HorizonX

Executive Education · Cambridge, Massachusetts

The Quantum Literacy

A four-day executive immersion designed for Senior Leadership at the Massachusetts Institute of Technology

Program

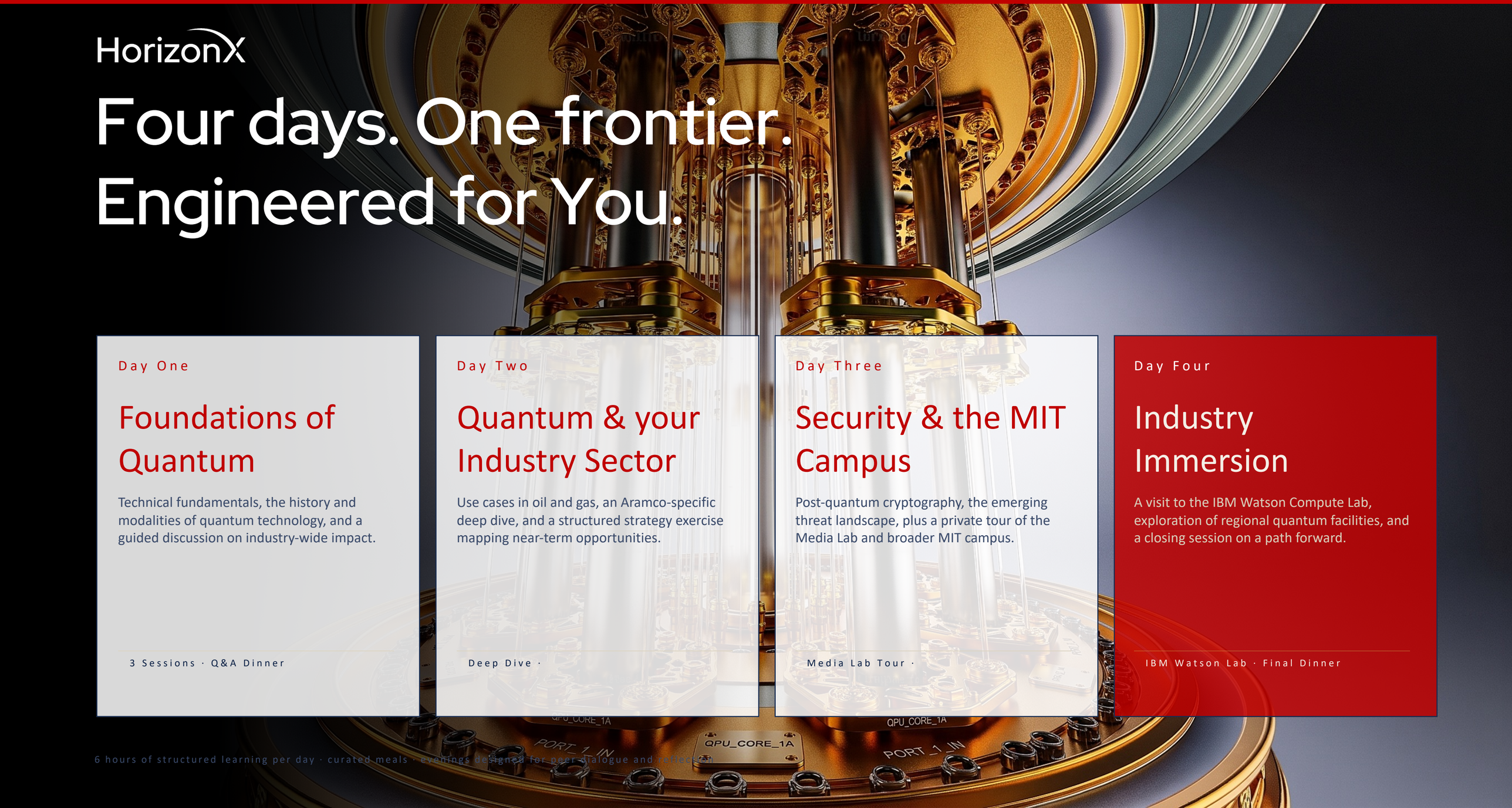
4 Days

Presented by: Steve Suarez



HorizonX

Four days. One frontier. Engineered for You.



Day One

Foundations of Quantum

Technical fundamentals, the history and modalities of quantum technology, and a guided discussion on industry-wide impact.

3 Sessions · Q&A Dinner

Day Two

Quantum & your Industry Sector

Use cases in oil and gas, an Aramco-specific deep dive, and a structured strategy exercise mapping near-term opportunities.

Deep Dive ·

Day Three

Security & the MIT Campus

Post-quantum cryptography, the emerging threat landscape, plus a private tour of the Media Lab and broader MIT campus.

