



PART II

The Quanta Program

A Roadmap for Allied Quantum Readiness

Prepared by Manage Defense International / Quanta Diplomacy. Programs bearing the "Quanta" name are proposed concepts, not existing government programs.

Program Overview

Nine proposed initiatives and one supply exhibit, organized around a shared allied quantum-readiness timeline.

9.1

Q-Day USA/UK

Threats & opportunities

9.2

AI Malware Across NATO

Statistics & actors

9.3

National Security Imperative

Policy foundations

9.4

Quanta Dome

Golden Dome overlay concept

9.5

Quanta Qube

Modular hardware concept

9.6

Quanta Diplomacy Foundation

Funding flow

9.7

Quanta Universal

Public education initiative

9.8

Quanta R&D

Illustrative cost model

9.9

Quanta Future

Simplification roadmap



Exhibit

US/UK allied supply network

9.1 Q-Day USA/UK: Threats and Opportunities

A shared clock: the Department of War's 2030/2031 migration gates and the UK NCSC's 2028/2031/2035 milestones.

THREATS

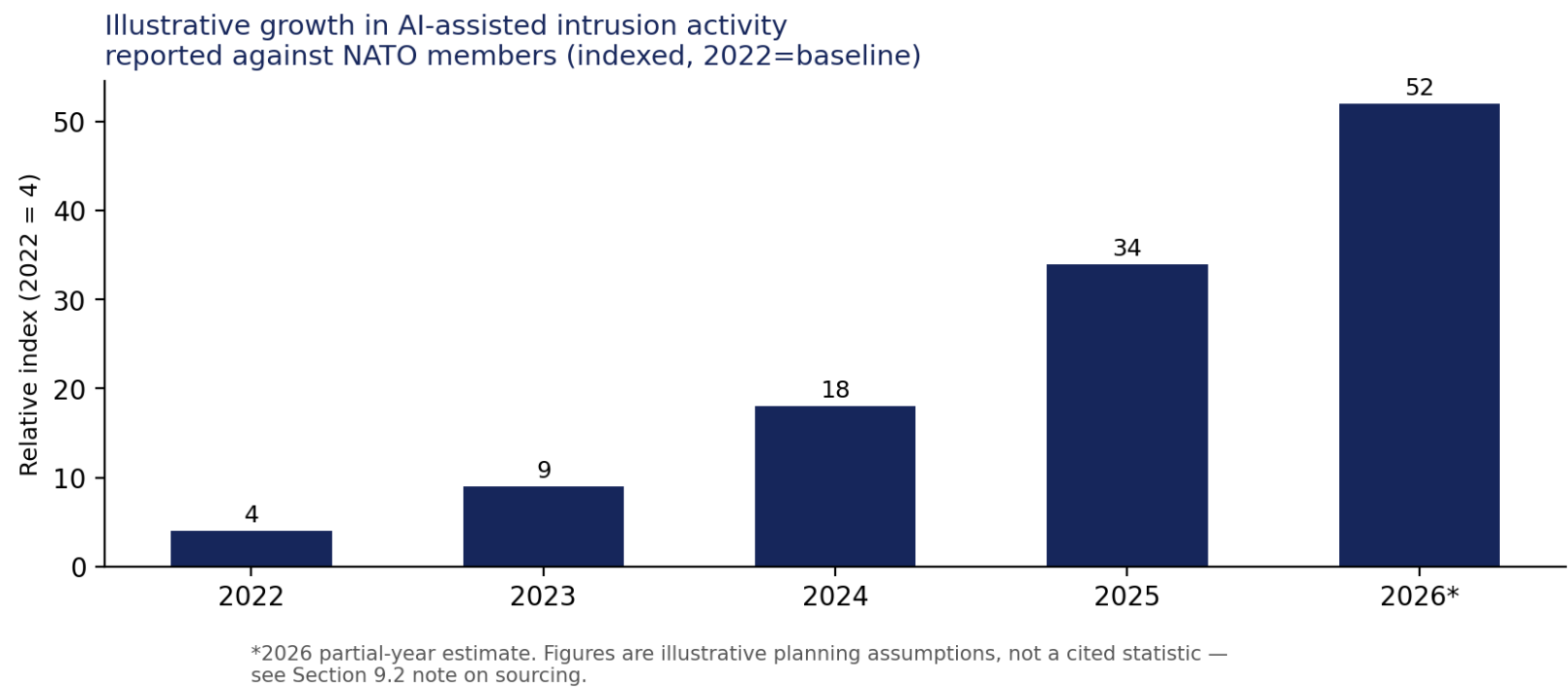
- Harvest-now, decrypt-later collection against US/UK data
- Uneven agency & sector migration timelines
- Allied interoperability gaps if US/UK/NATO desync
- Legacy PKI embedded across critical infrastructure

