



Why Patents matter in Quantum technologies?

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on

QUANTUM TECHNOLOGIES

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Why Patents matter in Quantum technologies?

5.5. Intellectual property

Europe is ahead in publications related to Quantum Technologies, but it is **patenting less** than its major global competitors, led by the US. In Asia, alongside well established players such as Japan, new actors are emerging, in particular China, but also South Korea and Malaysia.

The IP landscape constitutes a **potential vulnerability** for Europe that needs to be addressed. One could envisage for instance that funding that is being earmarked for Quantum Technologies comes with a clear and formal obligation to take account of the existing IP


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Patent analysis of selected quantum technologies

Abstract:

An analysis of patent applications filed in the European Patent Office Global Patent Index database is presented for quantum computing, quantum key distribution, quantum entanglement, and cold atom interferometry. We address methodological issues and show how patenting trends evolved in the last two decades, identifying main players and applications areas.



Files: [patent_analysis_of_selected_quantum_technologies_1.pdf](#) 

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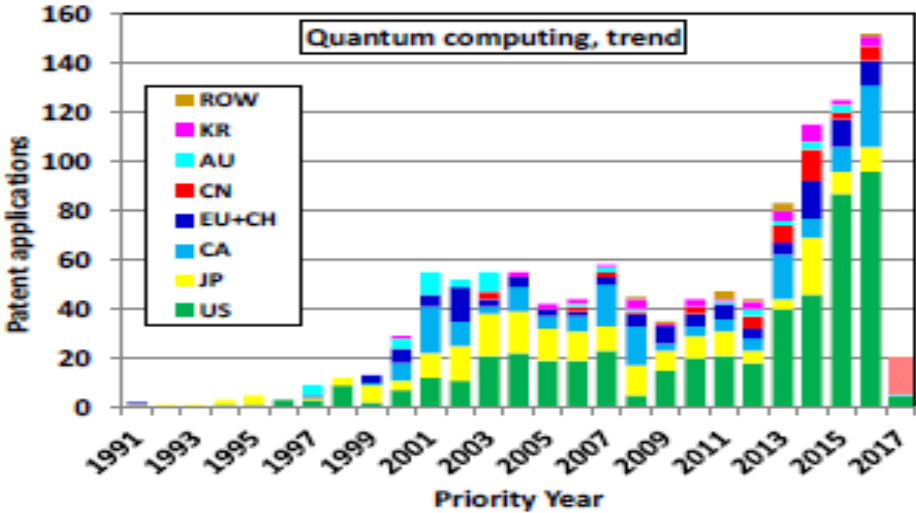


Figure 1: number of patent applications on quantum computing per year, according to the country where the applicant is headquartered. The bar for year 2017 is shaded, to highlight that results are provisional because of the optional 18-month confidentiality period between filing and disclosure.