Media Lab Tour ·

Day Four

Industry Immersion

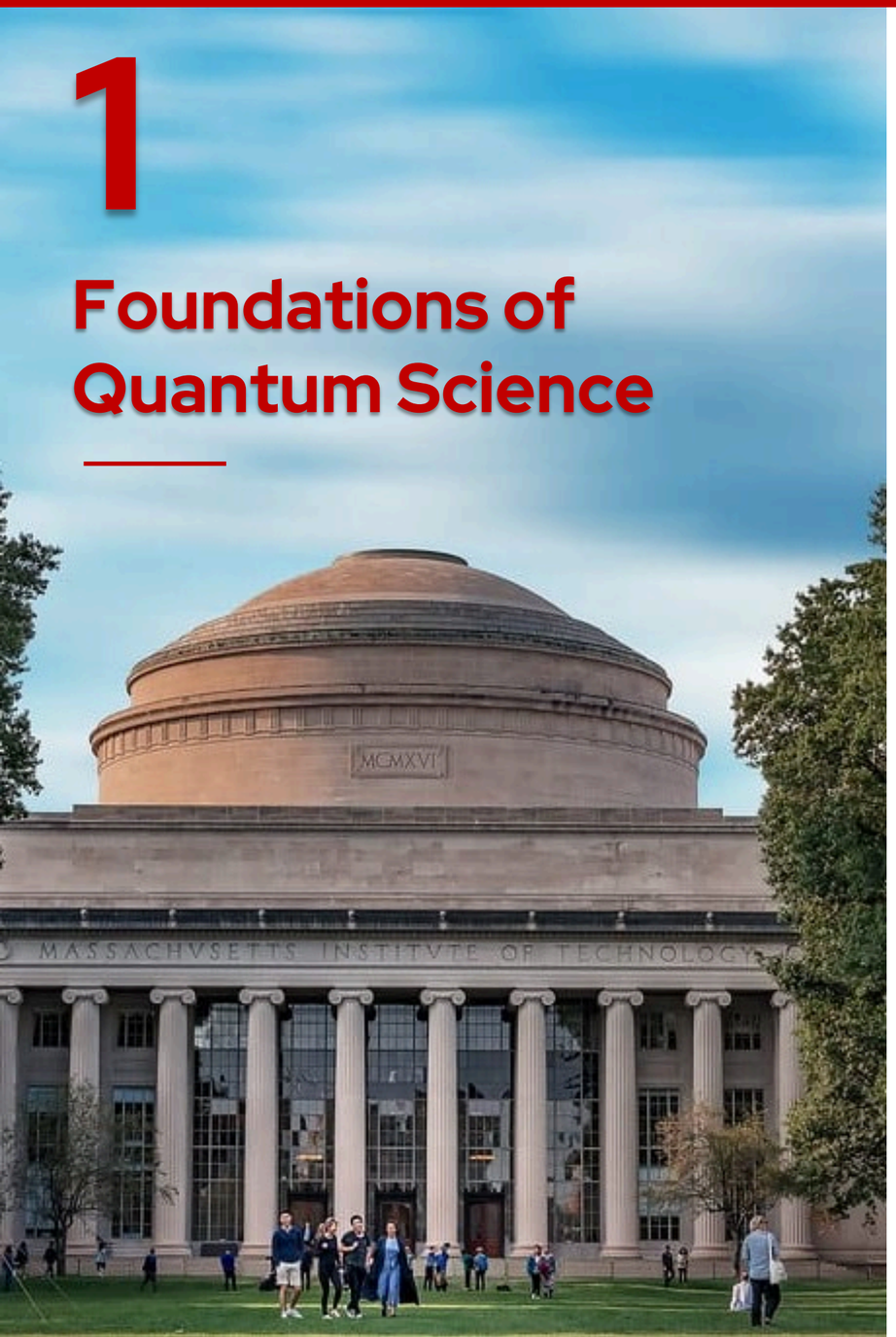
A visit to the IBM Watson Compute Lab, exploration of regional quantum facilities, and a closing session on a path forward.

IBM Watson Lab · Final Dinner

6 hours of structured learning per day · curated meals · evenings designed for peer dialogue and reflection

1

Foundations of Quantum Science



The Great Dome · MIT Campus

The Schedule

An orientation to the field and its place in our future.

08:00 – 09:00	**Welcome**	Opening remarks from MIT faculty leads and delegation heads.
09:00 – 11:00	**Session · What is Quantum?**	Technical fundamentals: superposition, entanglement, qubits, measurement.
11:00 – 11:15	**Refreshment break**	
11:15 – 12:30	**Session · History & Modalities**	From Feynman to today's superconducting, photonic, and trapped-ion approaches.
12:30 – 13:30	**Lunch**	
13:30 – 15:00	**Interactive · Industry Impact**	Facilitated discussion: where quantum reshapes finance, pharma, energy, defense.
18:00 – 20:00	**Welcome Dinner · Q&A**	Hosted dinner at the Harvard Club of Boston and some MIT Faculty



2
Quantum & the Industry Deep Dive

The Schedule

From general theory to the Industry specific value chain.

08:00 – 09:00	**Breakfast**	Informal continuation of Day 1 conversations with MIT faculty.
09:00 – 11:00	**Session · Use Cases in Industry**	Reservoir modeling, seismic inversion, catalyst design, logistics optimization.
11:00 – 11:15	**Refreshment break**	
11:15 – 12:30	**Deep Dive · Industry Scenarios**	Worked examples grounded in your upstream and downstream operations.
12:30 – 13:30	**Lunch**	
13:30 – 15:00	**Group Exercise · Strategy**	Teams map quantum opportunities against your strategic horizons.



3

Security & the MIT Campus

The Schedule

Cryptographic risk — and a walk through MIT.

08:00 — 09:00	**Breakfast**	Briefing on the day's tour logistics and security session.
09:00 — 11:00	**Session · Quantum Security**	Post-quantum cryptography (PQC), Shor's threat, and the migration timeline.
11:00 — 11:15	**Refreshment break**	
11:15 — 12:30	**Tour · MIT Media Lab**	Private access to active research groups and demonstrations.*
12:30 — 13:30	**Lunch · On campus**	
13:30 — 15:00	**MIT Campus Exploration**	Guided walk through the Infinite Corridor, Killian Court, the Stata Center.

