

Quantum
Network

Chicago

Chicago Rankings

1

In Federal Contract Funding for Quantum

Illinois leads the US in federal contract funding with 27 contracts totaling \$51,193,717.

2

In number of quantum related Ph.D. graduates.

Institutions across the Chicago, Champaign-Urbana, and Madison metro areas ranked third nationally for quantum-related academic degree completions in 2021 and second for Ph.D. degrees, awarding 384, or roughly 6% of all completions.

3

In Number of Quantum Grants

Illinois startups and universities have received 81 grants totaling an investment of \$54,257,700.

4

Out of 10 NQI ACT Research Centers

Illinois is home to four multidisciplinary hubs created under the 2018 National Quantum Initiative Act to advance quantum information science through research, technology development, and workforce training across DOE and NSF programs.

Chicago's Quantum Network



Why Chicago?

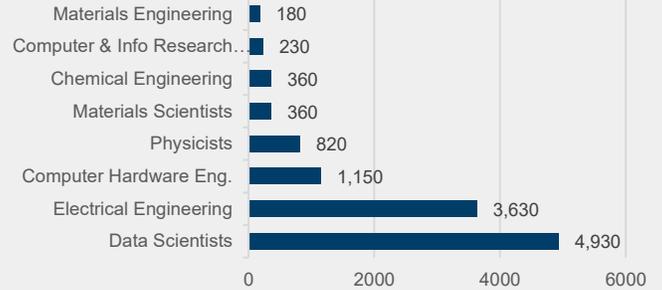
Chicago is rapidly becoming a national leader in quantum computing innovation. The region was designated a U.S. Regional Innovation and Technology Hub in 2023 and has secured nearly \$1 billion in federal and state support, including \$500 million in FY2025 to launch the Illinois Quantum & Microelectronics Park (IQMP) in South Chicago. Illinois is the only state home to two DOE National Quantum Centers—Q-NEXT and SQMS—and operates a 124-mile quantum network testbed linking Argonne, Fermilab, and the University of Chicago. The IQMP will provide advanced cryogenic and lab infrastructure, accelerating commercialization for startups, scale-ups, and major enterprises. Chicago's talent pipeline—anchored by the University of Chicago and UIUC and supported by a deep regional STEM base—pairs with one of the nation's most significant internet and data infrastructure hubs. Illinois is also aligning incentives with sector growth. New quantum-focused incentives complement existing state and local tools, with enhanced benefits for projects in underserved areas. As activity clusters around the University of Chicago and the forthcoming IQMP, demand for office, lab, and R&D space will increase, driving international investment and expanding Chicago's innovation footprint.

New Market Entrants to IQMP

| COMPANY | INVESTMENT |
|------------|---|
| PsiQuantum | California based Co. will anchor IQMP and build first million-qubit scale, fault-tolerant quantum computer |
| Pasqal | French Co. to invest \$65M to establish U.S. HQ and develop neutral-atom quantum computers |
| IBM | Tech giant partners with Duality to offer startup resources, including one of the first modular, utility-scale quantum computer systems at IQMP |
| Infleqtion | Colorado based Co. plans to build the first-scale, neutral atom quantum computer |
| Diraq | Australian firm will build its US-based quantum computing operations in IL |
| SealsQ | Swiss semiconductor company makes first US investment into Chicago QC chip developer EeroQ |

Employment

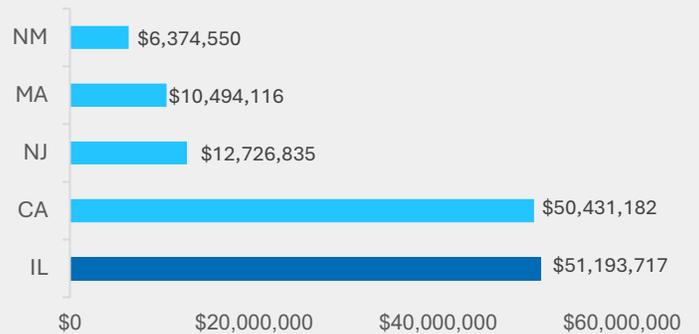
Quantum-Related Workforce 2024 Jobs by Occupation



- Chicago has nearly 12,000 workers in occupations related to quantum technology, including engineers, data scientists, and other scientist roles — projected to grow 7% by 2027.
- Chicago offers highly specialized talent for quantum applications, including the second-highest number of physicists and the third-highest number of materials scientists among all metro areas.

