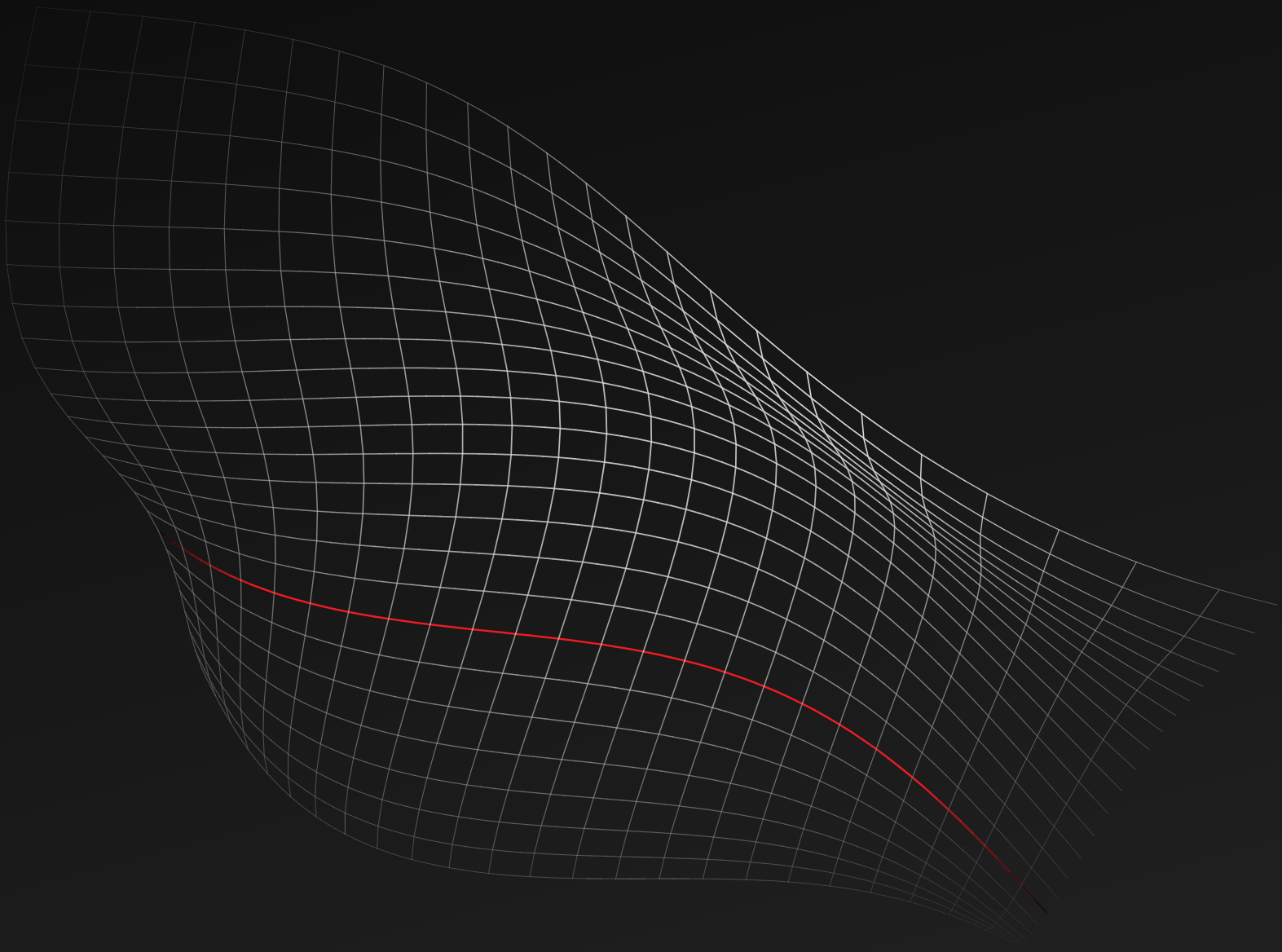


6 | Workforce

Between 2024 and 2026, the U.S., UK, Australia and the European Union each moved workforce development into named programs with dedicated budgets. The key driver is the belief that the workers that the quantum sector needs are engineers and technicians rather than just physicists. This also suggests there is increasing belief that talent demand is arriving fast enough to justify building supply now.