** Depends on the time of the year and availability*



4
Industry Immersion Energy Sector

The Schedule

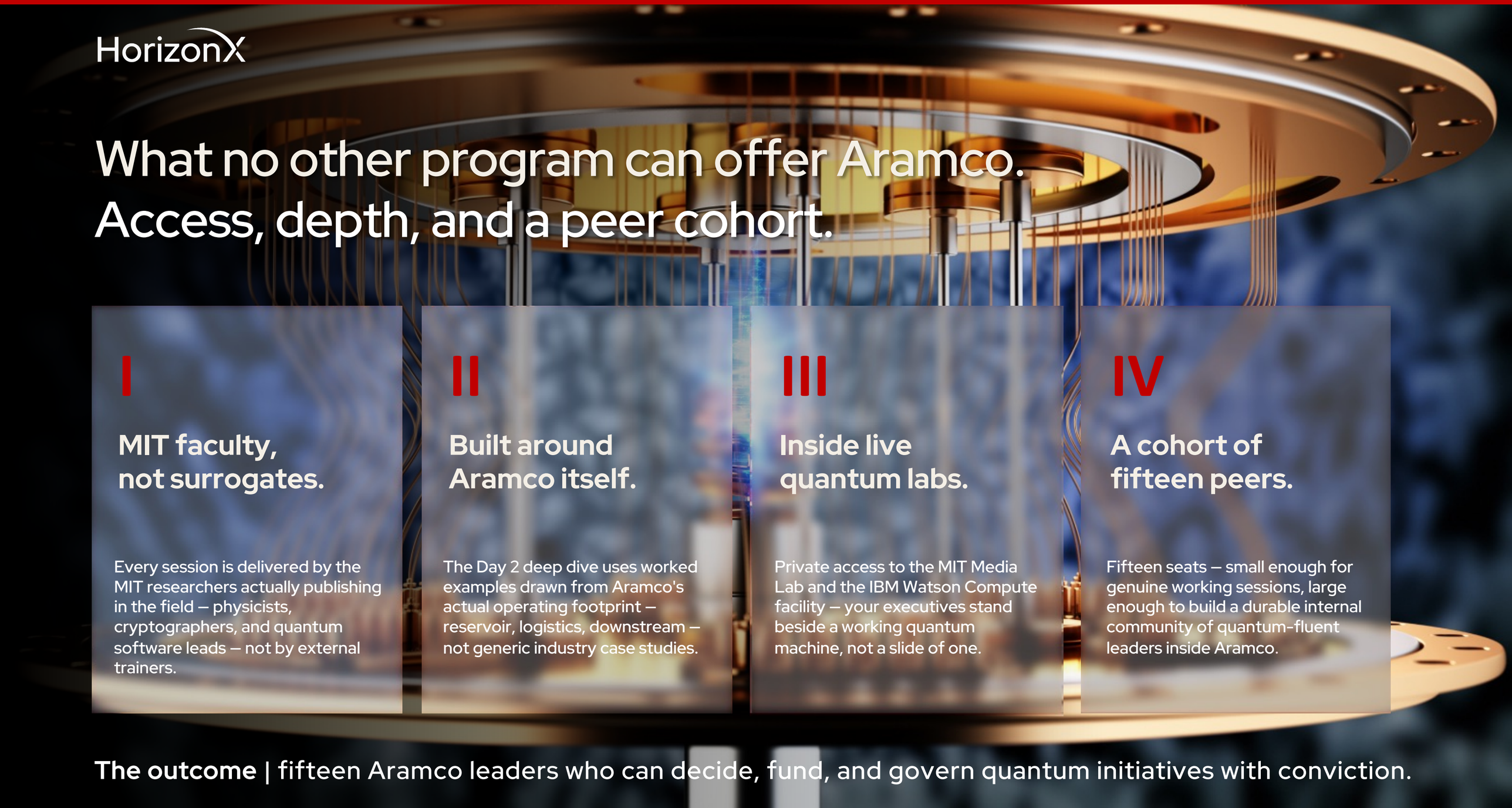
Inside live quantum labs. Then, a path forward.

08:00 – 09:00	**Breakfast**	Pre-tour briefing and travel to the IBM Watson site.
09:00 – 11:00	**Visit · IBM Watson Compute Lab**	Walkthrough of a working superconducting quantum computer with IBM scientists.
11:00 – 11:15	**Refreshment break**	
11:15 – 12:30	**Explore · Local Quantum Facilities**	Visits to selected Boston-area quantum hardware and software startups.
12:30 – 13:30	**Lunch · Working session**	
13:30 – 15:00	**Closing Reflections & Next Steps**	Synthesis of the week. A concrete roadmap for Aramco's quantum journey.
18:00 – 20:00	**Final Dinner · Celebration**	Hosted closing dinner at the Harvard Club of Boston and awarding of certificates of attendance who completed the Strategy Impact course Before the visit.

Stata Center · MIT CSAIL

HorizonX

What no other program can offer Aramco. Access, depth, and a peer cohort.



I

MIT faculty, not surrogates.

Every session is delivered by the MIT researchers actually publishing in the field — physicists, cryptographers, and quantum software leads — not by external trainers.

II

Built around Aramco itself.

The Day 2 deep dive uses worked examples drawn from Aramco's actual operating footprint — reservoir, logistics, downstream — not generic industry case studies.

III

Inside live quantum labs.

Private access to the MIT Media Lab and the IBM Watson Compute facility — your executives stand beside a working quantum machine, not a slide of one.

