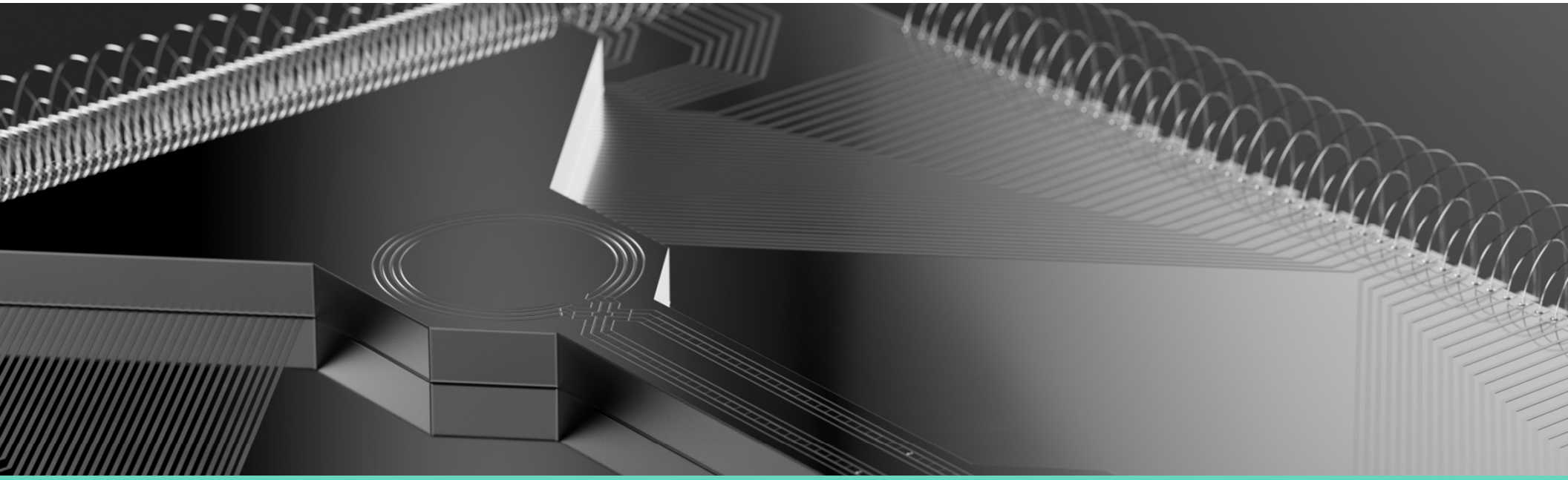

QUANTINUUM

# Building New Mexico's Quantum Economy

# Quantinuum:

## The **Clear Leader** in Quantum Technology

**700+**
employees across 11 offices

**450+**
PhDs and Masters

Largest concentration of quantum experts outside of academia

**670+**
global patents issued and pending

**240+**
scientific papers

**Cross-domain subject matter expertise:**

Chemistry | Materials science
Artificial intelligence | Machine learning
Condensed matter | Cybersecurity
Encryption | Finance

Our Business Model Is

# Differentiated and Resilient

| | | |
|---|---|---|
| **Drug discovery** | **Full-stack QC solution** to improve drug discovery process | • Target identification<br>• Assay development<br>• Screening<br>• Optimization |
| **Chemicals & material** | **Full-stack QC solution** to improve materials R&D process | • Reduced price of discovery<br>• Increased quantity of discoveries<br>• Reduced time to market from discovery |
| **Finance & insurance** | **Full-stack QC solution** to optimize financial services | • Improved risk modeling<br>• Better fraud detection<br>• Portfolio optimization<br>• Improved long-term forecasting |
| **Cyber security** | **Full-stack QC solution** to strengthen security | • Cryptographic keys that protect the most critical data and systems<br>• New payment instrument quantum tokens - stock exchange, commodity-based tokens, and communication tasks |
| **Other verticals** | **QC compute service** for other industries | • Government<br>• Auto / Aero<br>• Energy<br>• Logistics |

