THE US & THE EUROPEAN UNION: INNOVATION STRATEGIES AND THE DYNAMICS OF THE TECHO POLITICAL APPROACH FROM A COMPARATIVE PERSPECTIVE

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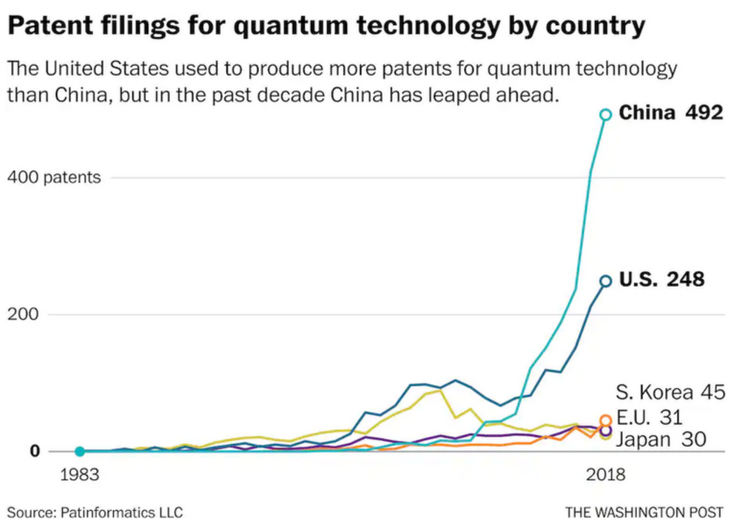
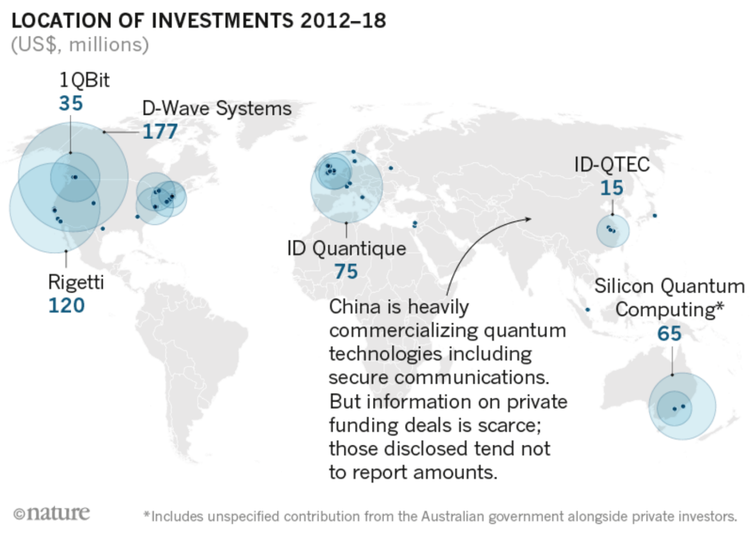
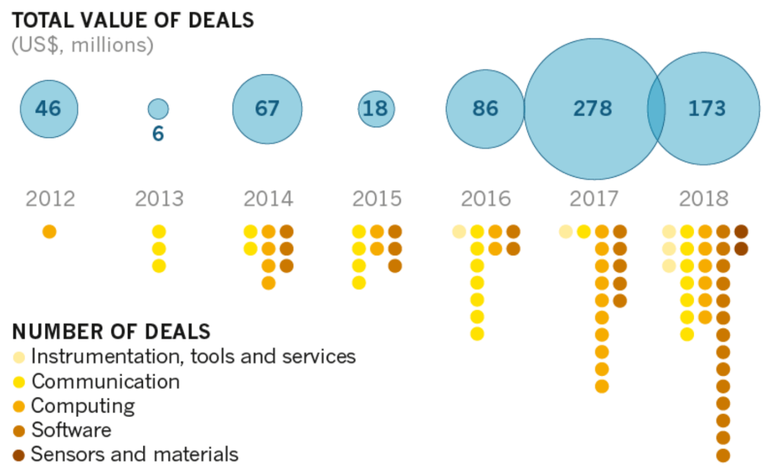
THE UNITED STATES:

- National Quantum Initiative Act (21/12/2022)
  - "To provide for a coordinated Federal program to accelerate quantum research and development for the economic and national security of the United States."
    - 23 Federal agencies participating, providing about 2.6 billion in grants to 13 major national Quantum research centers and institutes and other bodies
    - 41 Nobel laureates supported by US government in Quantum Studies; 130 companies currently participating in the Quantum Economic Development Consortium
- National Strategic Overview for QIS
  - "Getting the science right by understanding the applications and timelines by which QIS will benefit society, and the roadblocks we must overcome to get there."
  - "Enhancing competitiveness by accelerating technology development toward useful economic and mission applications of QIS and working with international partners, while also protecting national security."
  - "Enabling people by building the necessary talent pathways and ensuring that QIS creates new opportunities for all Americans."