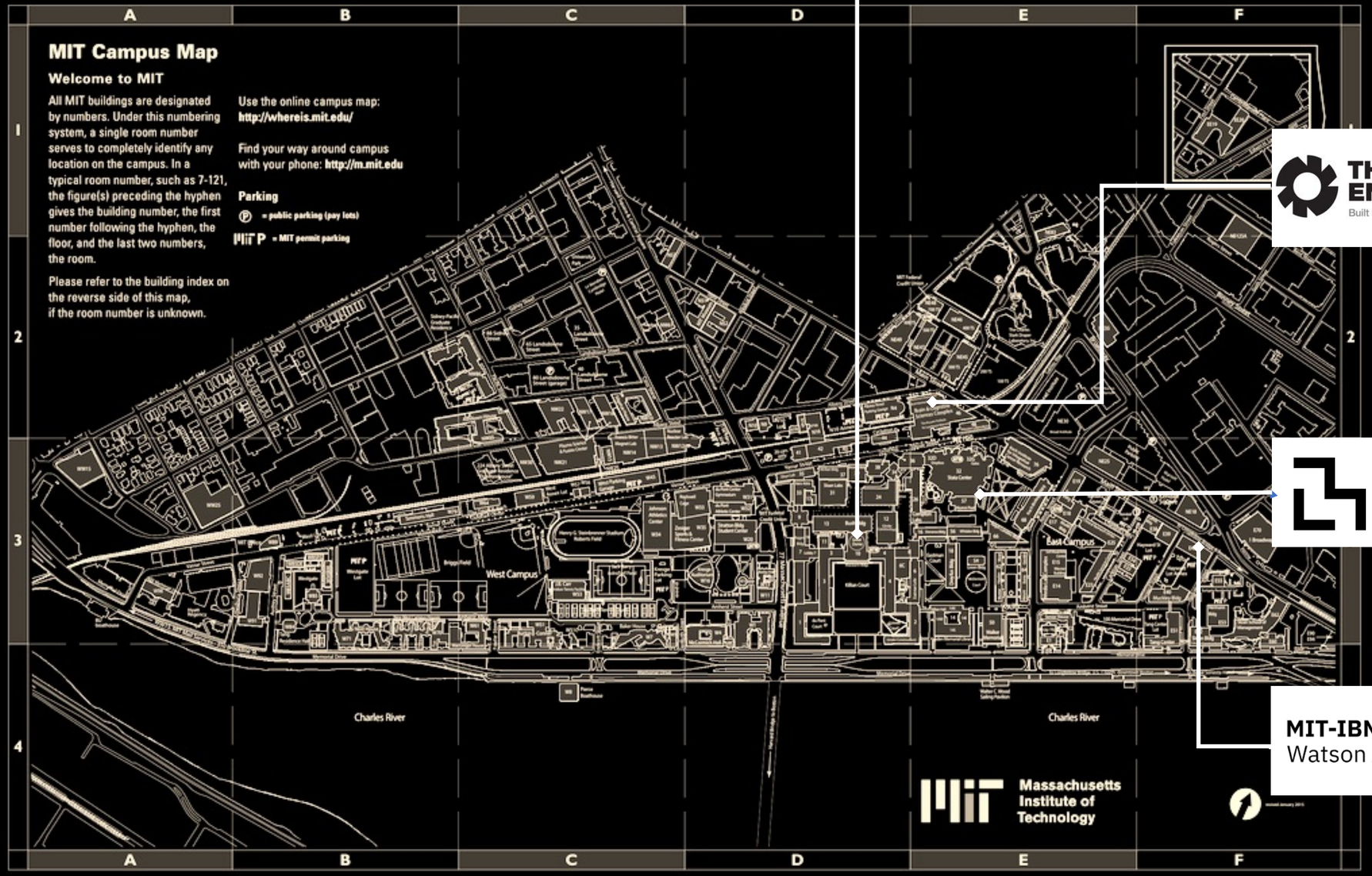
IV

A cohort of fifteen peers.

Fifteen seats — small enough for genuine working sessions, large enough to build a durable internal community of quantum-fluent leaders inside Aramco.

The outcome | fifteen Aramco leaders who can decide, fund, and govern quantum initiatives with conviction.

MIT Campus



Massachusetts Institute of Technology



THE ENGINE
Built by MIT



mit media lab



MIT-IBM
Watson AI Lab



Overview

Understand the Landscape

What is Quantum

This section will teach you the core principles of quantum technology, why it matters now, and how it could reshape industries, strategy, and competitive advantage.

The History of Quantum

This section will teach you how quantum theory evolved—from early scientific breakthroughs to today's emerging technologies—and why understanding its history is essential to grasping its future impact.

Quantum Modalities

This section will teach you the different modalities of quantum computing—including superconducting qubits, trapped ions, neutral atoms, photonics, and spin-based systems—explaining how each approach works, their strengths and limitations, and their potential paths to scalability.

Assess Strategic Impact

Quantum Use Cases

This section will teach you the most promising use cases for quantum computing—spanning industries like finance, pharma, energy, and logistics—and help you understand where quantum can offer real strategic advantage in the near and long term.

Opportunities and Threats

This section will teach you the strategic opportunities and risks that quantum technologies present—from breakthroughs in optimization and simulation to potential threats like post-quantum cryptography—so you can make informed decisions and future-proof your organization.

PQC & QKD

This section introduces PQC and QKD, showing how they secure data in a quantum future and what leaders must consider around risk, timing, and implementation.

Enable Informed Governance

Two-Pronged Approach

This section will teach you HorizonX's two-pronged approach to quantum readiness: staying alert to external developments (quantum vigilance) while building future-focused capabilities today (quantum visioning).