# History of Quantinuum in New Mexico

- **Established Photonics R&D Center in NM in 2025**
  - First "qubit builder" to physically locate in NM
  - 13 employees, 13,000 square feet
  - Has represented to state we will spend $32 million over the next two years in NM
  - Have and continue to support workforce and ecosystem activities (QCAMP, Quantum Learning Lab)

- **Long history of collaboration with Sandia and Los Alamos National Laboratories (LANL)** on:
  - Benchmarking; resource estimation
  - Quantum error correction
  - Photonics design (expanding Cooperate Research and Development Agreement (CRADA))
  - Applications-focused and other proposals
  - Access to hardware through LANL and Quantum Cloud Access Project (QCAP)
  - Co-submitted 6 total Phase 1 proposals for DoE Project Genesis

- **Strong relationship with DOE NNSA**
  - Two of its three labs are in NM
  - Largest portion of DoE budget
  - Developing a quantum strategy and roadmap
  - Quantinuum secured $900,000 for use case co-design in December 2025
  - $10 million plus up added to federal budget markup for NNSA FY2027 budget (pending approval in Congress)

# New Mexico Legislature's 2026 Quantum Package

**Funds Appropriated to the Economic Development Department (EDD)**

- **$49.3M** for the Quantum Benchmarking Initiative to match DARPA funding. Importantly, this is non-reverting through FY28, providing multi-year stability.
- **$38M** for a single centralized open user facility for applied quantum information science. The facility must be capable of housing a quantum computer and supporting a hybrid classical-quantum workspace, with explicit national security collaboration requirements.
- **$110M** for the Research, Development and Deployment Fund, with at least **$40M directed to quantum initiatives** (and $40M to advanced energy). Funding is performance-contingent (research spend, job creation, scaling), which aligns well with commercialization-focused operators.
- **$10M** for quantum computing. This effectively creates state-backed demand that can support benchmarking, pilots, and procurement pathways for cloud access in the near term.
- Extension through FY27 of a prior **$15M infrastructure appropriation**, including **$10M for a "quantum space" (broadly defined)**.
- **$3M** for the Quantum New Mexico Institute to flow through EDD

**Funds Appropriated Directly to the University of New Mexico**

- **$5M** for health sciences center HPC upgrades, quantum computer access, and data center renovations, non-reverting through FY29.
- **$8M** for advanced equipment purchases (ion implanter, cryogenic optical spectroscopy, quantum spin-photon tools, focused ion beam system, fiber semiconductor lasers, microwave test stands) and nitrogen liquefaction plant upgrades to support mission-critical DoD collaborations. Non-reverting through FY29.

NEW MEXICO'S OPPORTUNITY

**New Mexico's**

# $315M+

**quantum investment plan can be more than just a bet on quantum computing,**

It could bring a world-class quantum computing system to the state, as well as an opportunity to build a self-sustaining industrial ecosystem around the state's irreplaceable national labs, universities, and tribal institutions. This ecosystem would yield workforce density and cross-industry supply chains that compound economic value over decades regardless of how quantum timelines unfold.

## To enable this, our recommendation is for the state to pursue a distributed, multi-vendor quantum ecosystem rather than a single-vendor approach.

An open ecosystem strategy could generate 4-6x more jobs and significantly higher cumulative GDP impact over a decade compared to a single-vendor facility, while providing critical economic resilience.

## NEW MEXICO'S OPPORTUNITY: COMPETITIVE LANDSCAPE (HOW NEW MEXICO COMPARES)

| Region | State Investment | Model | Model |
|---|---|---|---|
| Colorado (EQ) | $74M | **Distributed** | 30+ companies, 3,000 jobs, 10K projected |
| UK NQTP | £3B+ | **Distributed (5 hubs)** | £212B projected impact by 2045 |
| Illinois IQMP | $700M+ | **Single vendor** | 150 jobs, $600K/job cost |
| Amazon HQ2 | $750M | **Single vendor** | 0 new incentive qualifying jobs in 2025 |
| Research Triangle | 65 years | **Distributed** | $25.1B/yr, 375+ companies, 55K jobs |
| **New Mexico** | **$315M+** | **Recommended: Distributed** | **Opportunity: 1,400–2,700 jobs, $500M–$900M GDP** |

**Example: Research Triangle Park (RTP)** is a research park in North Carolina situated between three major universities: Duke (Durham), UNC Chapel Hill, and NC State (Raleigh). It was established in 1959 specifically to reverse the state's brain drain by creating a multi-company, university-anchored innovation district rather than recruiting a single large employer. It's the closest parallel to what New Mexico could create with an emergent quantum industry.