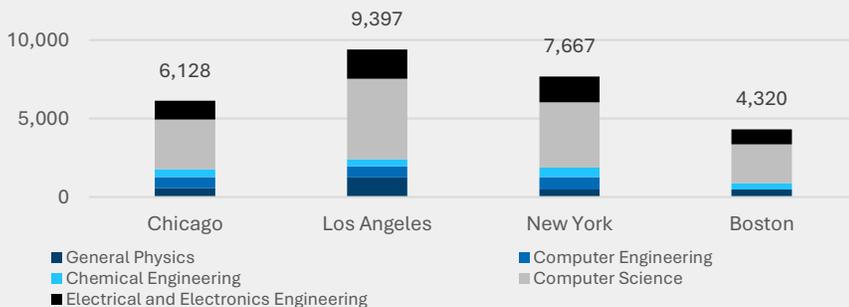
Federal Funding

Top 5 States in Total Federal Contract Funding for Quantum Technology



Education

Chicago MSA Produces The Third Most Quantum Related Degrees in the Nation



- Illinois is a national leader in quantum research, anchored by the Chicago Quantum Exchange (CQE) at the University of Chicago. The CQE convenes leading industry and academic partners, such as IBM and Boeing, along with institutions including Northwestern University and the University of Illinois Urbana-Champaign through initiatives like Northwestern's INQUIRE, to accelerate discovery, talent development, and commercialization across the region..
- The Chicago region also has the second most universities with actual Master's degree programs in quantum information science and technology