Quantum Strategy

This section will teach you how to develop a quantum strategy tailored to your organization—covering investment timing, talent planning, risk mitigation, and how to align quantum initiatives with broader business goals to gain a sustainable competitive edge.

What next

This section will teach you what's coming next in quantum—including key milestones on the horizon, emerging trends, and how organizations can stay ahead by integrating quantum into long-term innovation, talent, and investment strategies.

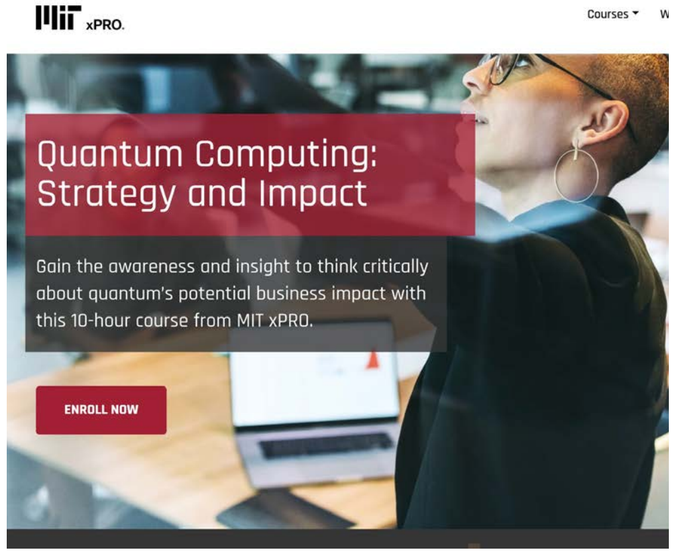
MIT Quantum Strategy

HorizonX



Overview

Quantum Computing: Strategy and Impact is a 6 to 10-hour online course built for decision makers who want a clear, accessible view of what quantum computing is, where it stands today, and why it matters for business. It covers how quantum differs from classical computing, the major hardware approaches, security implications, and how quantum may influence industries and strategy over time.



xPRO

77 Massachusetts Avenue
Cambridge, MA 02139, USA

Duration

- Time commitment: 6 to 10-hour
- Length: 6 Weeks to complete
- By Cohort

Format

- Online, designed to fit into busy schedules with on-demand access.
- Experience, plus community interaction and on-demand access to content.
- Certificate and 1 CEUs are offered upon completion of the program.

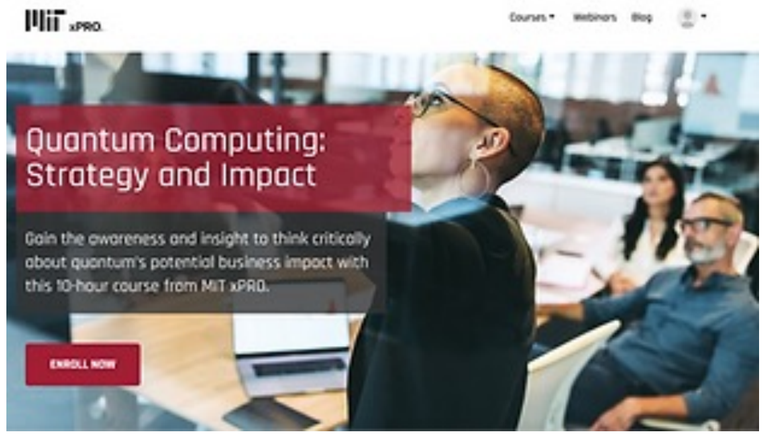
Program outcomes

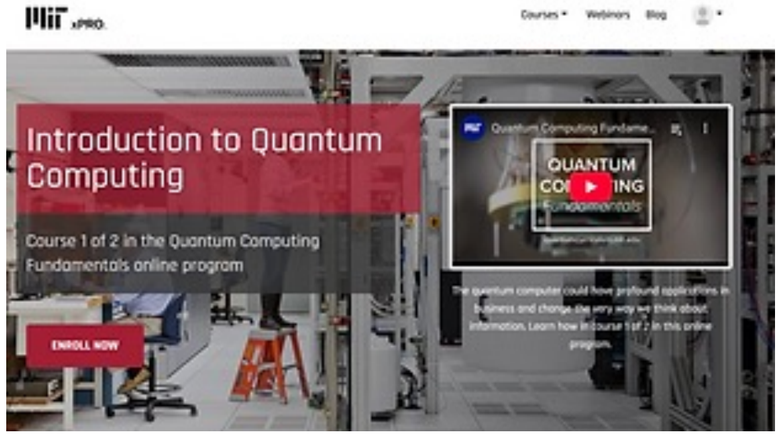
- Compare strengths and weaknesses of major physical systems used to build quantum computers.
- Explain how quantum affects cryptographic schemes and information security.
- Describe why qubits are fragile and why error correction is needed.
- Evaluate the commercial landscape across established players and startups.
- Create a quantum business strategy using a six-step framework

