

## Qanova Tech

# Empowering quantum pioneers with the tools they need to challenge conventional thinking and redefine the future of technology

### In a nutshell

Quantum technology has the power to transform the world around us – how we compute, how we communicate, how we live. But for this potential to be realised at scale, the engineering infrastructure behind quantum technology must evolve. One of the biggest challenges in quantum technology is signal amplification. Today's standard amplifiers, such as those based on HEMT or CMOS technologies, still add too much noise – even at cryogenic temperatures. This limits the accuracy of quantum measurements and constrains the performance of qubits, making progress slower, more expensive, and harder than it should be.

Qanova Tech is addressing these technical bottlenecks. Their patented low-noise amplification and packaging technologies are designed to give researchers the practical, reliable tools they need to move quantum forward faster.

### Why is our technology important?

Quantum technology is complex. The systems are difficult, the environments extreme, and the need for precision is high. Traditional amplifiers – based on HEMT or CMOS technology – weren't built with quantum in mind. HEMT amplifiers still introduce too much noise despite their relatively high power consumption (even at ultra-low temperatures). CMOS-based designs, often used in everyday electronics, partially solve the power consumption burden but aren't suitable for the extreme precision and cryogenic environments demanded by quantum systems.

Qanova Tech is driving the quantum revolution by offering the crucial engineering tools needed to push innovation further. They have created a new Traveling Wave Parametric Amplifier (TWPA) which brings noise levels down to the fundamental limits of quantum physics. It's highly versatile – operating across a wide frequency range – and, in the future, will work with both super- and semi-conducting qubit platforms. Combined with tailored cryogenic packaging, Qanova Tech is eliminating technical obstacles so quantum can become part of everyday reality.

### The benefits of our solution

- Minimal noise, high performance: Delivers signal amplification at the lowest noise level physically possible
- Broad frequency operation: Compatible with a range of qubit types and research platforms
- Backed by patents and industry interest: Developed with a strong IP foundation and validated through early engagement with leading labs and organisations
- Designed to scale: Built to support both research and commercial deployment

Qanova Tech is working towards a future where the bold and curious are using quantum technology to redefine what's possible.

### Keywords

Quantum technology | parametric amplifiers | cryogenic sample holders |

### Founding team

Simone Frasca | [linkedin.com/in/simone-frasca](https://www.linkedin.com/in/simone-frasca)  
Andreas Wallraff | [linkedin.com/in/andreas-wallraff](https://www.linkedin.com/in/andreas-wallraff)  
Pasquale Scarlino | [linkedin.com/in/pasquale-scarlino](https://www.linkedin.com/in/pasquale-scarlino)  
QanovaTech | [linkedin.com/company/qanovatechnology](https://www.linkedin.com/company/qanovatechnology)