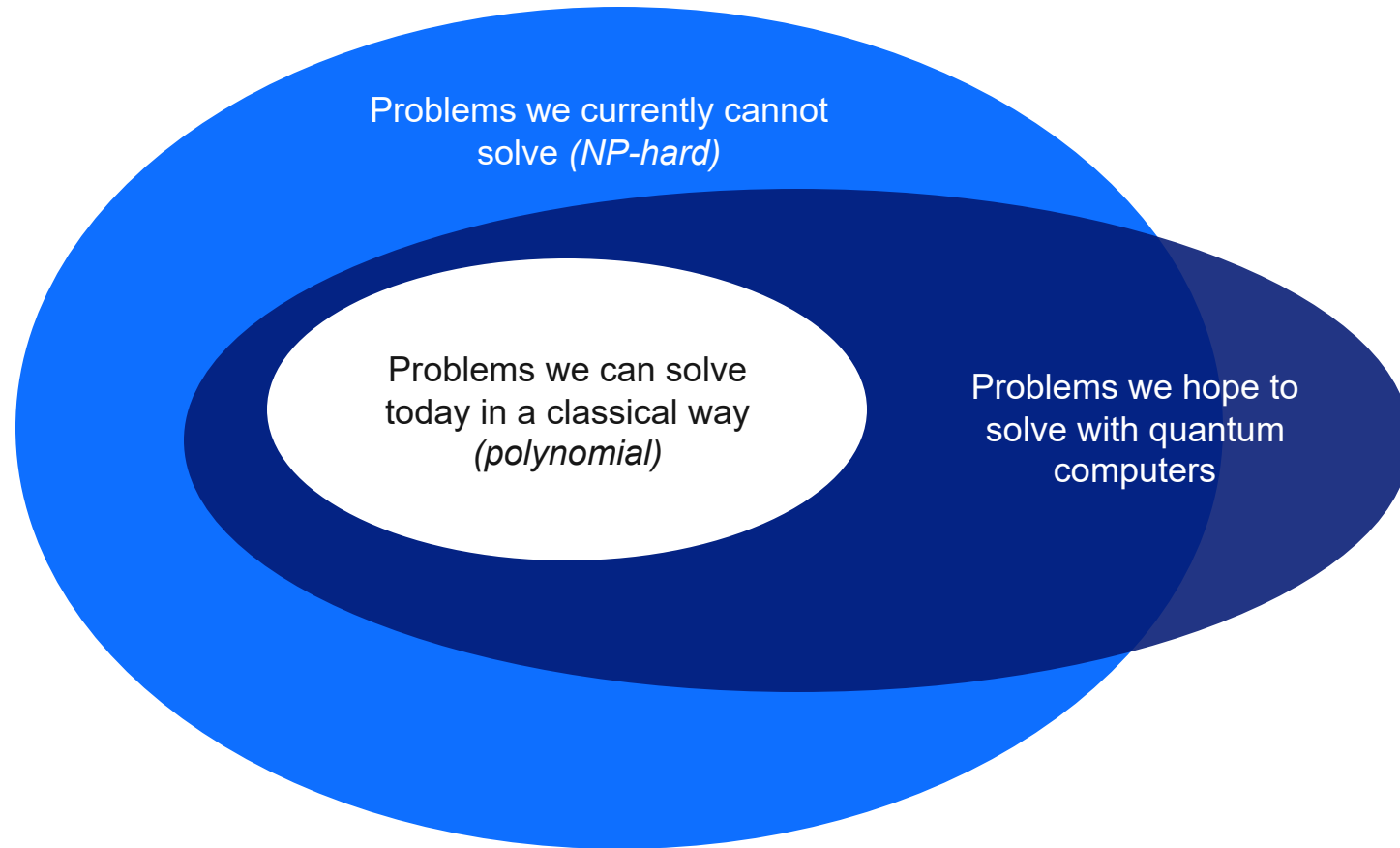


We need qubits to simulate it.



Computational Problems

Problems can be classified by computational complexity — from efficiently solvable today to those requiring future quantum approach