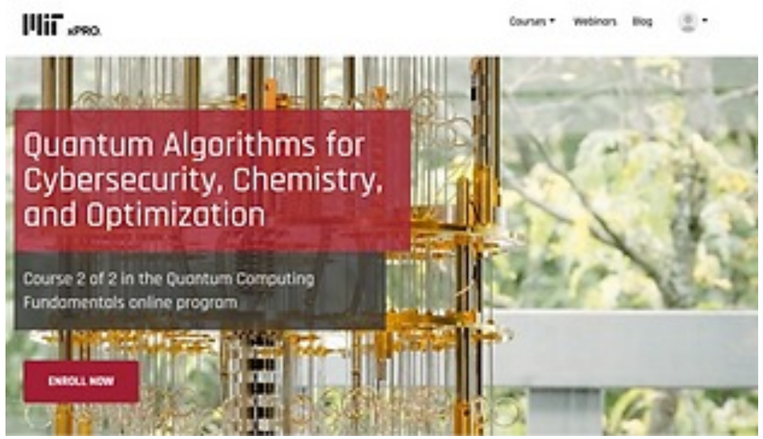
Confidential

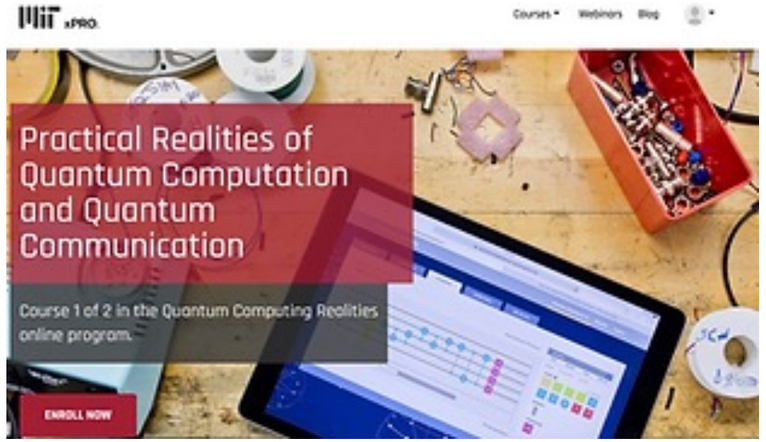
7 MIT Certificates
5 Courses

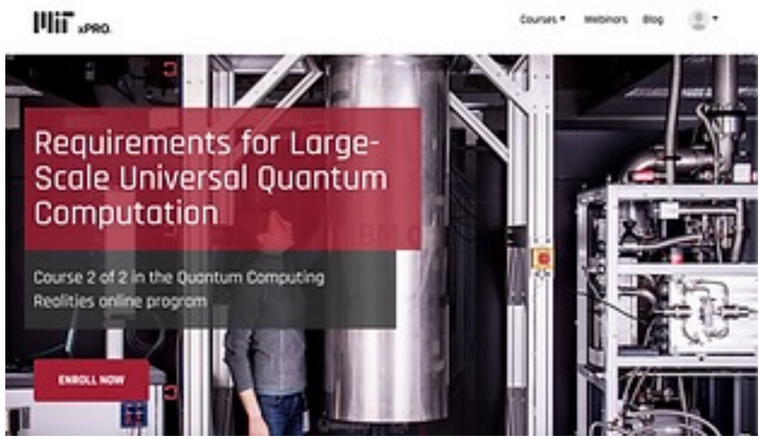
One elite quantum journey with MIT











Quantum Team

HorizonX



Will Oliver

is the Henry Ellis Warren Professor of Electrical Engineering and Computer Science and a Professor of Physics at MIT. He directs the Center for Quantum Engineering and serves as Associate Director of the Research Laboratory of Electronics. As a Principal Investigator in the Engineering Quantum Systems Group, his research focuses on quantum computing with superconducting qubits and cryogenic electronics



Steve Suarez

is the Founder and CEO of HorizonX Consulting and a Senior Advisor to McKinsey& Company. With over three decades of experience in consulting, telecommunications, and finance, he previously served as Global Head of Innovation at HSBC, Global Functions. Steve's leadership at HorizonX focuses on transforming business innovation strategies. Guest Lecturer at MIT Quantum: Strategy and Impact



Rebecca Krauthamer

Rebecca Krauthamer is the Co-Founder and CEO of QuSecure, a company helping enterprises and governments prepare for quantum-era cybersecurity risks through post-quantum cryptography. She previously co-founded Quantum Thought, the world’s first quantum computing venture studio, and served on the World Economic Forum’s Global Futures Council on Quantum Computing. Rebecca has been recognized by Forbes 30 Under 30 in Science and Inc.’s Female Founder 500 list. She holds a BSc in Symbolic Systems from Stanford University.



Jeff Grover

is a research scientist and co-PI in the Engineering Quantum Systems (EQuS) group at MIT. He focuses on software infrastructure and building extensible calibration, control, and metrology protocols for superconducting qubit systems. Jeff received his PhD in Physics from the Joint Quantum Institute at the University of Maryland, and his BAs in Physics and Mathematics from Amherst College.

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Potential Presenters

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Max Hays

is a research scientist in the EQuS group. His focus areas include next-generation qubit architectures, quantum error correction, noise analysis, and circuit quantization. Max conducted his Ph.D. research with Michel Devoret at Yale University. At Yale, he investigated Andreev levels and quasiparticle dynamics using circuit QED techniques.



Dr. Garfield S. Jones

Dr. Garfield S. Jones is SVP of Global Strategy and Research at QuSecure, where he focuses on post-quantum cryptography, crypto-agility, and quantum-safe security for critical infrastructure. He previously served as Associate Chief of Strategic Technology at CISA, where he helped shape strategy and guidance for the use of emerging technologies across the agency. Dr. Jones holds a Doctor of Engineering in Industrial and Systems Engineering with a focus on Machine Learning and Artificial Intelligence.



Sumit Kapur

Sumit Kapur is the CEO of Zapata Quantum, a quantum software company focused on helping enterprises understand and apply quantum technologies. He is a technology and finance executive with experience scaling complex businesses across AI, energy, and financial services. Before Zapata Quantum, Sumit helped scale 3Degrees from $5 million to more than $1 billion in revenue through new products, M&A, and international expansion. He holds a mathematics degree from Harvard College and an MBA from Harvard Business School.