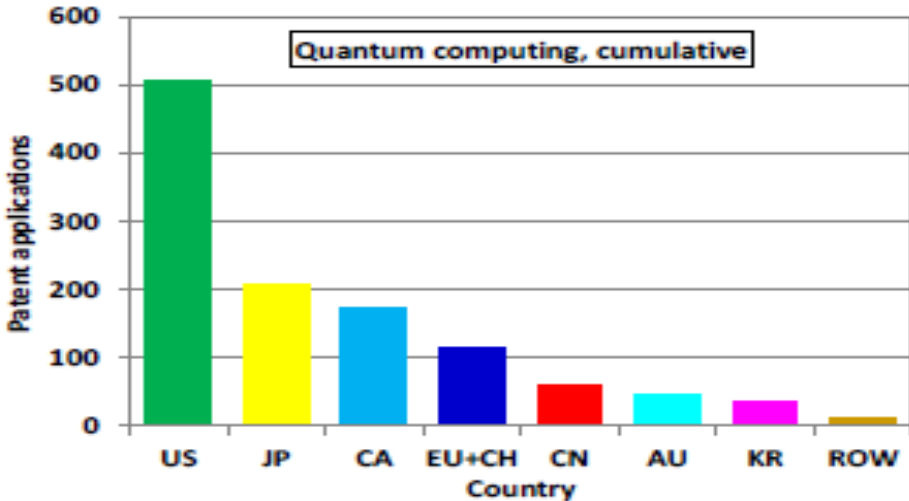
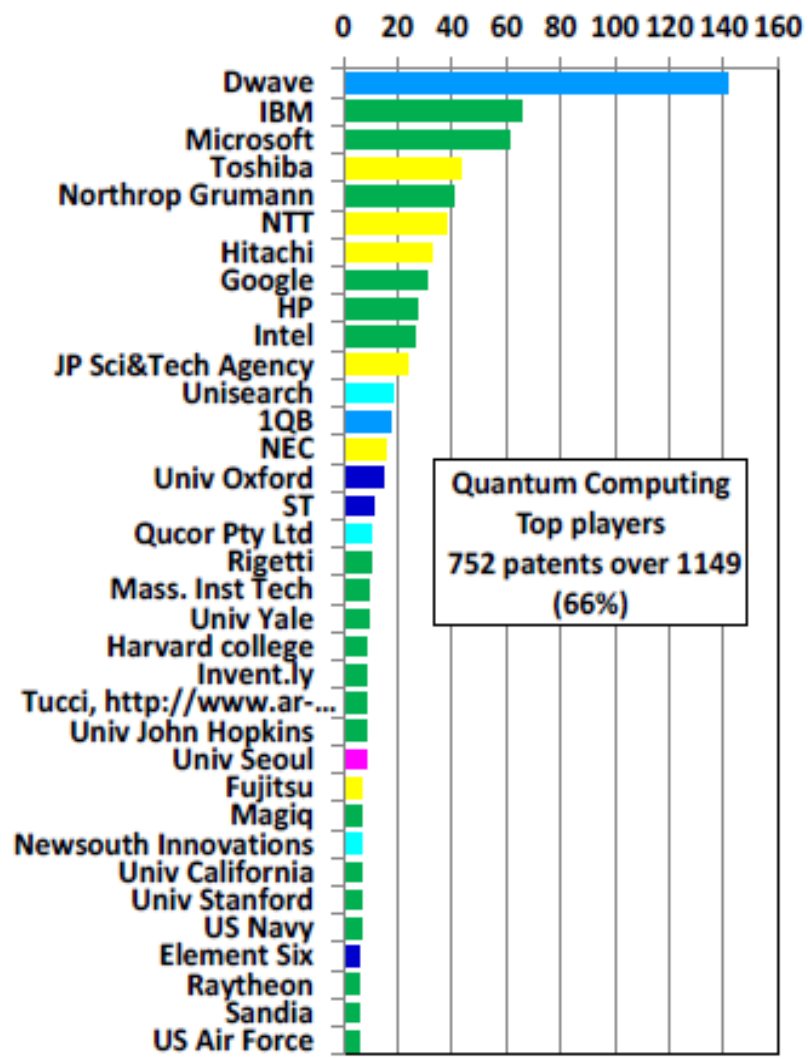


Figure 2: total number of applications, divided by country where applicants are headquartered. Main contributors to EU28 plus Switzerland are United Kingdom, Germany, Italy, France, Netherlands, Austria, Denmark and Finland.