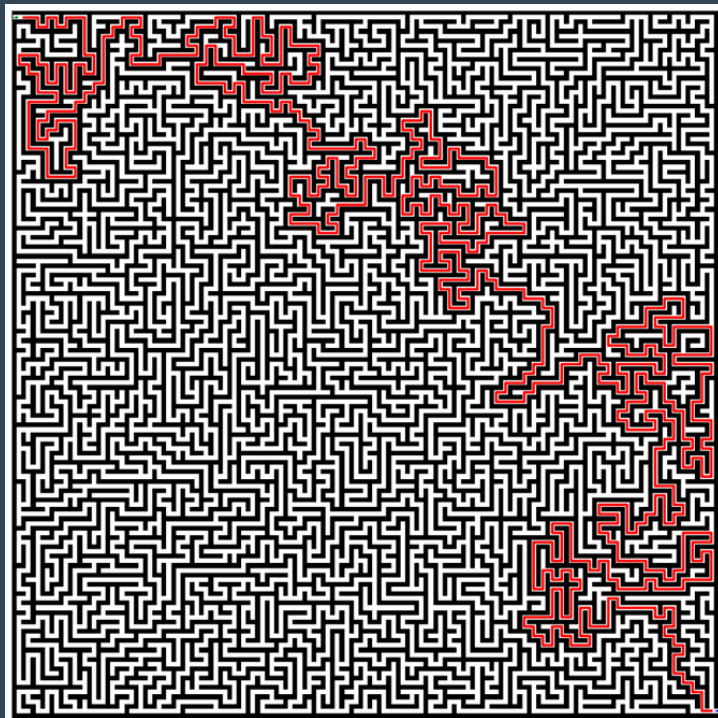
IBM Quantum © 2023 IBM Corporation



Digital Computer V Quantum Computer....