Delta.g

McKinsey & Company

IONQ

Infleqtion

IBM

QuSecure

ZAPATA // QUANTUM

KIPU QUANTUM

NVIDIA

QUANTINUM

****Examples of companies and professors that could present. Depending on availability*

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Training at The Engine

Purpose-built event & learning spaces at the home of Tough Tech — 750 Main Street, Kendall Square, Cambridge MA

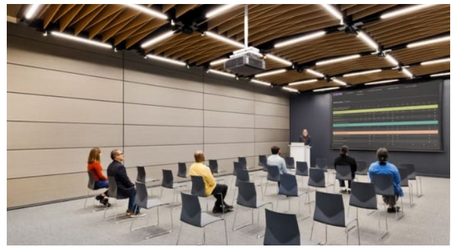
At a glance

2,000 ft²
Versatile event space

357
Max capacity (largest room)



01 · Hero Venue
Dual-screen Classroom



02 · Lecture Theatre

Podium & projection

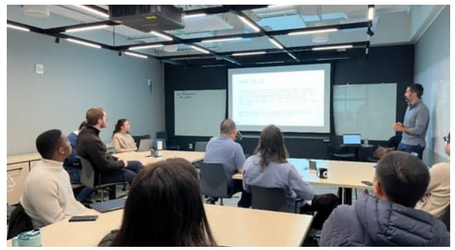
Tiered-style seating, podium with mic and slide projection — keynote and large-group sessions.



03 · Seminar Room

Workshop & cohort sessions

Open U-shape table, large display, whiteboards — ideal for instructor-led training of ~25–30.



04 · Breakout

Case-study breakout

Smaller room with side whiteboards — perfect for discussion-led modules and team exercises.

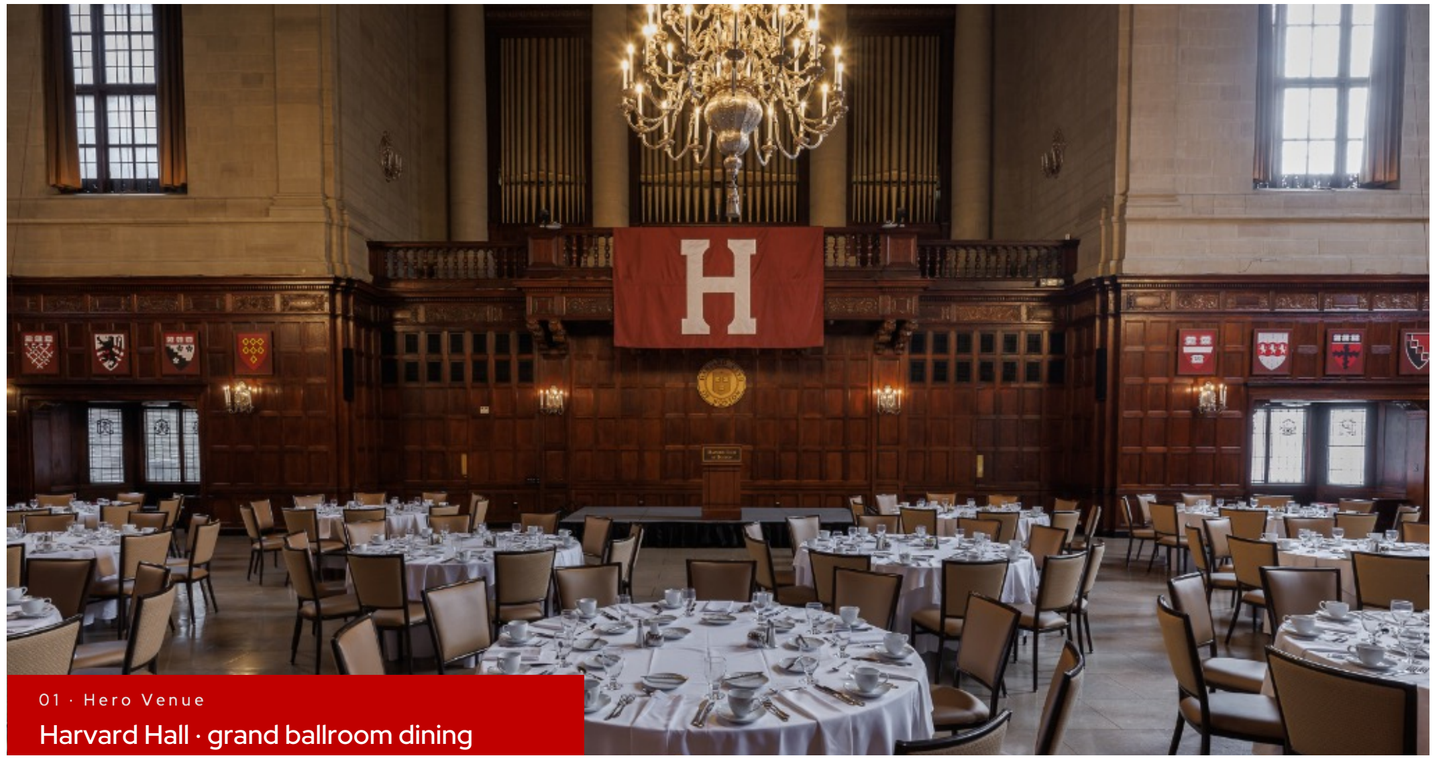
Dining at the Harvard Club

Historic Back Bay Clubhouse — formal & casual dining and private event rooms for receptions, dinners, and post-session hosting.