OPPORTUNITIES

- First-mover standard-setting via NIST + NCSC leadership
- Export strength in QKD & quantum sensing (UK)
- Dual-use PNT and sensing fielding ahead of computing
- Alliance-wide crypto-agility as a shared capability

The gap between planning (87% of organizations) and deployment at scale (7%) is the central vulnerability — closing it on a shared US/UK schedule keeps allied systems interoperable.

9.2 AI Malware Across NATO: Statistics and Actors



**Actors tracked
(by naming convention)**

- Russia — GRU / FSB / SVR
- China — “Panda” groups
- North Korea — “Chollima”
- Iran — “Kitten” groups

Figures are an illustrative planning curve, not a cited statistic — a placeholder for the Alliance's own classified and open-source reporting.

9.3 National Security Imperative

Quantum readiness is now backed by primary policy from all three branches of the U.S. government, alongside NATO's own strategy.

White House

NSM-10 (2022) plus two June 2026 executive orders set enforceable federal PQC deadlines (2030/2031) and created the QC-ADDs effort.

Pentagon

Department of War set its own 2030/2031 migration gates, and separately leads the Golden Dome for America program (E.O. 14186).

Congress / Senate

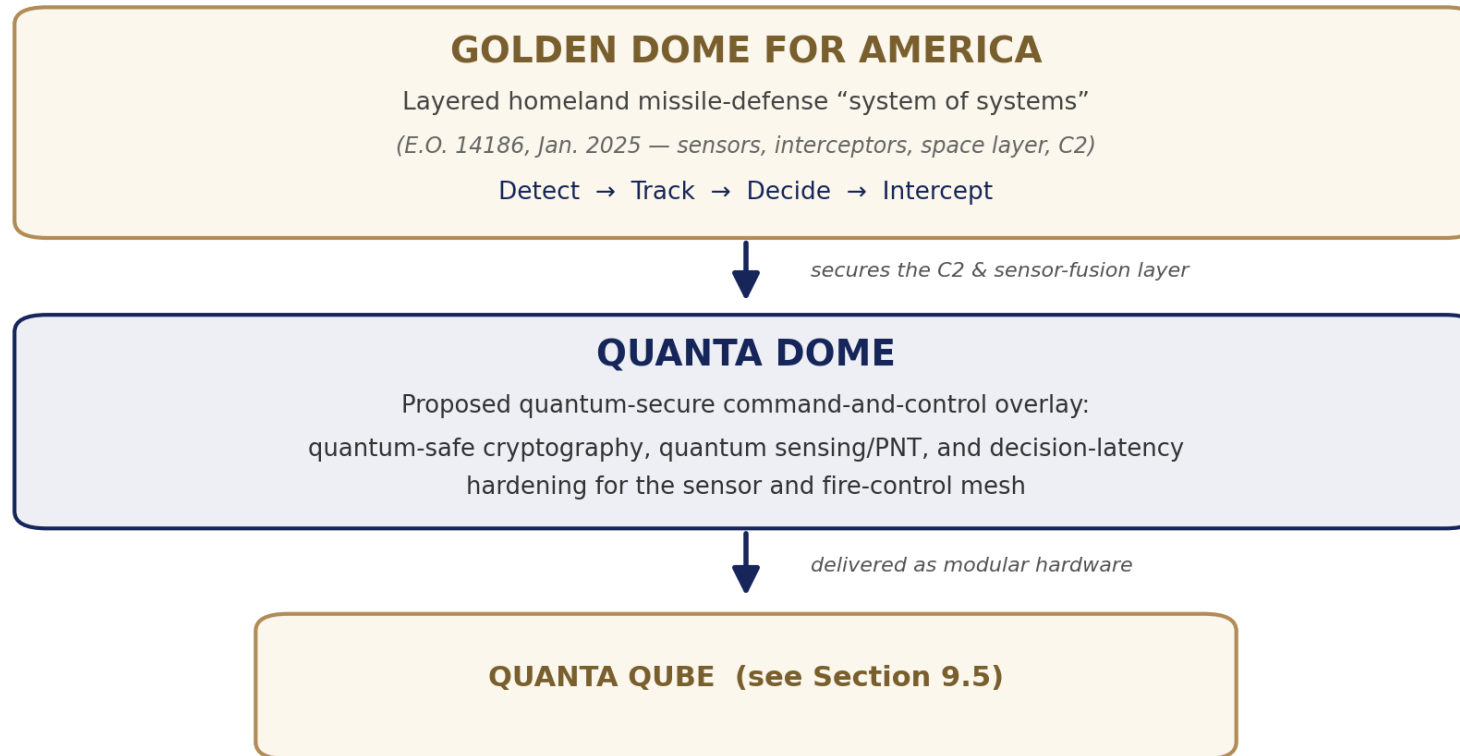
The Post Quantum Cybersecurity Standards Act (H.R. 3259) would codify NIST's PQC role government-wide.

