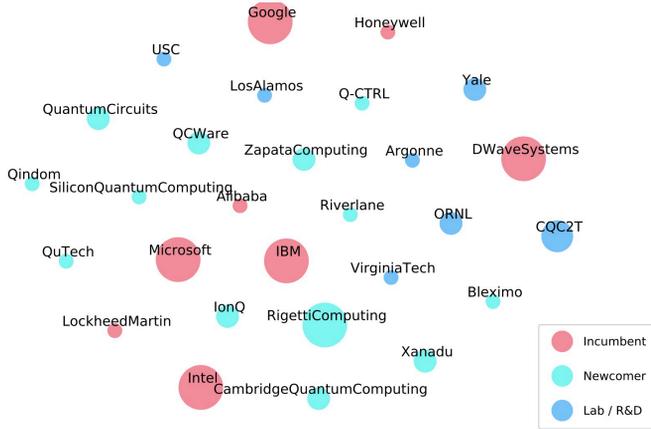


Quantum computing: players, technologies and countries

By transcending the limits of classical computing, quantum computing has the potential to revolutionize essential technologies such as Artificial Intelligence and Cryptography. The following data shows some insights extracted from online articles on quantum computing published during 2019. The insights were generated using Anacode's technology for Natural Language Processing.

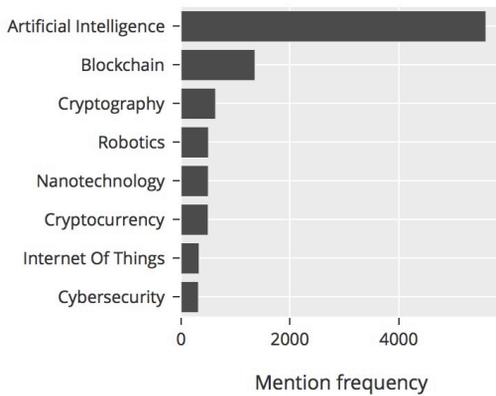
Quantum computing players



As a complex technology, quantum computing requires the interplay of multiple components, incl. hardware, software and a control layer. Its ecosystem consists of numerous players focussing on specific aspects of the tech stack. A few of the larger companies, such as IBM and Google, also work on end-to-end solutions. Further, the dependency on fundamental research also triggers intense academic activity.

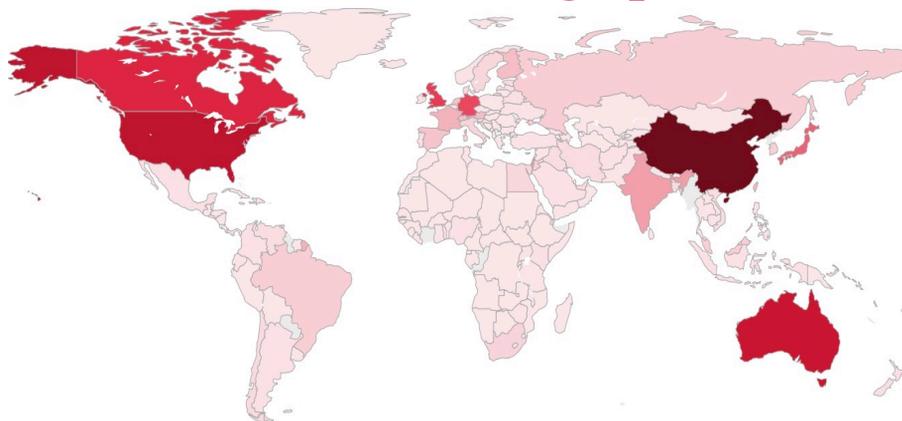
The semantic map shows relevant incumbents, newcomers (startups) and research institutions. The size of the bubbles indicates the amount of discussion. The players are positioned according to their semantic similarity in our text data. As expected, large tech companies such as **Google**, **Microsoft** and **IBM** are most prominent in the data.

Related technologies



Quantum computing might enable breakthroughs for a bunch of interrelated technologies that are already disrupting the modern world. Thus, with the rise of Big Data, processing power has turned into a major bottleneck for current **AI** systems – a remedy to this bottleneck would propel related technologies such as **IoT** and **Robotics**. The benefits of quantum computing for **cryptography** – the domain that inspired early quantum algorithms – will also have a high impact on technologies such as **blockchain** and **cybersecurity**.

Geographical distribution



This map highlights countries that frequently occur in quantum computing discussions, which is an indicator of their level of activity in the field. **China** is leading the race. As expected, a lot of progress is made in **North America**, **Europe** (with a focus on **Germany** and the **UK**) and **Japan**. **Australia** shows a strong ambition in the quantum space and has supplied some of the major advances in the last years.