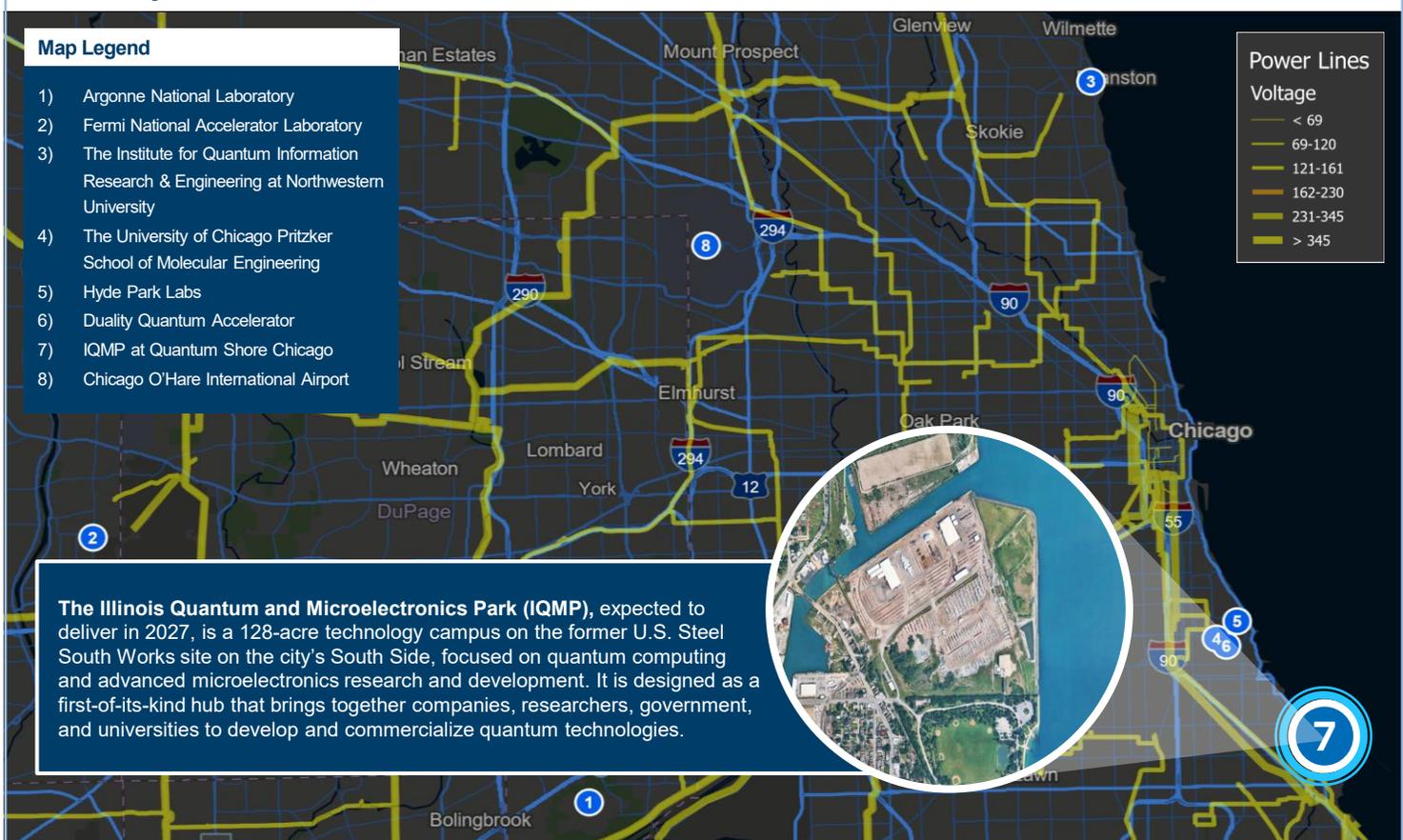
Chicago's Quantum Network



Public And Private Initiatives & Investments

| PROGRAM/ INVESTOR | TYPE | AMOUNT/TERM | FOCUS |
|---|------------------------------|--|---|
| Q-NEXT (DOE National Quantum Information Science Research Center, led by Argonne National Laboratory) | Public (U.S. DOE) | Up to ~\$125M over 5 years (from 2020, renewed in 2025) | Quantum materials, devices, and networks; core Chicago partners include Argonne, University of Chicago, Fermilab, Northwestern, and industry members. |
| SQMS Center (Superconducting Quantum Materials and Systems, led by Fermilab) | Public (U.S. DOE) | Up to ~\$125M over 5 years (from 2020, renewed in 2025) | Superconducting quantum processors and systems; Chicago-area leadership at Fermilab with regional academic/industry partners. |
| NSF Quantum Leap Challenge Institute for Hybrid Quantum Architectures and Networks (HQAN) | Public (NSF) | ~\$25M over 5 years (2020–2025) | Hybrid quantum networking and architectures; led by UIUC with University of Chicago and Northwestern as core partners, strengthening the Chicago node. |
| IonQ Center for Engineering and Science at the University of Chicago | Private | \$100M | IonQ announced a partnership with the University of Chicago to deploy its first production-grade quantum computer and entanglement network on a university campus and to help establish the IonQ Center for Engineering and Science, a new facility that will house the Pritzker School of Molecular Engineering. |
| Chicago-area Quantum Network Testbeds (UChicago–Argonne–Fermilab) | Public (DOE-backed) | Amount embedded in DOE center/program budgets | Development of metropolitan-scale quantum networking (e.g., 100+ mile fiber loops), advancing quantum communications and the “quantum internet” roadmap. |
| The Bloch: Chicago Quantum Tech Hub (EDA Tech Hubs Program) | Public (U.S. EDA) | Phase 1 designation with a strategy development grant (2023) | Regional initiative to accelerate quantum commercialization, workforce, and supply chains centered on the Chicago Quantum Exchange (CQE) consortium. |
| Duality Quantum Accelerator (UChicago Polsky, Argonne, CQE, UChicago, P33; corporate partners) | Public–private–philanthropic | Multi-year program; financial and in-kind support (amounts vary/not fully disclosed) | First U.S. accelerator dedicated to quantum startups; capital, lab access, mentorship, and customer connections based in Chicago. |