NATO

The 2024 Quantum Technologies Strategy sets Alliance-wide expectations mirroring the U.S. and UK timelines.

9.4 Quanta Dome

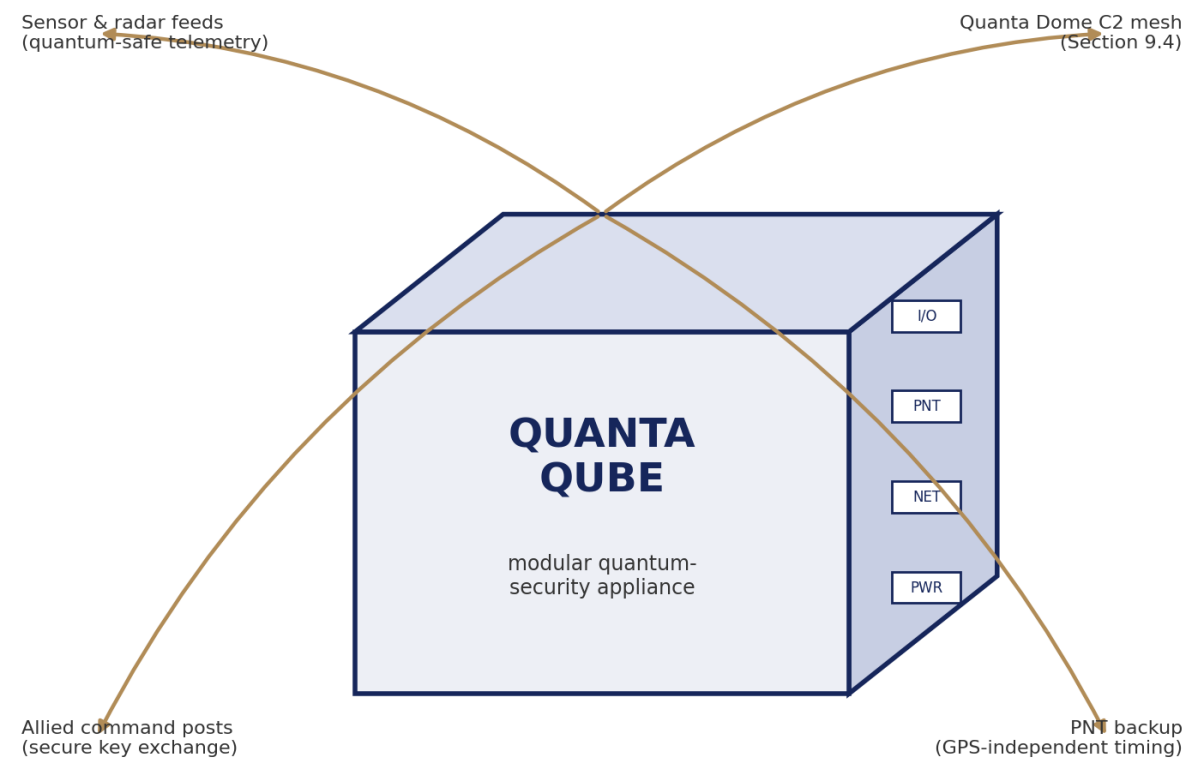
Golden Dome for America is real and funded (E.O. 14186). Quanta Dome is a proposed quantum-secure overlay for its sensor-fusion and C2 layer — not a Golden Dome program element.