In the U.S., the 2026 Executive Order on quantum innovation treats workforce development as essential to maintaining U.S. leadership in quantum information science and technology (QIST).[1] It guides the National Science Foundation (NSF) to begin creating a network of National QIST Workforce Development Institutes to expand training opportunities and coordinate efforts across federal, state and local governments. In addition, it directs the Office of Personnel Management to create a government-wide strategy for recruiting and retaining quantum talent, potentially using special pay and stronger hiring incentives. This follows previous NSF efforts, such as ExpandQISE, launched in 2024 and backed by $39 million, with the aim of strengthening the quantum workforce and investing in the scientific and technological advances that will be the foundation for a quantum-enabled future.[2]

The United Kingdom published its Quantum Skills Taskforce report in June 2025, emphasizing the need for engineers, technicians and professionals in quantum-adjacent disciplines to work with emerging systems and recommending greater use of apprenticeships, continuing professional development, industry placements and quantum modules embedded in engineering degrees.[3] The government's Digital and Technologies Sector Plan included increased funding in 2026 for quantum apprenticeships and a competition to establish a Centre for Quantum Commercialisation Skills.[4]

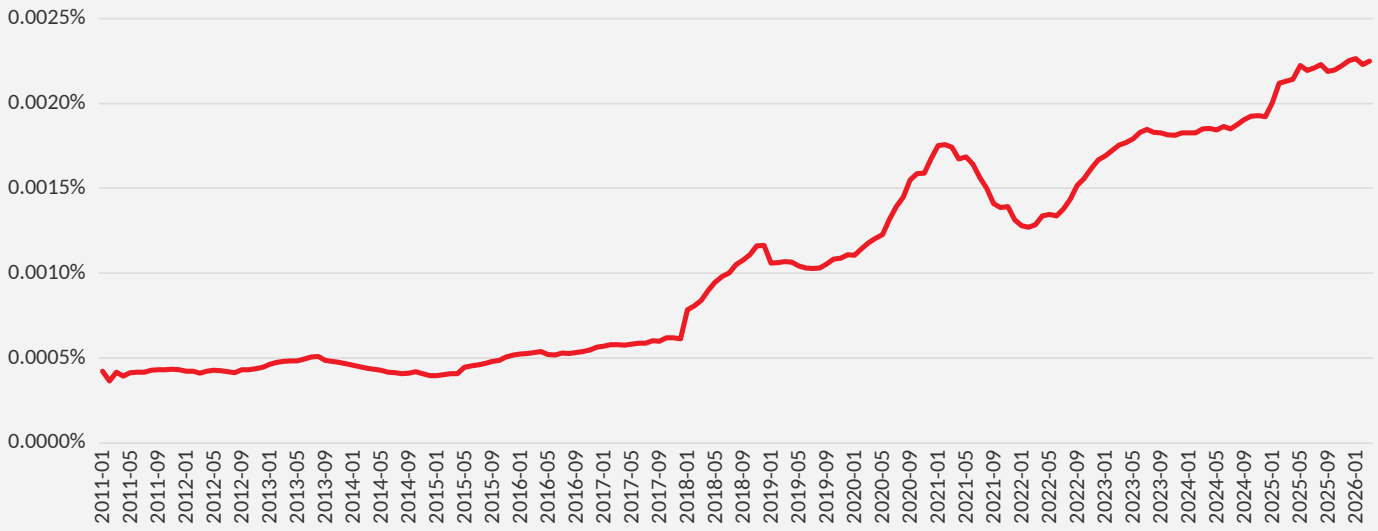
Australia offers another model in which workforce development is positioned as part of broader ecosystem formation. Its National Quantum Strategy[5] identifies a "skilled and growing quantum workforce" as one of five central themes and recognizes that future demand will encompass engineers, software developers, educators and managers as well as physicists. Government projections suggest that Australia's quantum industry could support approximately 8,700 jobs by 2030 and 19,400 by 2045. In 2026, the Australian Research Council (ARC) launched its Training Centre in Current and Emergent Quantum Technologies (QuTech) aiming to prepare master's and PhD students to work across research, industry and applied environments.[6]

