ColdQuanta Focuses on the Cold Atom Method, as Do a Few Startups. Others Focus on Different Methods. One Thing is for Certain: Multiple Methods Will Play Big Roles in the Quantum Revolution. Learn About the 7 Quantum Methods.
The 7 Methods According to Tech Enthusiast Juan Moreno

1. Superconducting Loops / Circuits
2. Photonic (Optical Qubits or Boson sampling)
3. Cold Atom (Neutral Atom Qubits)
4. Trapped Ions (Ion Traps)
5. Silicon Spin Qubit (Quantum Dots)
6. Diamond Vacancies
7. Topological Qubits
Superconducting Loops / Circuits

Superconducting Loops has traditionally received the most press. IBM, Google and D-Wave focused on this approach prior to the others gaining momentum.

Rigetti raised ~$200M, including a $79M round in 2020 led by Bessemer. QCI, another startup, has Sequoia and Canaan as sponsors. Oxford Quantum Circuits spun out of Oxford University with a $2M seed round.

Superconducting method requires bulky and expensive refrigeration units, which is highlighted in IEEE 2020 article about IBM’s ambitions.
A physics team at the University of Science and Technology of China built a device that demonstrated the potential of the Photonic Method.

**PSIQQuantum**, which has Microsoft M12, Atomico, Founders Fund, and Blackstone as investors, raised $230M.

Other startups are **Orca Computing** ($3.7M Raise in 2020) and **Xanadu** (funded through public grants).

Science journalist Daniel Garisto explains how the Photonic method is gaining traction in this 2020 Scientific American article.
Cold Atom Method

ColdQuanta, which was founded in 2007, is the leader in this method. A range of products are already being delivered to a multitude of customers.

Atom Computing (funded by Venrock and Innovation Ventures), QuEra (a Harvard spinout) and Pasqal (funded by Quantonation) are new entrants.
Trapped Ion Method

IONQ, which has Google Ventures, AWS, and NEA as sponsors, raised $84M. Universal Quantum, Oxford Ionics, and AQT are also startups focused on the Trapped Ion method.

Honeywell is the first large company to pursue Trapped Ions.

Physics journalist Elizabeth Gibney explains the advantages and challenges of the Trapped Ion method in this 2020 Nature article.
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<thead>
<tr>
<th>Silicon Spin Qubit / Quantum Dots</th>
<th>Diamond Vacancies</th>
<th>Topological Qubits</th>
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<tr>
<td>This method remains primarily in R&amp;D phase.</td>
<td>Originated from Harvard University research.</td>
<td>Purely in research phase.</td>
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<td>Silicon Quantum Computing is an Australian company with $55M of government funding.</td>
<td><strong>Quantum Diamond Technologies</strong> is a small startup building applications for medical field.</td>
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<td>Quantum Motion is a French company funded by local investors.</td>
<td>This approach appears to be unlikely to scale for computing. Relevant for networking and sensing applications.</td>
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<td>Intel is also working on Quantum Dots.</td>
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