Conceptual illustration — Quanta Dome/Qube are proposed Quanta Diplomacy programs, not an official DoD or Golden Dome program element.

9.5 Quanta Qube

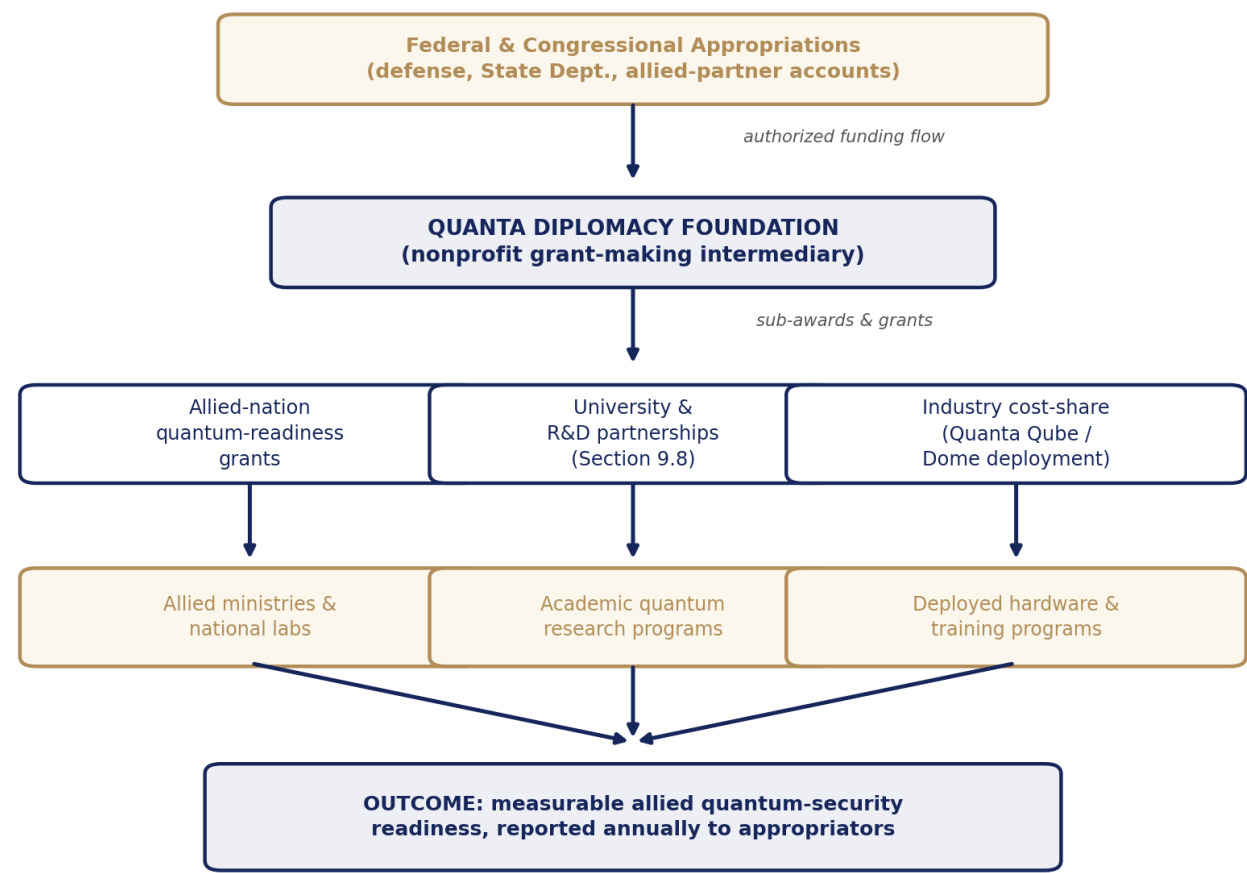
The proposed hardware form factor for Quanta Dome: a modular, field-deployable appliance for quantum-safe key exchange and PNT backup.



Conceptual illustration — Quanta Qube is a proposed hardware concept, not a fielded product.