At the European Union level, the Quantum Europe Strategy of 2025 has as one of its five themes “building a diverse, world-class workforce through coordinated education, training, and talent mobility across the EU”.[7] The strategy also announces support for a pilot Quantum Apprenticeship Programme to prepare a pipeline of quantum specialists trained on real-world projects. In 2026, Europe also launched the European Quantum Academy, a pan-European ecosystem for quantum education and training.[8]

6.1 | Quantum skills in job postings

Fig. 6.a | U.S. job postings requiring “quantum” skills as a share of total job postings, 2011 to March 2026

MIT Quantum Index Report



+16%

Growth nearly stalled in 2024 (+4%) right after a strong 2023 (+26%), which could have been read as the market maturing or cooling. Instead, 2025 came back at +16%, and Q1 2026 is already at the series' all-time high.

Based on the Lightcast data on U.S. job postings requiring "quantum" skills as a share of total job postings from 2011 to March 2026, the share has grown more than fivefold from the start of 2011 to the first quarter of 2026. It should be noted that the measure quoted is a share rather than a count, and so moves with total U.S. posting volume as well as with quantum hiring.

The first phase, 2011 to 2017, was one of limited and uneven growth. The yearly average barely moved, even dipping in 2014, before drifting up in 2017, for cumulative growth of only about 42% across seven years, with year-over-year swings as large as +18% (2016) and -12% (2014).

The second phase, 2018 to 2020, marks a sharp acceleration. The yearly average jumped 66% in a single year in 2018, then kept climbing through the period, with annual growth of 8% in 2019 and 29% in 2020.

In the third phase, mid-2021 through 2022, after peaking in the first months of 2021, the monthly share fell for roughly a year and a half, dragging the 2022 annual average down, marking the first full-year decline since 2014, a contraction of about 9.5%.

The fourth phase, from 2023 onward, is a renewed and increasingly steady climb. 2023 rebounded sharply (+26% on 2022), 2024 growth cooled to a plateau (+4%, with monthly values essentially flat for most of the year), and then the trend re-accelerated: 2025 posted +16% growth, and the first three months of 2026 are already running at the highest level in the series.

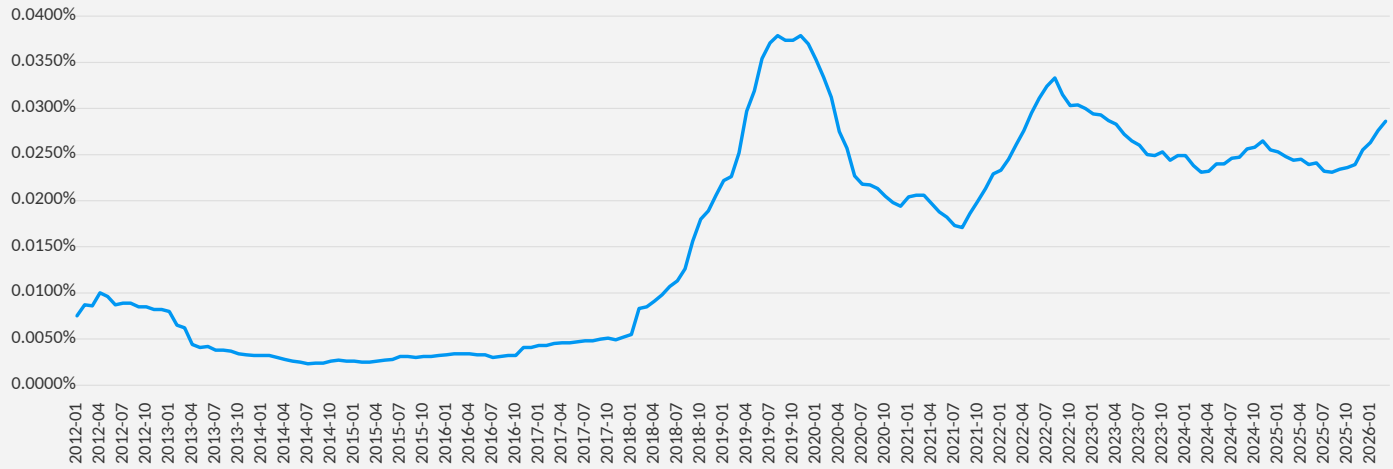
In short, what looked like a stabilizing, moderate upward trend as of mid-2024 has since resolved into a second acceleration, following the classic pattern of a demand surge, a partial pullback, and then renewed, broader-based growth as quantum skills become more embedded in the job market.