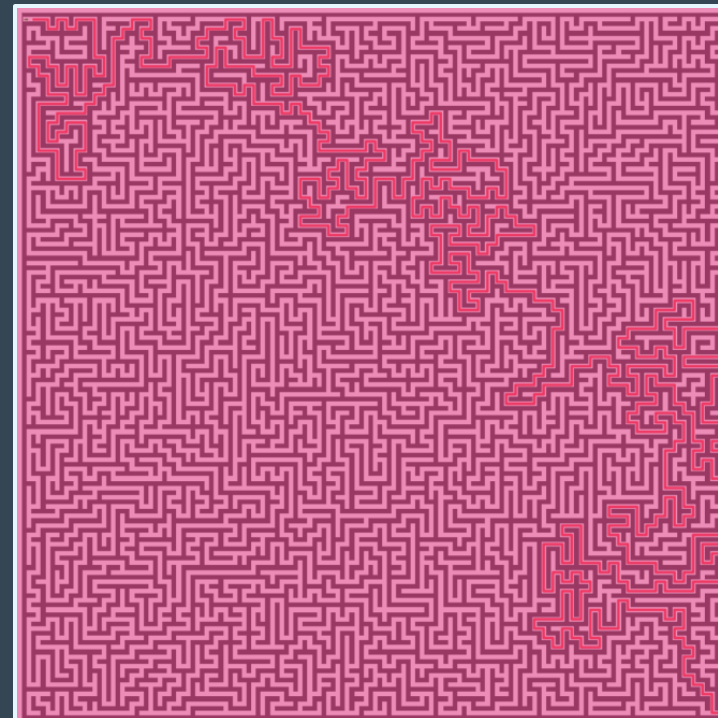


Repetitive brute force with Machine Learning



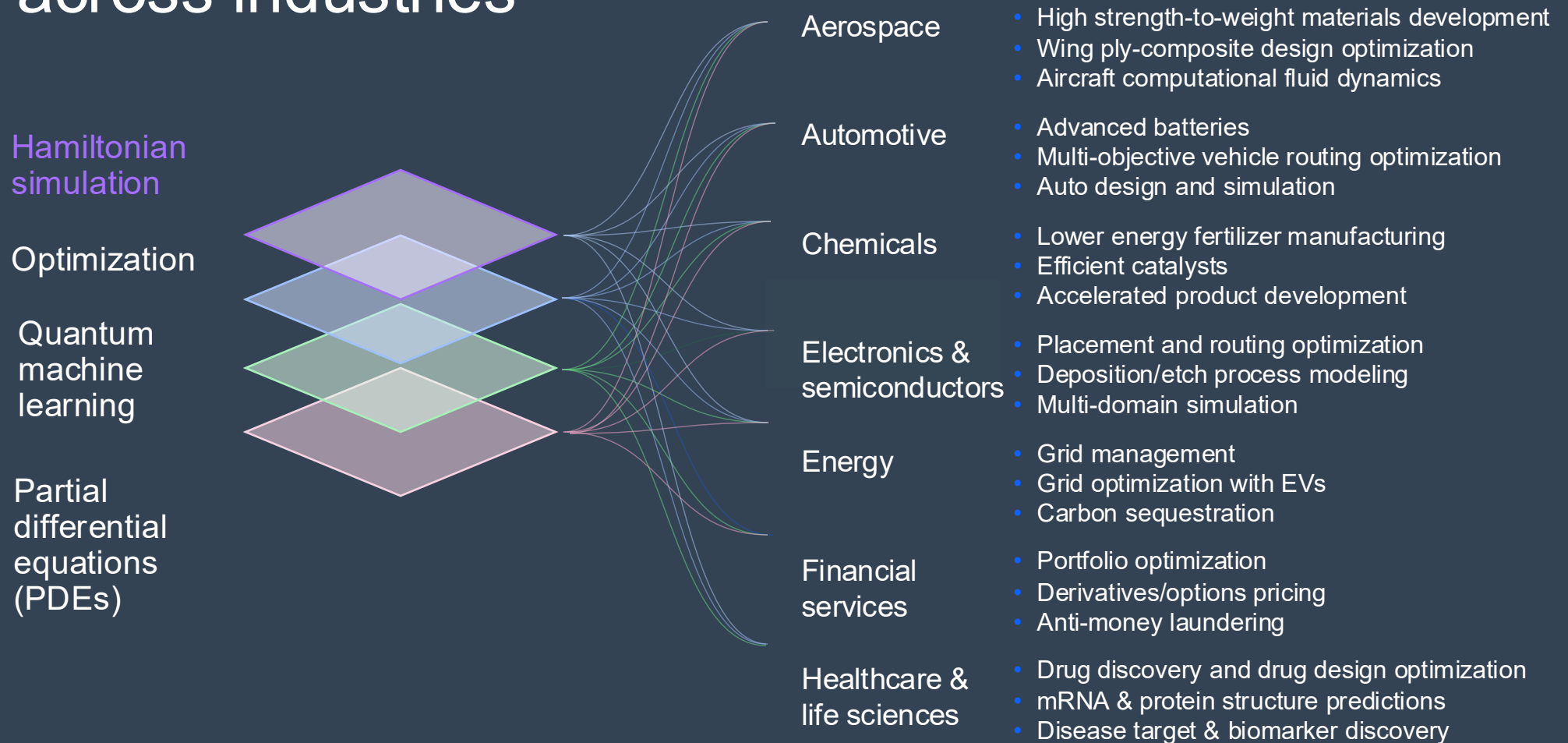
Digital Computer

Know all the possible results and pick the right one



Quantum Computer

Quantum computing is expected to have impact across industries



A signal from the lab

A meaningful benchmark. A leadership question.

IBM Nighthawk r2

19 seconds

1 million samples

Frontier classical supercomputer

~110 years

Modeled estimate for the same sampling task

WHY IT MATTERS

Advanced quantum experiments can now be run through standard cloud access — without owning quantum hardware.

IBM Quantum | Real-World Use Cases

Documented collaborations and experimental results — not all production deployments

FINANCIAL SERVICES

HSBC

Up to 34% improvement

Bond-trade completion prediction using real-world data and hybrid quantum-classical methods.

Research demonstration

HEALTHCARE

MODERNA

80 qubits

Simulation of mRNA secondary structure, including a 60-nucleotide sequence.

Research demonstration

DRUG DISCOVERY

CLEVELAND CLINIC + RIKEN

12,635 atoms

Quantum-classical simulation of protein–ligand chemistry using IBM quantum systems and HPC.

Research milestone (2026)

ENERGY & MATERIALS

MITSUBISHI CHEMICAL

Battery chemistry

Exploring lithium-oxygen chemical reactions for future battery materials.

Exploratory research

Sources: IBM Quantum case studies and IBM Quantum blog (2025–2026) | ibm.com/quantum/case-studies

Global Quantum Ecosystem (2026)

A growing, global ecosystem is accelerating the journey from research to real-world impact.



Investment

\$40B+

Governments worldwide have committed more than **\$40 billion** to national quantum initiatives over the last decade, with major programs in the EU, US, China, UK, Canada, Japan and Australia.

Europe recently committed **€47.5 million** to the next phase of the Quantum Internet Alliance program.



Companies

288+

The quantum networking and quantum internet ecosystem tracks approximately **288** companies globally across hardware, networking, repeaters, quantum memory, software and communications.

Hundreds more startups participate across broader quantum computing, sensing, cybersecurity and software segments.



Research & Collaboration

50+

The European Quantum Internet Alliance includes **50+** institutions across **12 European countries** collaborating on quantum networking infrastructure.



IBM Quantum Network

250+
organizations

60+ industry members

40+ startups

125+ universities and research institutions



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Quantum – Slovak Ecosystem

Academia



Slovak University
of Technology
(STU)



Comenius University
Bratislava
(UK)



TUKE

Technical University
of Košice
(TUKE)



UNIZA

University
of Žilina
(UNIZA)



Pavol Jozef Šafárik
University
(UPJŠ)

Research & National Initiatives



National Centre
for Quantum
Technologies



Slovak Academy
of Sciences
(SAV)



Slovak Quantum
Communication Infrastructure
(skQCI)
Part of Europe's EuroQCI

Industry & Technology Partners



Global quantum
technology partner
and ecosystem enabler



Technology partner
in quantum education
(UNIZA)



IT and digital
transformation partner



Technology and
integration partner



System integration
and IT services

Government & Public Institutions



MINISTERSTVO
ŠKOLSTVA,
Ministry of Education,
Research, Development
and Youth



Ministry of Investments,
Regional Development
and Informatization



NBÚ
National Security
Authority



Quantum System Two | New York, August 2026

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Building a Quantum-Ready Organization

Preparation can start now — without betting on uncertain timelines.