9.6 Quanta Diplomacy Foundation

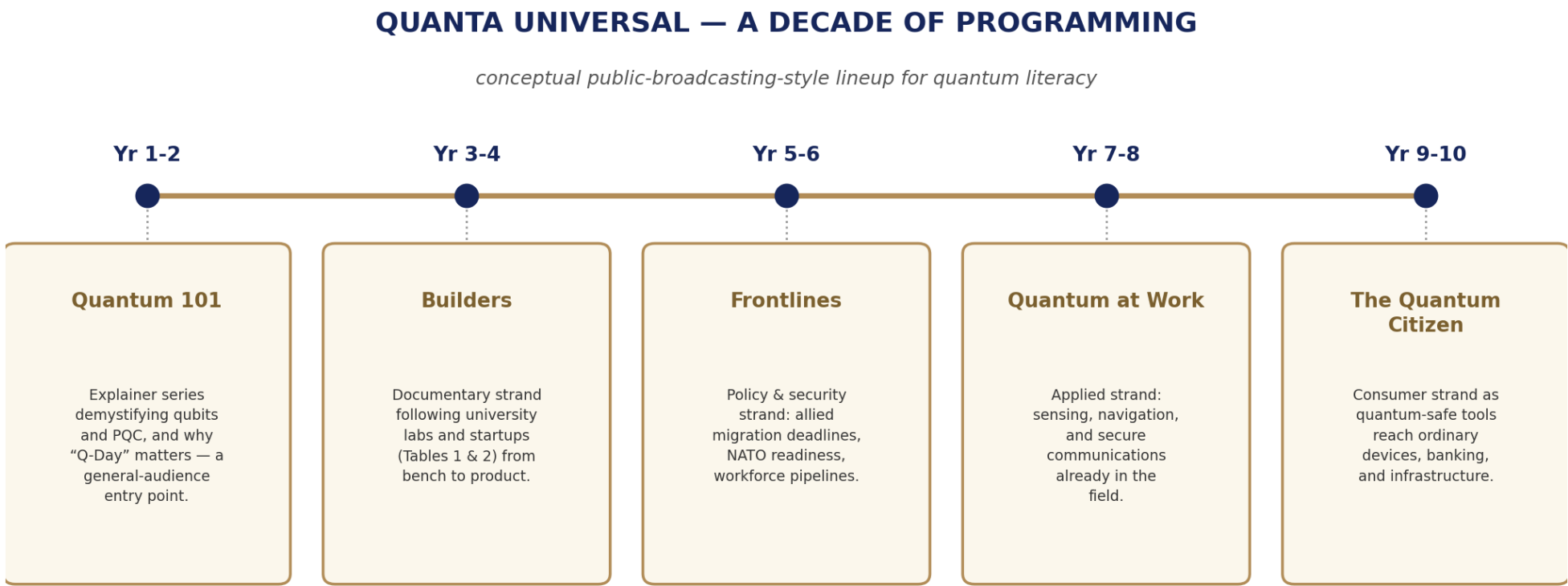
A proposed nonprofit grant-making intermediary moving appropriated funding from Congress to allied ministries, universities, and industry partners.



Conceptual illustration — Quanta Diplomacy Foundation is a proposed grant-making structure; actual appropriations authority rests with Congress.

9.7 Quanta Universal

A proposed public-education initiative — a “PBS of quantum” — closing the awareness gap around Q-Day over a ten-year programming arc.



Conceptual illustration — Quanta Universal is a proposed public-education initiative, not an existing broadcast network.

9.8 Quanta R&D

An illustrative \$111M standard-operating-line-item breakdown for a utility-scale quantum-computer acquisition.

