NKT PHOTONICS

Lasers for the commercial quantum market





Quantum goes commercial

"" We will see exponential growth of capital going into commercializing quantum computers the coming 2-5 years

> – Former Quantum project leader, Global high-tech company

66.99

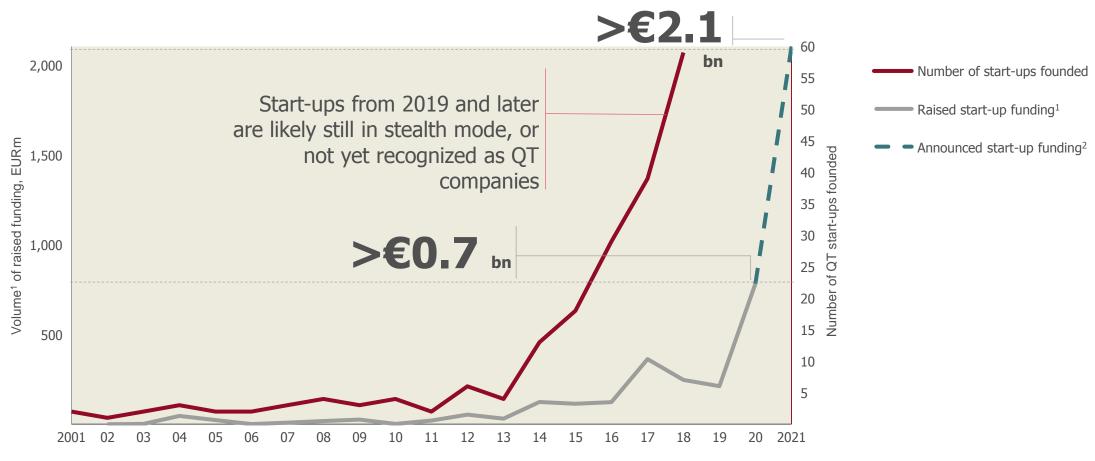
Despite low transparency in the area, we expect governments, venture capital funds and tech companies to have funded quantum computing start-ups for

+3 EURb in 2021

– Quantum ambassador, **European country**



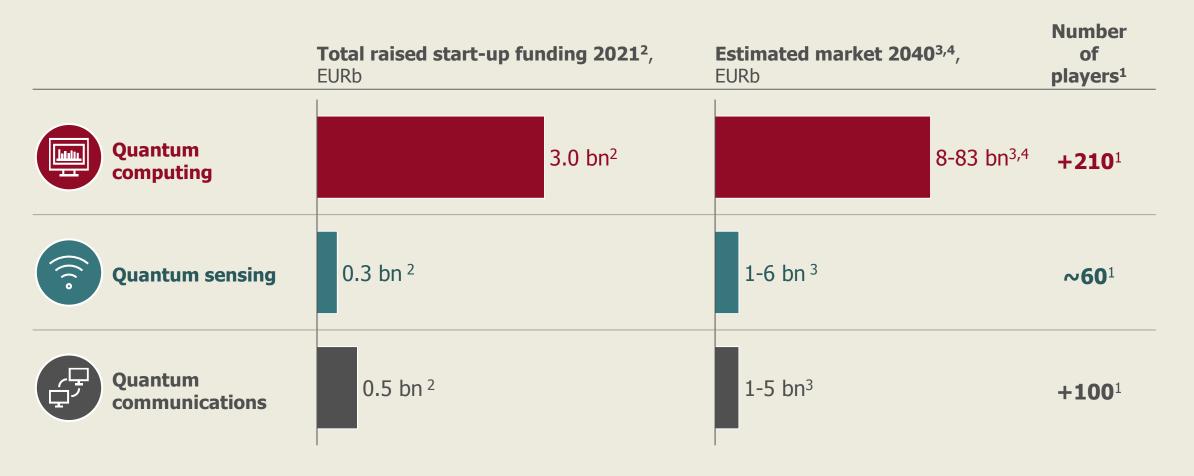
Start-up funding increasing rapidly



1. Based on public investment data recorded in Pitchbook; actual investment is likely higher 2. Public announcements of major deals; actual investment is likely higher



Quantum computing drives market



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1. All technologies, not only cold atom/ion. Includes start-ups and incumbents that develop or offer QT products. Companies that develop products for multiple QTs are included in all relevant categories.

2. Based on public investments in start-ups recorded on Pitchbook and announced deals for 2021. Actual investment is likely higher, excludes investments in internal QT departments or projects by incumbents.

3. Exchange rate for market estimates USD to EUR: 0.89.

4. Quantum computing market estimates still have a high level of uncertainty, caused by technological challenges in hardware development and lack of transparency on business impact due to limited availability of detailed end-to-end quantum solutions



Rapid global expansion since 2015



Limited transparency on commercial activity in China and Japan. QC investments primarily through governmentfunded research institutions

2015

2021



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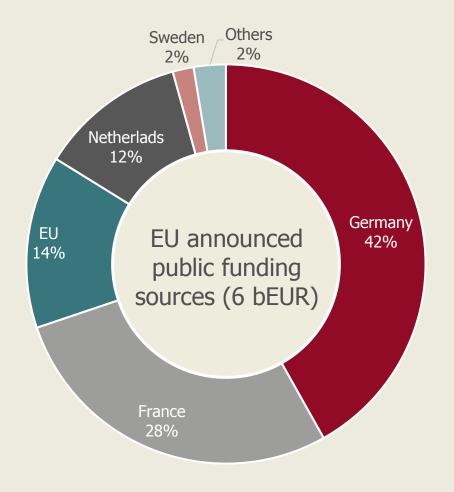
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141

59 (15)