At a glance

11.5k ft²
Total event space, 10 rooms

300
Reception max (Harvard Hall)



01 · Hero Venue

Harvard Hall · grand ballroom dining



02 · Veritas Restaurant

Formal dining room

Breakfast, lunch & dinner daily — seasonal menus by Executive Chef Dean A. Moore. Business-casual.



03 · President's Room

Private board dinner

Wood-paneled, U-shape up to 22 or banquet 40 — intimate working lunches and faculty dinners.



04 · Massachusetts Room

Mid-size banquet

Banquet 120, reception 150 — round-table dinners with historic portraits and chandeliers.

Section III — Investment

The investment, *in full.*

Total Program Investment

$375,000

All-inclusive · 15 executives · 4 days

Per Seat
$25,000

Effective Day Rate
$6,250

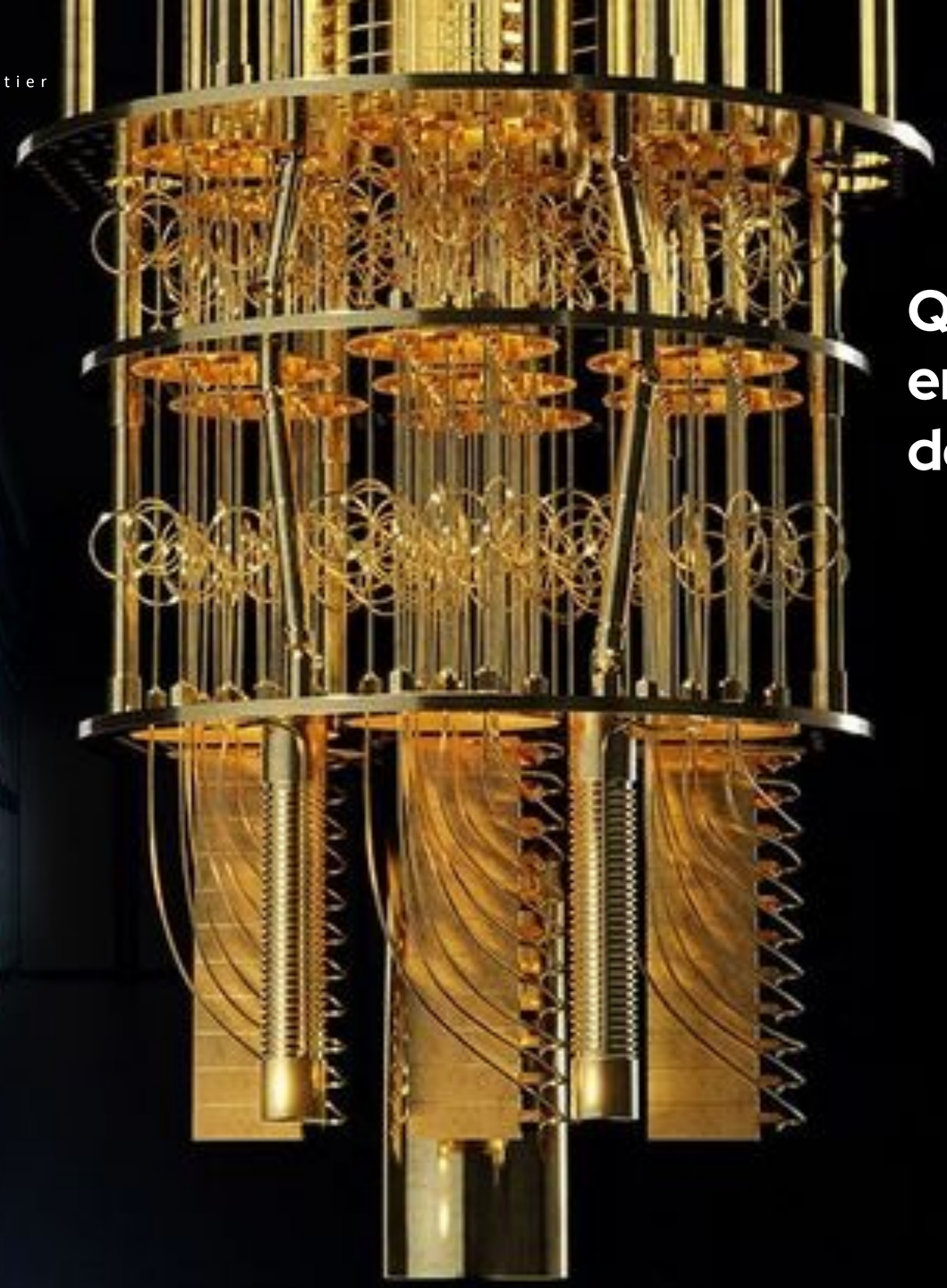
What is Included

A complete executive experience.

01	**All instruction & sessions**	24 hours of MIT faculty-led learning across four days.
02	**Private lab & site visits**	MIT Media Lab, IBM Watson Compute Lab, regional facilities.
03	**Curated learning materials**	Pre-reading dossier and post-program reference set.
04	**Aramco-specific case work**	Day 2 deep dive and Day 4 roadmap session, custom-built.
05	**MIT certificate for the 15 Participants**	Issued to each participant who completes the online Strategy and Impact Course
06	**2 Harvard Club of Boston Dinners**	Dinner to kick off the week and a closing dinner for 15 Executives, MIT Faculty and Quantum Business leaders

Travel and lodging arranged separately to Aramco's preferred standards.

Closing



Quantum will reshape every energy organization within a decade.

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