QUANTA R&D — ILLUSTRATIVE STANDARD OPERATING LINE ITEMS

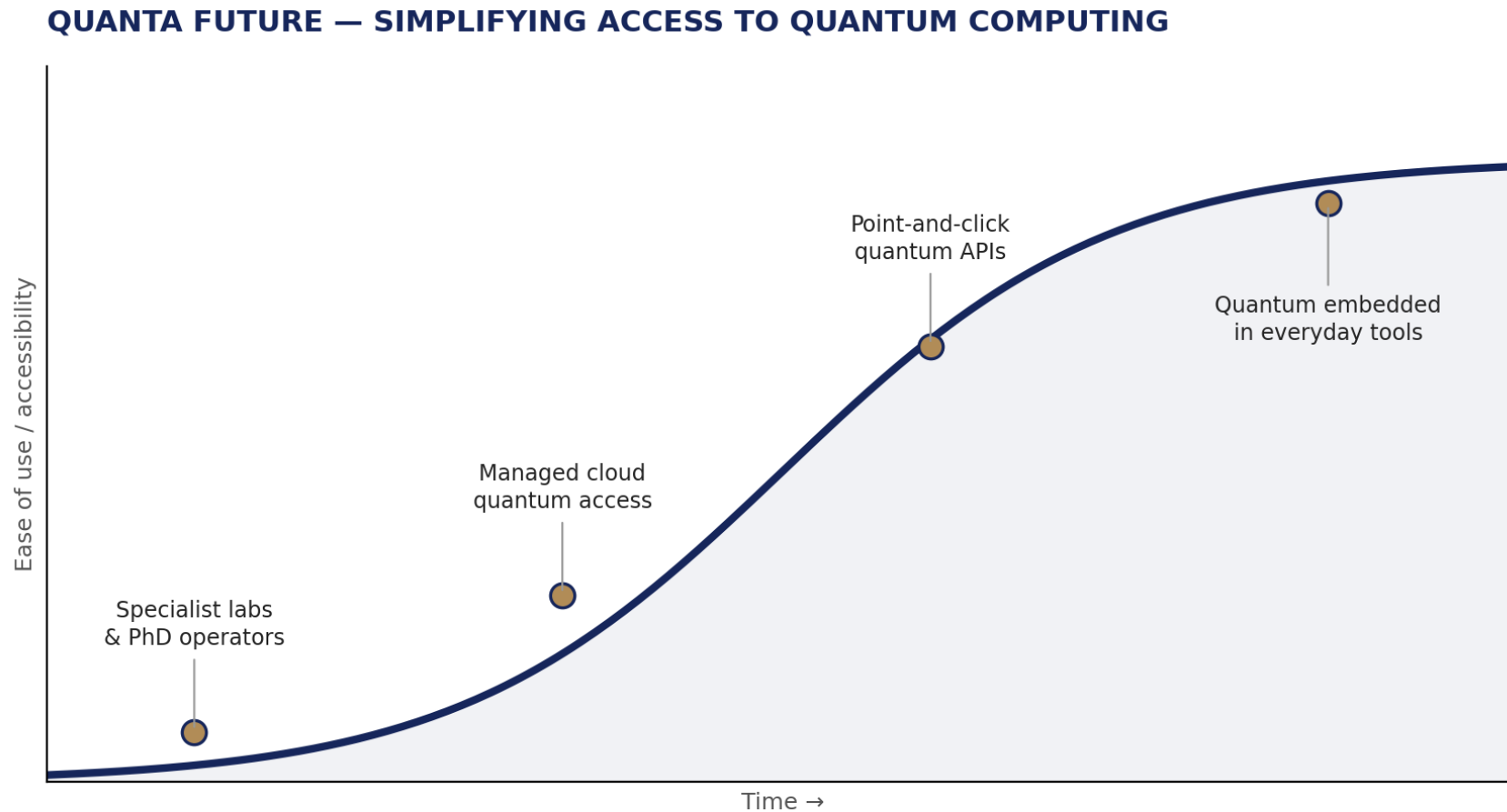
Example cost breakdown for an approximately \$111M utility-scale quantum-computer acquisition

Standard Operating Line Item	Illustrative Cost
Superconducting / photonic qubit fabric & cryostat integration	\$38,500,000
Cryogenic infrastructure (dilution refrigeration, shielding)	\$14,200,000
Control electronics & signal chain (RF/microwave, FPGA)	\$11,800,000
Quantum error-correction & compiler software stack	\$9,600,000
Facility build-out & vibration/EMI isolation	\$8,900,000
Systems integration, install & commissioning	\$7,400,000
Workforce training & operator certification	\$4,100,000
Security accreditation (facility, personnel, TEMPEST)	\$5,300,000
Sustainment & extended warranty (Year 1)	\$6,200,000
Program management & contingency reserve (~4.5%)	\$5,000,000
TOTAL (illustrative)	\$111,000,000

Illustrative example only — actual quantum-computer procurement costs vary widely by modality, vendor, and contract vehicle; figures are not drawn from a specific program.