> Job postings requiring quantum skills have increased more than fivefold since 2011, reaching their highest recorded share of total job openings in early 2026.

6.2 | Quantum mentions in job postings

Fig. 6.b | U.S. job postings with mentions of “quantum” as a share of total job postings, 2012 to March 2026

MIT Quantum Index Report



Based on the Lightcast data on U.S. job postings mentioning “quantum” as a share of total job postings from 2012 to March 2026, this series tells a different story from the required-quantum-skills data: rather than a steady climb, it is a boom-bust cycle. Overall, the share ends about 3.2 times higher than it started, but that net gain masks two full cycles rather than one continuous trend.

The first phase, 2012 to 2014, is actually a decline. The second phase, 2015 to 2017, is a slow, unremarkable recovery. The yearly average showed roughly 65% growth over three years but off a very low base.

The third phase, 2018 to 2019, shows a sharp surge with a more than sixfold increase in just two years, and the single highest point in the entire 14-year series.

The fourth phase, 2020 to 2021, is an equally sharp downward correction. The average fell by 23% in 2020 and a further 22% in 2021, bottoming out around August 2021, nearly halving from the 2019 peak in two years. This decline is steeper and starts two years earlier than the dip seen in the skills series, suggesting the “mentions” of quantum cooled off faster than actual quantum-skill demand.

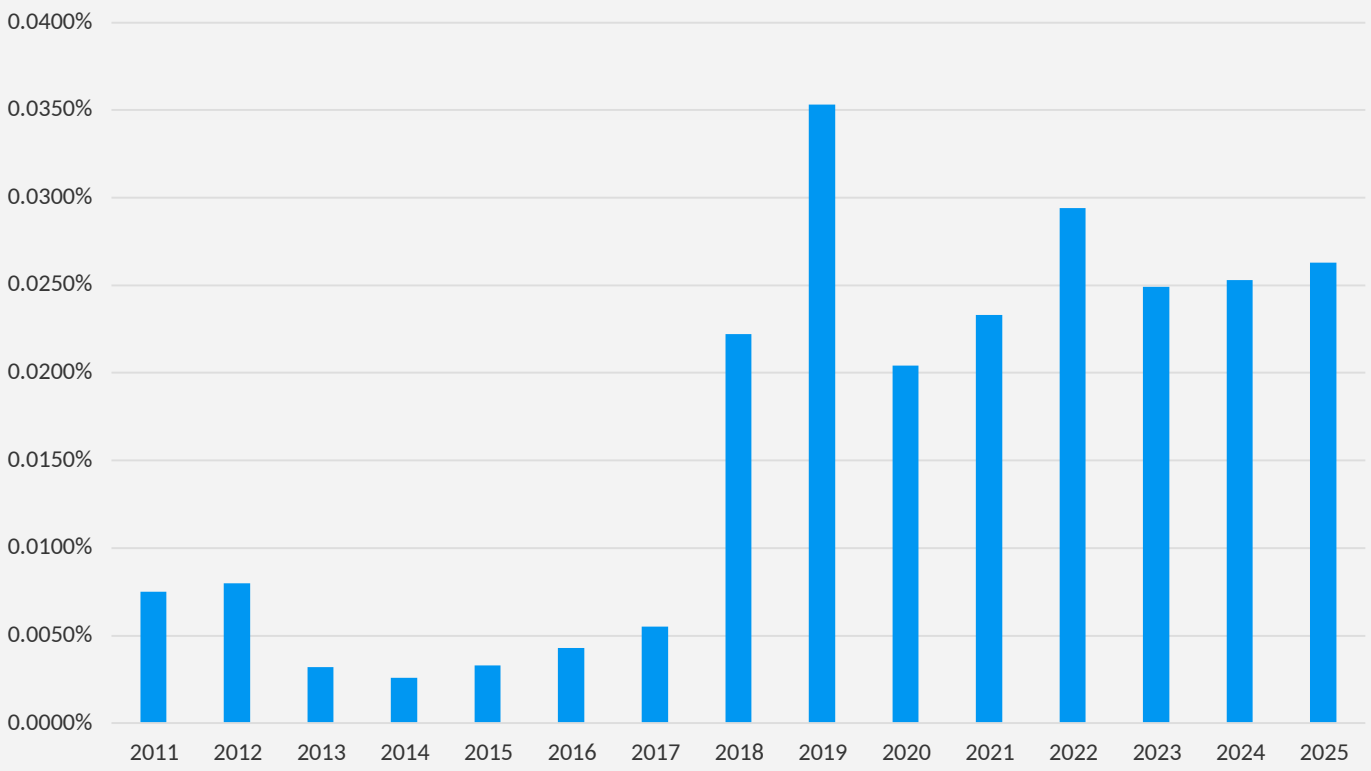
The fifth phase is a second, smaller wave: a rebound through 2022 (+49%), peaking mid-year in August, nearly matching the 2019 high, before easing off again.

