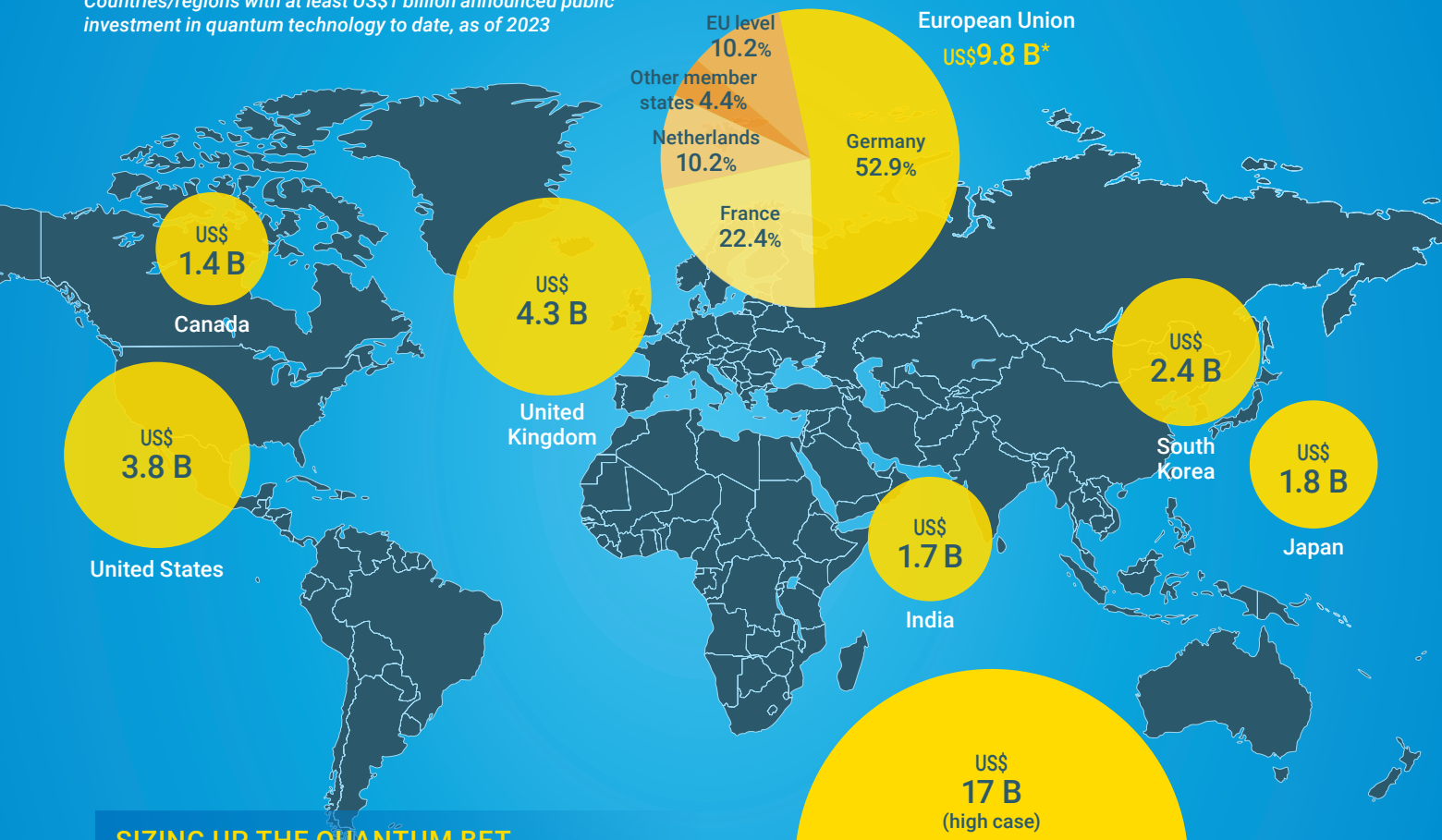
Global Quantum Funding

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.

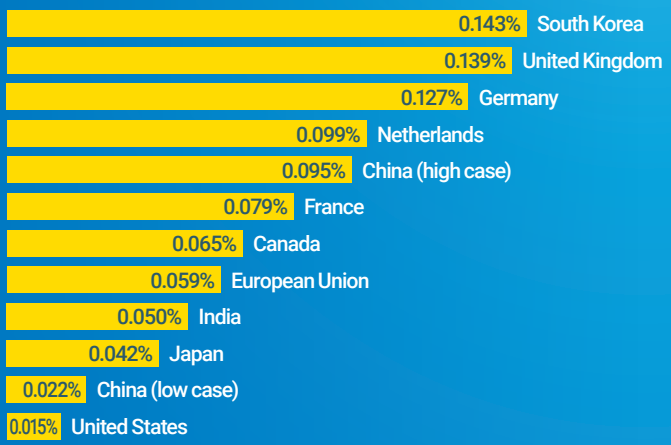
CUMULATIVE QUANTUM FUNDING

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**)

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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

- J. Kung and M. Fancy. *A Quantum Revolution: Report on Global Policies for Quantum Technology*, CIFAR (April 2021).
- Quantum Insider. *Quantum Technology in China: 2023 Review* (March 2023).
- McKinsey & Co. *Quantum Technology Monitor* (April 2024).
- World Bank. GDP by country/region (current-year US dollars), data.worldbank.org.