9.9 Quanta Future

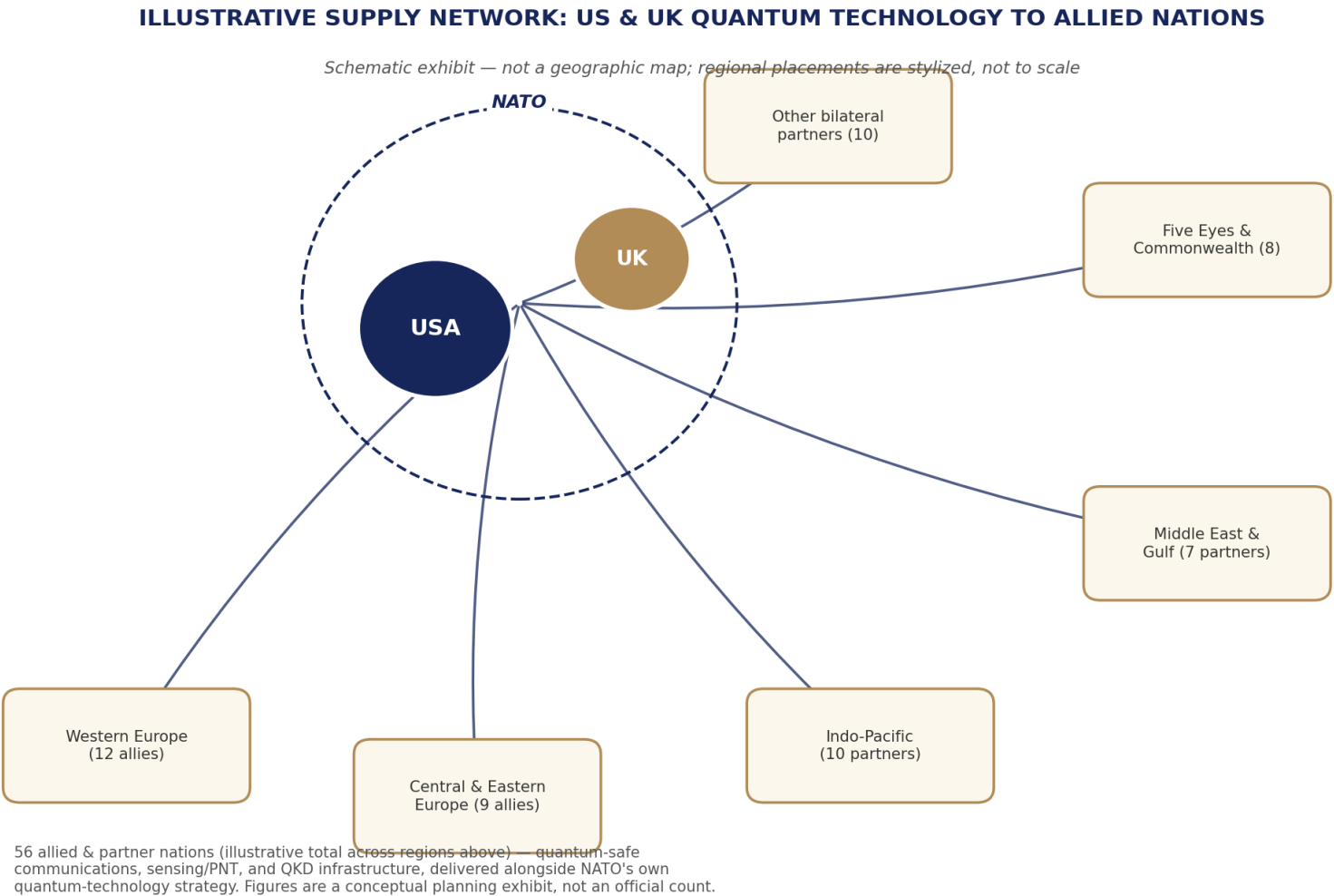
The same mainframe-to-cloud-to-API simplification curve seen in classical computing, compressed deliberately for allied governments.



Conceptual illustration — an adoption curve, not a forecast tied to a specific vendor or date.

Exhibit: US/UK Quantum Technology Supply to Allied Nations

Schematic, not geographic — how a Quanta Dome/Qube-style capability could extend across six allied regions alongside NATO's own strategy.



Key Takeaways

56

allied & partner nations in the
illustrative US/UK supply network

2028–35

the shared window across US, UK,
and NATO migration milestones

6

proposed Quanta programs —
Dome, Qube, Foundation,
Universal, R&D, Future

\$111M

illustrative cost of a single utility-
scale quantum-computer
acquisition

Programs bearing the “Quanta” name are proposed concepts prepared for this roadmap, not existing government or fielded programs. Golden Dome, White House, and NATO references are factual and sourced.