Identify Use Cases

Map high-value problems in your industry that quantum simulation or optimization may address



Engage the Ecosystem

Partner with researchers, hardware providers, and software specialists to build expertise



Experiment Deliberately

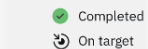
Run carefully scoped trials to accumulate organizational knowledge and validate assumptions

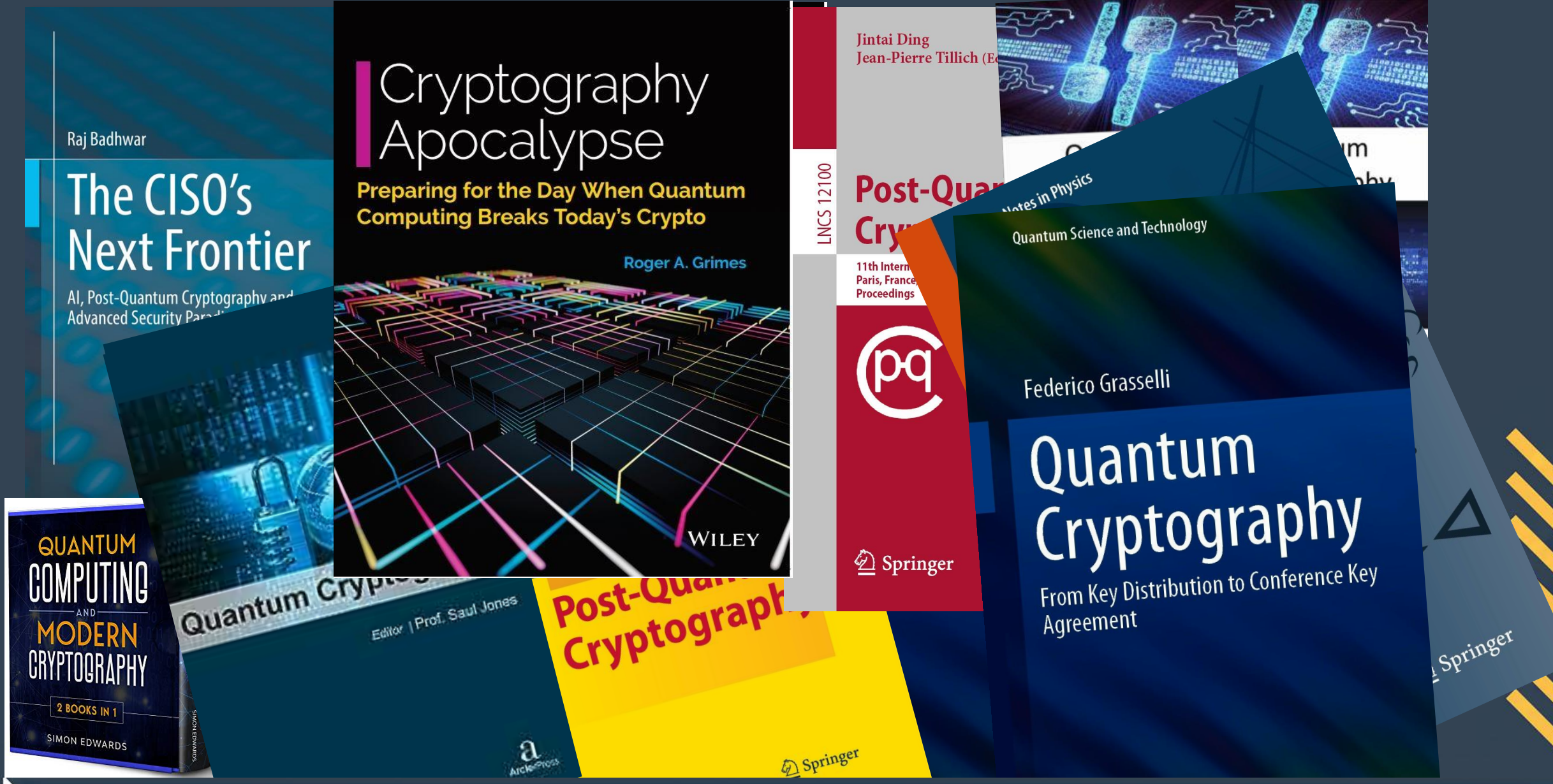


Build Readiness

Develop skills, workflows, and data pipelines so your organization can act decisively when quantum methods mature

The strategic question is no longer whether quantum will matter — but where it could create advantage, and whether your organization will be ready.





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