Activity Clusters



Illinois' Quantum Advantage: Ecosystem, Incentives, and Real Estate Implications



In 2023, the Chicago region was designated an official U.S. Regional Innovation and Technology Hub for quantum technologies, reinforcing Illinois' national leadership. The state has secured a combined \$1 billion in funding—approximately \$300 million in federal resources and \$700 million in state investment prioritized by Governor Pritzker—with \$500 million in the FY2025 budget dedicated to establishing the Illinois Quantum & Microelectronics Park (IQMP).

Illinois is the only state that hosts multiple U.S. Department of Energy National Quantum Information Science Research Centers: Q-NEXT (led by Argonne National Laboratory with the University of Chicago, UIUC, the University of Wisconsin, and Northwestern) and SQMS (led by Fermilab with UIUC and Northwestern). This concentration of world-class hubs strengthens access to federal funding, accelerates commercialization, and fuels a leading research and industry ecosystem. Illinois is also home to one of the world's first quantum communication networks—a 124-mile testbed connecting Argonne, Fermilab, and the University of Chicago—established as part of the National Quantum Internet Blueprint. This infrastructure supports advanced R&D, deployment-ready technology testing, and real-world demonstration environments essential to industry growth.



With the development of the IQMP, South Chicago will offer unparalleled access to cryogenic and laboratory facilities, enabling breakthrough research and commercialization opportunities for startups, scale-ups, and Fortune 500 innovators. The University of Chicago and UIUC continue to produce top-tier quantum scientists and engineers, supported by a deep regional STEM talent pipeline and proximity to additional research institutions in Michigan and Wisconsin. Combined with one of the nation's largest internet and data crossroads, robust cloud and fiber networks, and expanding data center infrastructure, Chicago is positioned to become a global leader in quantum computing, networking, and applied technologies.



As activity concentrates around the University of Chicago and the forthcoming IQMP, demand for office, research, and commercialization space is expected to accelerate—driving new development and institutional investment in a historically underserved area of the city and expanding Chicago’s innovation footprint.

State and Local Incentives

- In 2024, Illinois introduced new, quantum-focused incentive programming. These offerings supplement—rather than replace—traditional state and local incentives, signaling the state’s priority to compete for quantum projects.
- Projects locating in underserved areas may qualify for more lucrative state incentives.
- Local incentive programs generally accommodate a broad range of industries. While there are no widely established quantum-specific local programs at this time, several municipalities have indicated eagerness to compete and a willingness to use discretionary tools to craft competitive packages. Naperville is one example.
- Given quantum’s emerging and higher-risk profile, incentive structures may be more complex and may require additional stakeholder education, milestones, and performance-based terms.

Why Illinois

- Home to two of the five DOE National Quantum Information Science Research Centers (Q-NEXT and SQMS)—the only state with multiple national quantum hubs—providing superior access to federal funding and partnerships.
- Hosts a 124-mile quantum communication testbed linking Argonne, Fermilab, and the University of Chicago, enabling advanced R&D, real-world testing, and deployment-readiness aligned with the National Quantum Internet Blueprint.
- Produces top-tier quantum talent through the University of Chicago and UIUC, with additional recruiting access to leading institutions in Michigan and Wisconsin.
- Benefits from one of the nation’s densest digital backbones, including major internet exchanges, cloud providers, fiber networks, and expanding data center infrastructure—critical for quantum-adjacent workloads and commercialization.

Together, Illinois’ concentrated research assets, dedicated funding, emerging incentive programs, and digital infrastructure create a uniquely powerful environment for quantum innovation—and a compelling case for siting, expansion, and investment across the Chicago region.



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