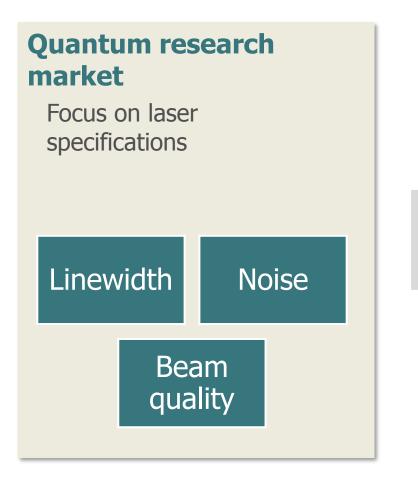
European public funding

- National public funding exceeds EU funding
- In western economies, 6 out of 10 bEUR comes from the EU countries
- Significant funding from defence programs
 not shown



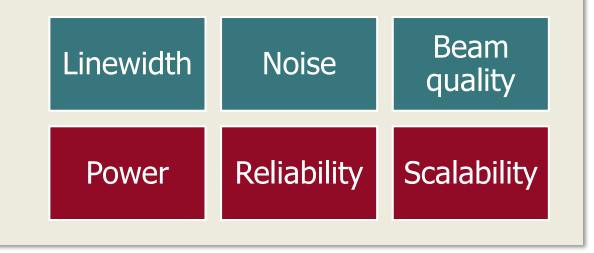


Consequences for laser manufactures



Commercial quantum market

Focus switching to power scaling, reliability, form factor, and the supplier's ability to support and deliver in volume





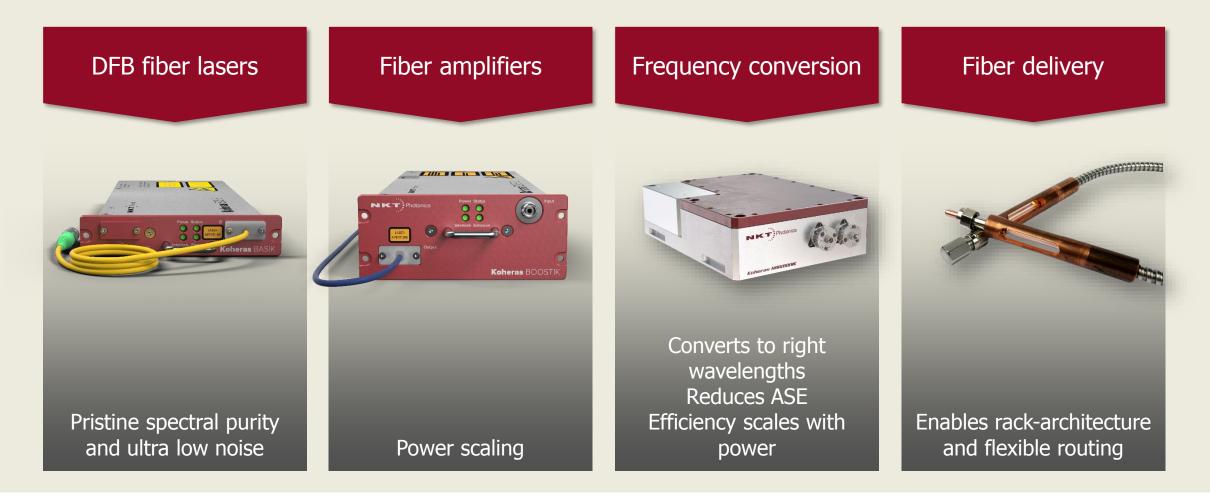
Fiber lasers are a solution

Linewidth	Market leading Hz-range linewidth	
Noise	Ultra low noise even at high power	
Beam quality	Single-mode fiber delivered output – PM or non-PM	
Power	Scale to high power without sacrificing noise or linewidth	
Reliability	Proven reliability over tens of thousands of hours	
Scalability	Scalable and deployed in high volume in other markets	



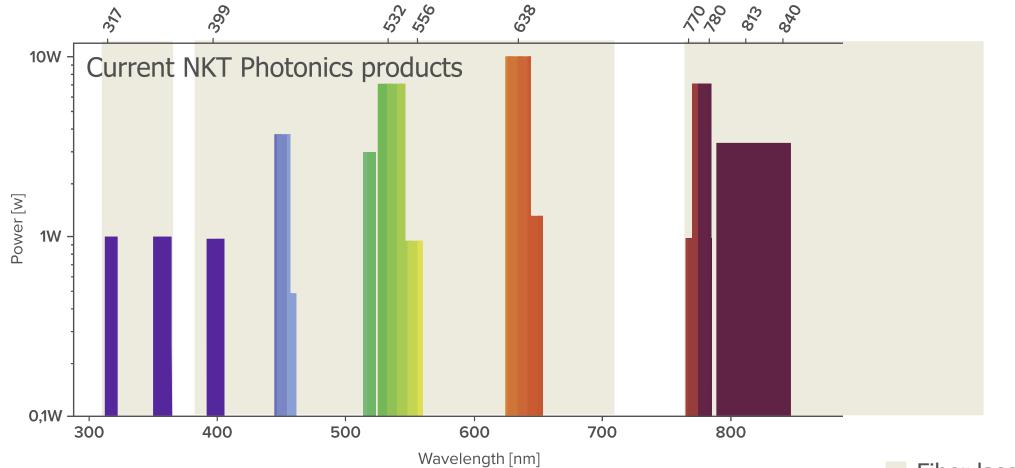


Fiber lasers as a scalable platform





Frequency conversion is the key enabler



Fiber laser capabilities



The fiber future of quantum technology



- Rapid expanding quantum market with heavy start-up funding
- National funding currently exceeds EU funding in Europe
- Focus switching to higher power, reliability, and scalability
- Fiber lasers expected to play major role in commercial quantum market