# Distributed ecosystems consistently outperform single-vendor bets at every scale and timeframe

## NEW MEXICO'S OPPORTUNITY: KEY CONSIDERATIONS

| | |
|---|---|
| **01 Distribute, don't concentrate.** | New Mexico should spread its investments across 10–15 supply chain companies, workforce programs, and shared R&D rather than funding a single-vendor facility, generating 4–6x more jobs, 2–3x more tax revenue, and retaining economic value even if quantum timelines slip by a decade. |
| **02 Leverage what no competitor can replicate.** | Sandia's MESA foundry, LANL's HPC resources, AFRL's active programs in quantum sensing, timing, and networking, and the nation's only quantum Tech Hub, 23 tribal nations with unique federal funding access, and a full-stack educational pipeline from CNM bootcamps to UNM PhDs give New Mexico structural advantages that a single-vendor deal would leave largely untapped. |
| **03 Invest in durability over speed.** | Precision laser manufacturers, photonics firms, vacuum specialists, and trained quantum technicians serve defense, semiconductor, and aerospace customers regardless of quantum's commercial timeline, making the workforce and supply chain the safest long-term bets in the portfolio. |
| **04 Support Unmatched Educational Institutions:** | New Mexico has a multi-tier educational ecosystem that maps directly to the full workforce spectrum: CNM for technicians, NM Tech, NMSU, and tribal institutions for bachelor's-level engineers, and UNM for PhD researchers, all within driving distance of the labs. |
| **05 A single vendor facility introduces significant risk to New Mexico.** | In Quantum Information science, with an emergent industry, it is far too early to put all your "qubits" in one basket. |

Open ecosystem wins on every metric | 4–6x more jobs | 2–3x more tax revenue | Built-in quantum winter insurance

# Economic Impact Comparison

| Metric | Single Vendor | Open Ecosystem |
|---|---|---|
| Direct Jobs | 50 - 80 | 300 - 600 |
| Total Jobs | 150 - 240 | 1,400 – 2,700 |
| Annual Wages | $8M - $16M | $36M – $72M |
| Tax Revenue / Year | $2M - $5M | $36M - $72M |
| 10-yr GDP | $300 - $500M | $500 - $900M |
| Cost/direct Job | $2.5M - $4M | $330k - $670k |
| Resilience to Risk | Low | High |

**Recommendation:**

**Build a distributed multi-vendor quantum ecosystem — not a single-vendor facility**

New Mexico's $315M+ investment could seed 10–15 supply chain companies, workforce programs, and shared R&D — generating 4–6x more jobs with built-in resilience if quantum timelines slip.

Open ecosystem wins on every metric | 4–6x more jobs | 2–3x more tax revenue | Built-in quantum winter insurance

NEW MEXICO'S OPPORTUNITY: UNIQUE POSITIONING FOR SUCCESS

# Why an Open Ecosystem succeeds in New Mexico

- **Sandia MESA**

  Only U.S. quantum device foundry (Si CMOS + photonics + III-V)
- **LANL**

  100+ quantum researchers, Venado 10 exaFLOP supercomputer
- **Elevate Quantum**

  Only federally designated quantum Tech Hub in the nation
- **23 tribal nations**

  Unlock $30–60M federal funding (NSF TCUP, DOE, SBA 8(a))
- **Full workforce stack**

  CNM bootcamp → NM Tech → UNM PhD: short drive apart
- **Low energy costs**

  $0.16/kWh — 24% below national average

Open ecosystem wins on every metric | 4–6x more jobs | 2–3x more tax revenue | Built-in quantum winter insurance


QUANTINUUM