Governments worldwide are increasing their funding commitments for quantum technology. Here's a look at total historic investments for countries/regions with US$1 billion or more in announced funding, according to several sources—and how those quantum bets stack up next to the size of each area’s economy.

**CUMULATIVE QUANTUM FUNDING**
Countries/regions with at least US$1 billion announced public investment in quantum technology to date, as of 2023

**SIZING UP THE QUANTUM BET**
Total announced quantum public investment as share of 2022 GDP

*Total investment by EU plus selected member states
**China’s total public investment is disputed; high and low cases reflect range of estimates cited by Quantum Insider
Sources: McKinsey & Company; CIFAR; Quantum Insider; World Bank (full citations and additional information at optica-opn.org/infographic/0624-quantum)
Infographic by Stewart Wills and Alessia H. Kirkland
Notes and References

Notes on the data
The data on this infographic show total announced public investments in quantum technology through 2023 by governments of countries/regions with more than US$1 billion in such announced investments. The data shown are approximate and are intended only as a rough metric for comparing among the various countries or regions. The exact investment timelines may differ.

For all countries/regions except China and the European Union, data are drawn principally from information published in the April 2024 Quantum Technology Monitor report of the consulting firm McKinsey & Co.

For the European Union, US$9.8 billion total includes about US$1 billion at the EU level (attributable to the EU Quantum Flagship program); additional sums for Germany (US$5.2 billion), France (US$2.2 billion) and the Netherlands (US$1.0 billion) as reported by McKinsey & Co.; and announced investments totaling approximately US$430 million by seven other EU member states (Austria, Denmark, Finland, Hungary, Ireland, Italy and Sweden) as reported by McKinsey & Co. and CIFAR.

For China—whose reporting practices have been referred to as "opaque," and for which the magnitude of quantum investment is the subject of some debate—we have opted to present a range for the cumulative announced investment. These numbers are drawn from the news and market-intelligence source Quantum Insider, which in a 2023 report cited “confirmed funding” of US$4 billion (the low end shown here) but also noted that “many sources” have pointed to numbers greater than US$17 billion (the high end).

To provide a sense of the relative magnitude of these investments for the economies in question, we have divided each country/region’s investment by the same country/region’s gross domestic product for 2022 (the most recent year available) as presented by the World Bank.

References