National Quantum Initiative







THE RISE OF CHINA: AN AREA OF MUTUAL COOPERATION BETWEEN THE EU AND THE US?

- China's rapid rise on the global economic stage - and its rapid ascension to the status of global power - have changed the face of the global QT "Space race" - both the US and EU see it on the horizon within their own agenda setting
- By 2030, China aims to have expanded its national quantum communications infrastructure, developed a general quantum computer prototype, and constructed a practical quantum simulator
- It is estimated that the Chinese government has invested around $10b in quantum technologies, however this figure has not been officially confirmed

THE EUROPEAN UNION

- Sees itself as having a long-term tradition of excellence in quantum research
- Launched Quantum Technologies Flagship 2018
  - Large scale, long term research initiative funded by the EU, bringing together major stakeholders such as research institutions, industry, public funders
- EU Commission is planning to build state-of-the-art quantum computers by 2023, as part of the EuroHPC, European High Performance Computing Joint Undertaking
- In June 2019, EuroQCI Declaration, Commission and member states agreed to work together with the European Space Agency – towards development of a quantum communication infrastructure covering the whole EU (EuroQCI)
  - Expected to be operational by 2027
- The EuroQCI will also form an essential part of the EU cybersecurity strategy for decades to come

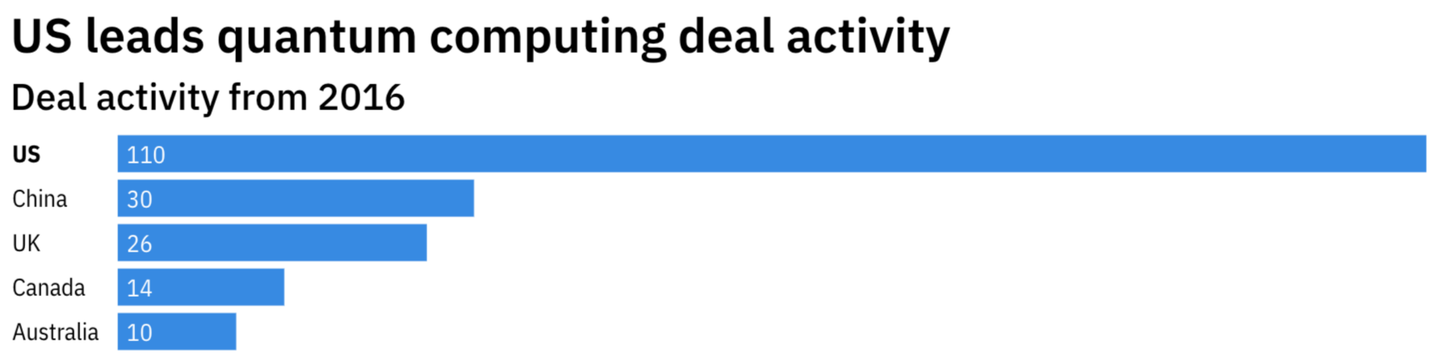
Quantum Technologies Flagship, European Commission

- Investment in Quantum Technologies greatly varies among the EU member States and within Research Funding Organizations.
- Budget dedicated to the QT calls for proposals range from less than 1 Million to over 10 Million Euro
- **Notable:** Researchers from Israel, Switzerland, Britain and other non-EU countries may be allowed to join the EU's quantum and space research projects
- **Quantera Programme** is the leading European Network of 39 Research Funding Org. of 31 countries.

Quantera, Mapping of Public Policies in QT

CONCLUSION

- The United States and the European don't see eye to eye on who should foot the bill in the global race to Quantum dominance, though increasingly see their strategic interests and geopolitical security interests as deeply intertwined with one another.
- 2022 has introduced a rapidly deteriorating global geopolitical scene, and one where cybersecurity is once again becoming a key issue where both entities agree on increased mutual collaboration.



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