QUANTUM BRILLIANCE

Quantum Accelerators: a new trajectory for quantum computing

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Who is QUANTUM BRILLIANCE

Quantum Brilliance is an Australian-German company. We aim to deliver quantum accelerators, build the software architecture and integrate them into computer systems.

Key steps

Sep 2019 Quantum Brilliance is incorporated to continue research and development of room temperature diamond quantum computing.

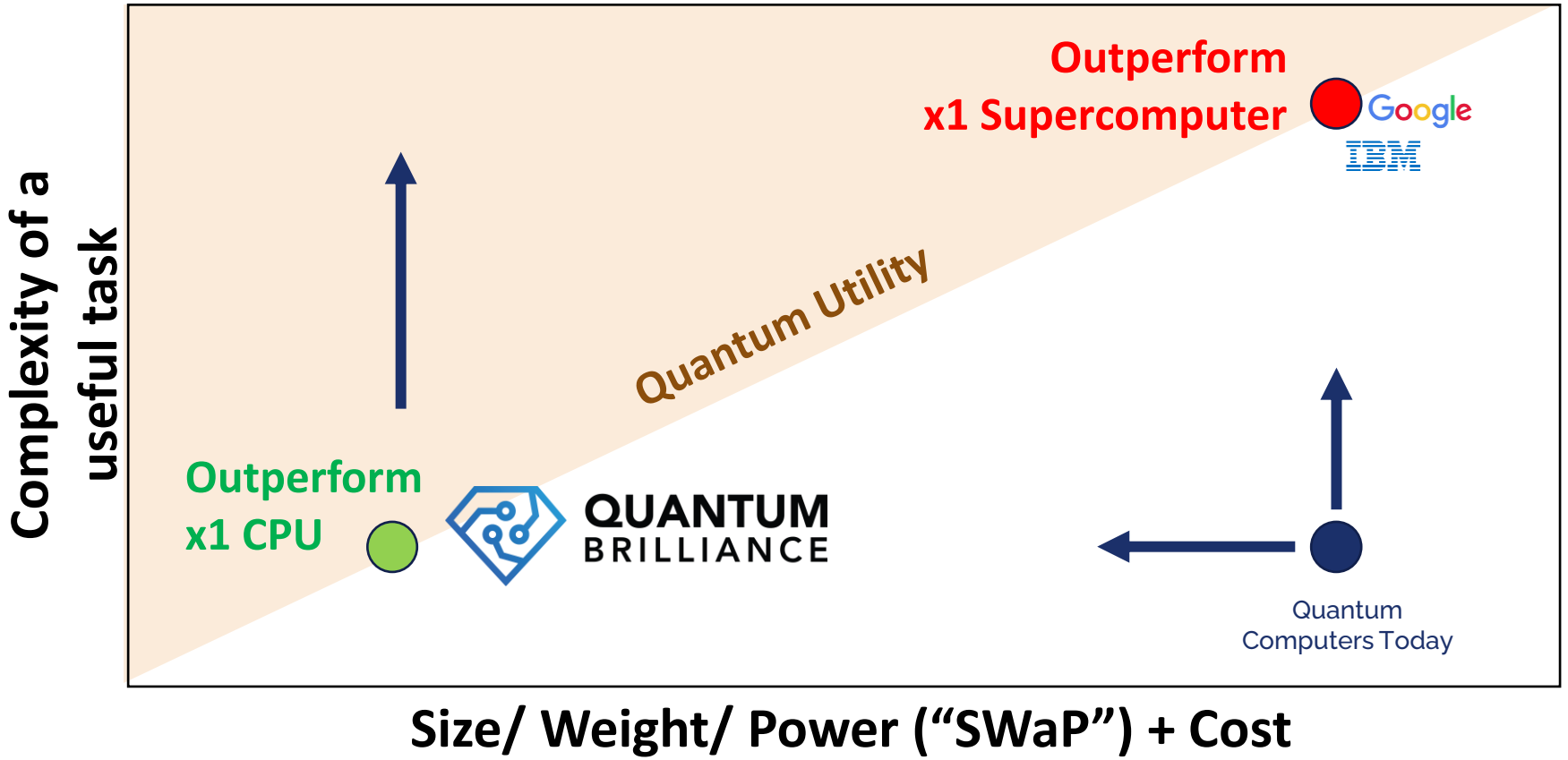
May 2020 QB partners with the Pawsey to develop Australia's first quantum-supercomputing hub.

Nov 2020 Open up European HQ in Germany.

Dec 2020 Partnership with leading machine learning and quantum application companies, as well as labs in Australia and Germany.

Sep 2021 Ramp up teams in Germany.