Since then, 2023 through 2025 has been a plateau/decline, roughly -3% to -8% per year, essentially flat compared to the volatility earlier in the series. The most recent signal is a fresh uptick starting in late 2025 and accelerating into Q1 2026, the highest level since the 2022 rebound, mirroring the renewed growth seen in the skills data over the same window, but with much more amplitude.

Unlike the “required quantum skills” data, which shows a fairly orderly, mostly upward climb, “mentions” of quantum are more cyclical, with two distinct hype-and-correction waves (2018–2021 and a smaller 2021–2023 one) sitting on top of a more modest long-run growth trend.

Fig. 6.c | U.S. job postings share mentioning “quantum” by year, 2011–2025

MIT Quantum Index Report



The share of postings mentioning “quantum” declined in 2023 following its 2022 peak and has since remained broadly flat through 2025, whereas the share of postings requiring quantum-related skills has continued to increase over the same period. This divergence might indicate a shift from general interest toward more concrete skill requirements.

6.3 | Future research

We plan to keep tracking this data to provide the community with clearer insights into evolving workforce trends. Our findings from the Lightcast dataset highlight the need for regular updates to the quantum skills library, reflecting a dynamic market where job roles and technical demands change rapidly. If you are interested in collaborating on skills taxonomy, suggesting new resources to track, or helping build international datasets, we welcome you to reach out.

You can reach us at contact@qir.mit.edu

Footnotes

[1] Executive Order No 14413, 91 Fed Reg 38487 (22 June 2026).

[2] 'Quantum Science and Engineering Expands across the Nation with $39M from NSF | NSF - U.S. National Science Foundation' (29 August 2024) <https://www.nsf.gov/news/quantum-science-engineering-expands-across-nation-39m-nsf> accessed 6 June 2026.

[3] 'UK Quantum Skills Taskforce Report' (*GOV.UK*) <https://www.gov.uk/government/publications/uk-quantum-skills-taskforce-report/uk-quantum-skills-taskforce-report> accessed 16 July 2026.

[4] 'Centre for Quantum Commercialisation Skills' (6 May 2026) <https://www.ukri.org/opportunity/centre-for-quantum-commercialisation-skills/> accessed 6 August 2026.

[5] Department of Industry, Science and Resources, 'National Quantum Strategy' (2023).

[6] 'Building Australia's Quantum Workforce | Australian Research Council' (22 July 2026) <https://www.arc.gov.au/news-and-publications/media/building-australias-quantum-workforce> accessed 6 August 2026.

[7] 'Quantum Europe Strategy: Quantum Europe in a Changing World' (European Commission 2025).

[8] 'European Quantum Academy' <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43152860/101298535> accessed 8 August 2026.