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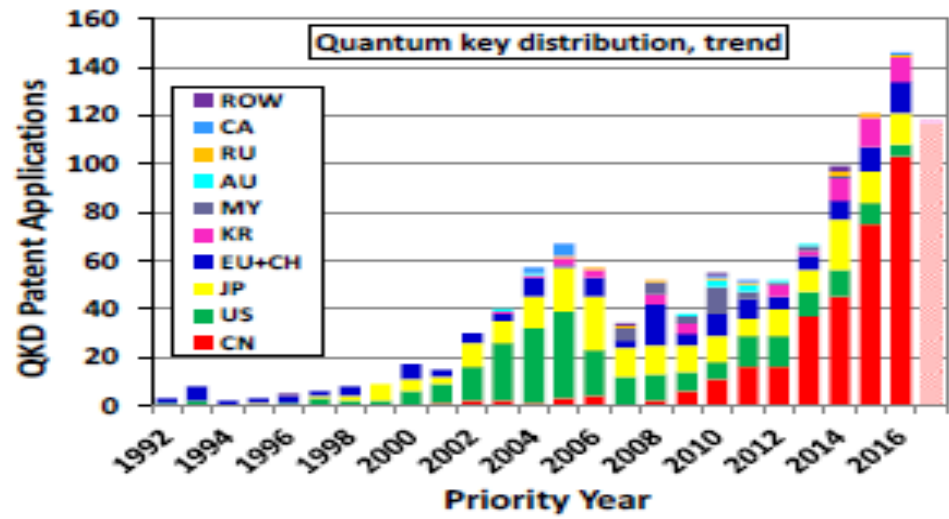


Figure 4: number of patent applications on Quantum Key Distribution per year, according to the country where the applicant is headquartered. The bar for year 2017 is shaded, to highlight that results are provisional because of the optional 18-month confidentiality period between filing and disclosure.