Quantum Utility



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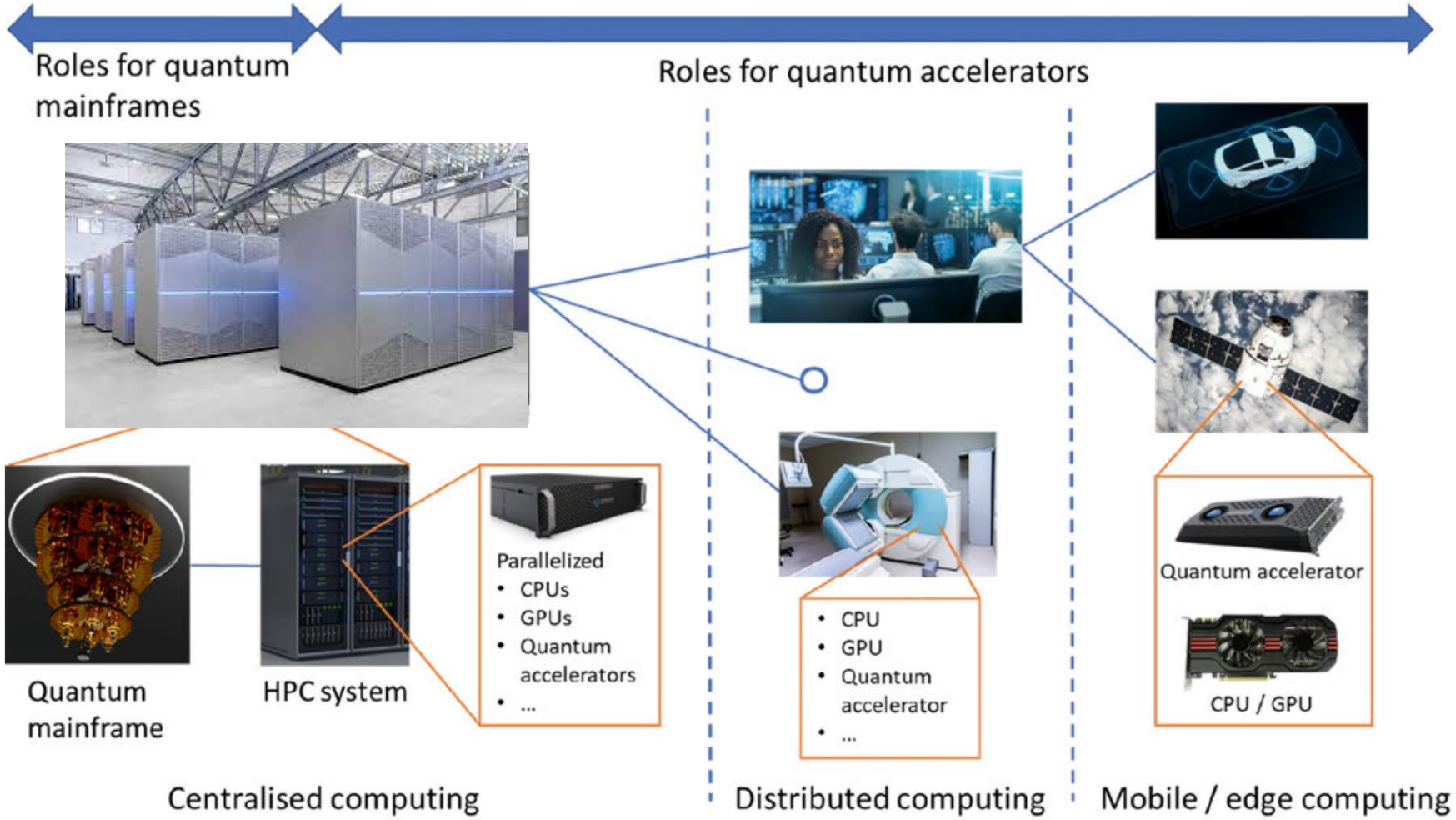
Accelerators: Diversity of roles and applications



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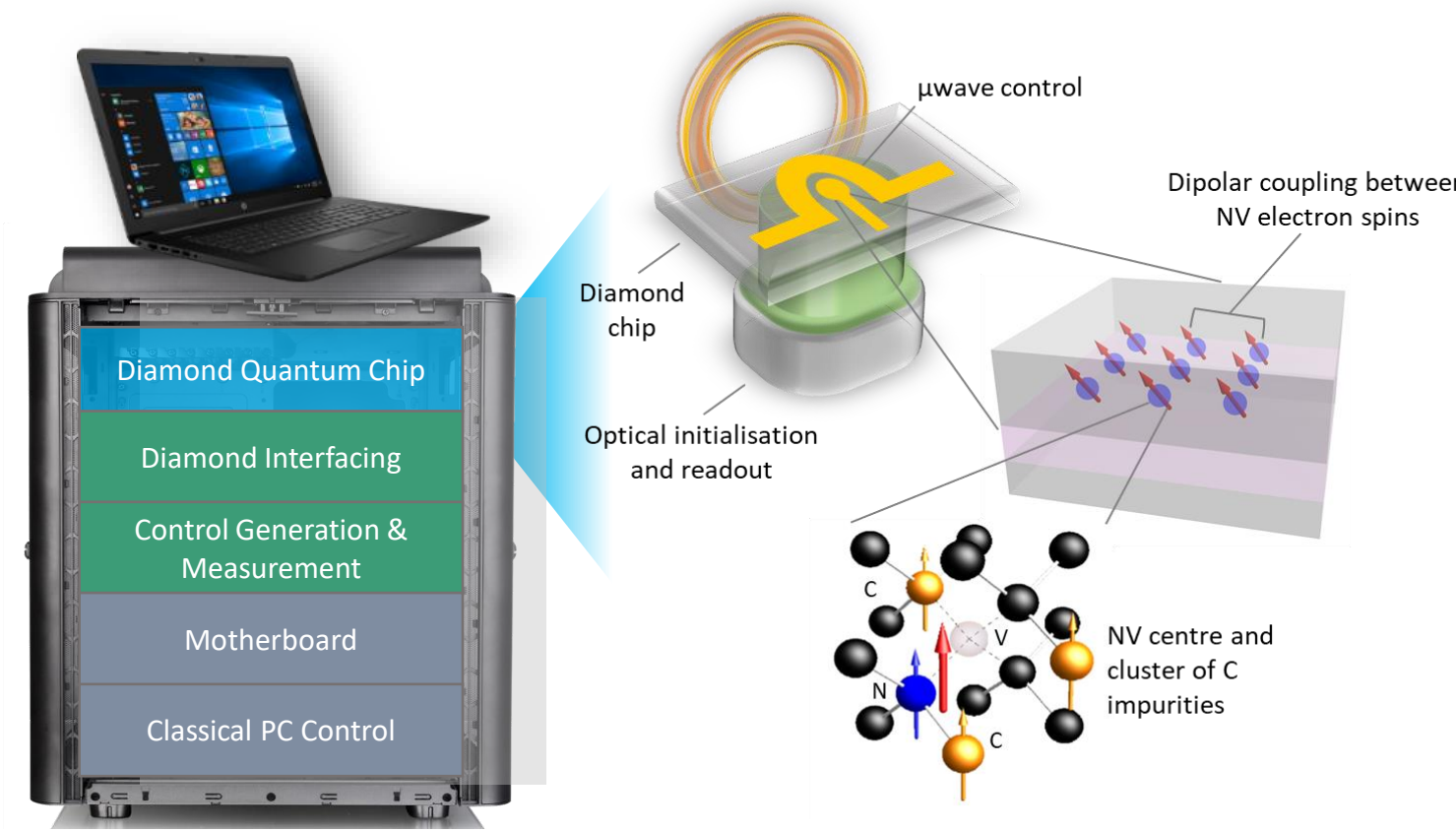
How it works

- **Features:**
  - Operates in ambient conditions
  - High qubit density
  - Simple control systems
- **Benefits:**
  - Compact, robust and low-cost quantum computing
- **Performance:**
  - Coherence time: > 1 ms
  - Gate times: 1-10 µs



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Hardware Roadmap & Vision

2021

Quantum Development Kit

PAWSEY supercomputing centre

- ✓ **Enables experimentation with systems integration**
- ✓ Easy to host on-site
- ✓ Build and test co-processing applications today

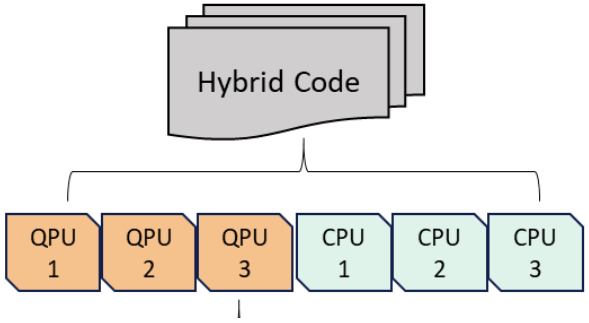
2025+

Quantum Accelerator

- ✓ **Delivers Quantum Utility**
- ✓ Integration ready
- ✓ Supports unique applications in massively-parallelised and edge quantum computing

Next steps

- Application discovery and development
- Co-processing software architecture design and development
- Quantum accelerator co-design and -development



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