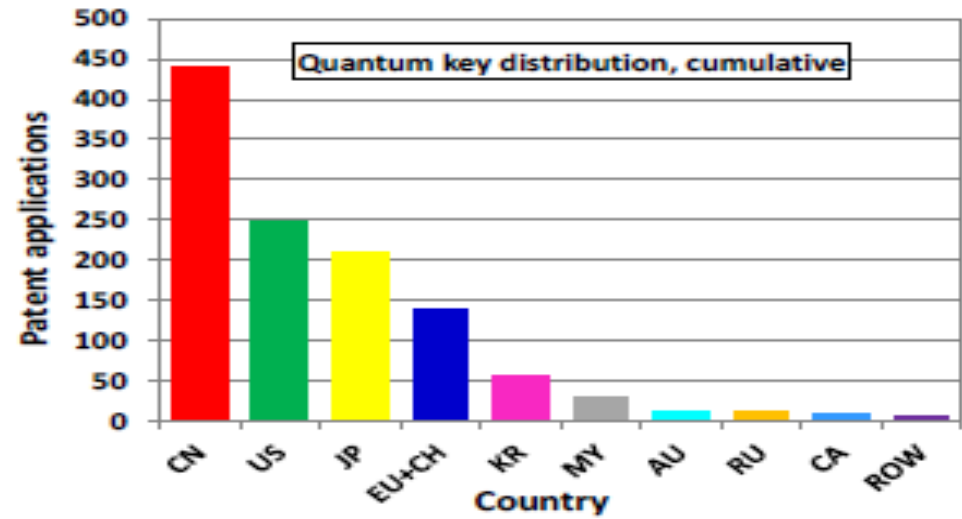
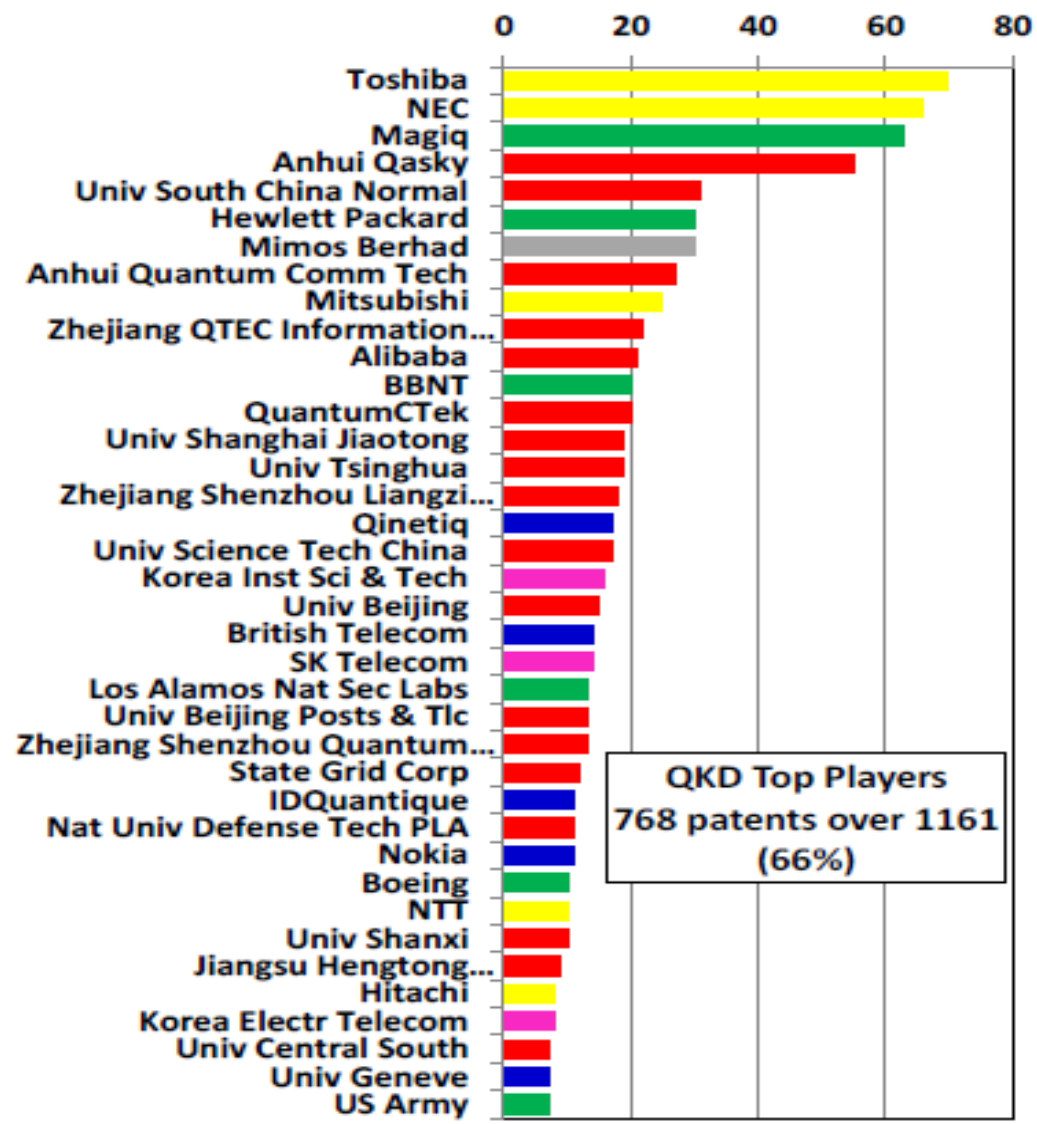


Figure 5: total number of applications in QKD, divided by country where applicants are headquartered. Main contributors to EU28 plus Switzerland are United Kingdom, Switzerland, France, Germany, Italy, and Finland. Some patents also from Spain, Austria, Belgium, and other EU countries.

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To summarize, the data here presented show that the renewed interest which QTs have been experienced in the last 5-10 years should be mainly ascribed to (i) public-funded technology push initiatives, especially by CHINA in quantum-secured communications (ii) long-term, high-risk investment in Quantum Computing, especially by USA-based IT and internet corporations.

Why Patents matter in Quantum technologies?

1. SEEK PATENT PROTECTION FOR NEW DEVELOPMENTS
2. MONITOR THIRDS IPRs & PATENTS

IP & PATENTS = MARKET PROXIMITY OF PRODUCTS

Muchas gracias

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