



Royal Academy
of Engineering

QT & the Infrastructure Review

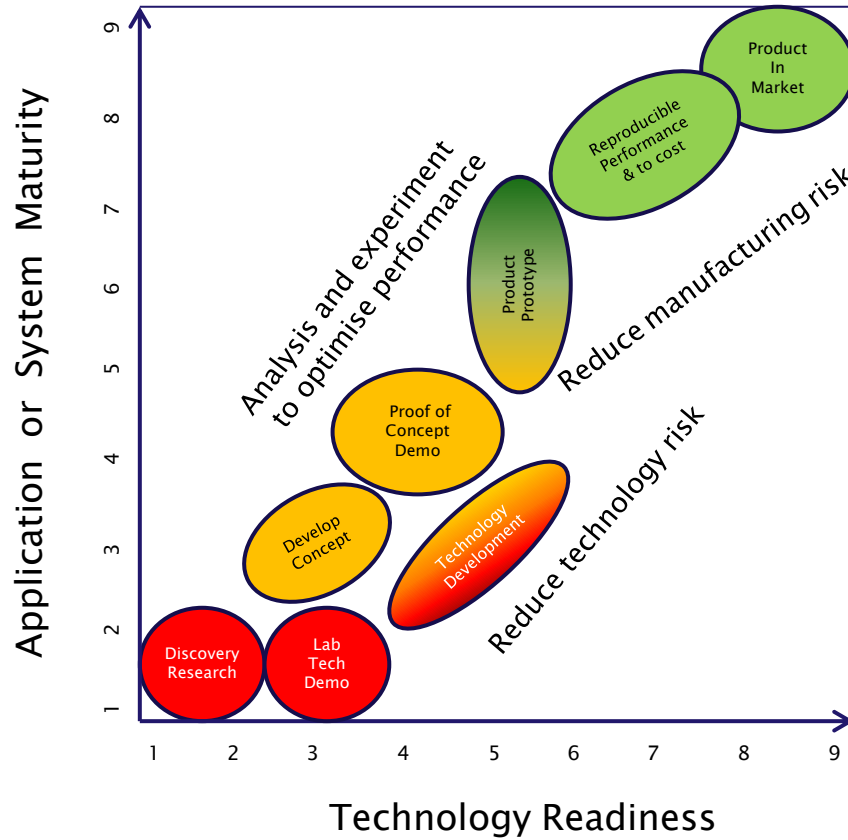
Dr Dame Frances Saunders FREng

www.raeng.org.uk

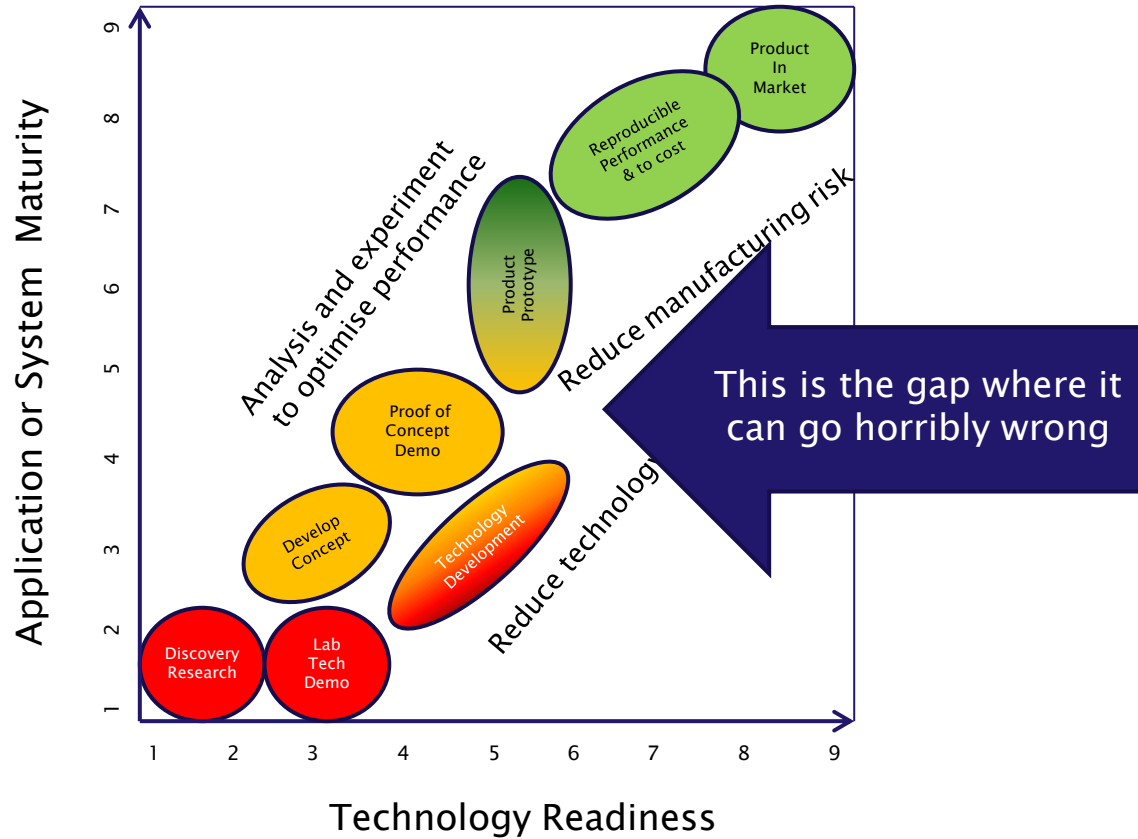
Where are we now with Quantum?

- Phases 1 and 2 of the QT HUBs coming to a close in November
 - Now getting a range of prototypes “out of the lab”
 - Good levels of industry engagement in R&D (via range of funding routes)
 - Strengthened Academic network through aligned funding
- New set of HUBs starting soon after – even more emphasis on demonstration and demonstrators with industry engagement
- QT Strategy and Missions (follow on previous Government initiatives)
- We are not alone – lots of investment internationally – collaboration or competition?

The challenge of translation?a team game



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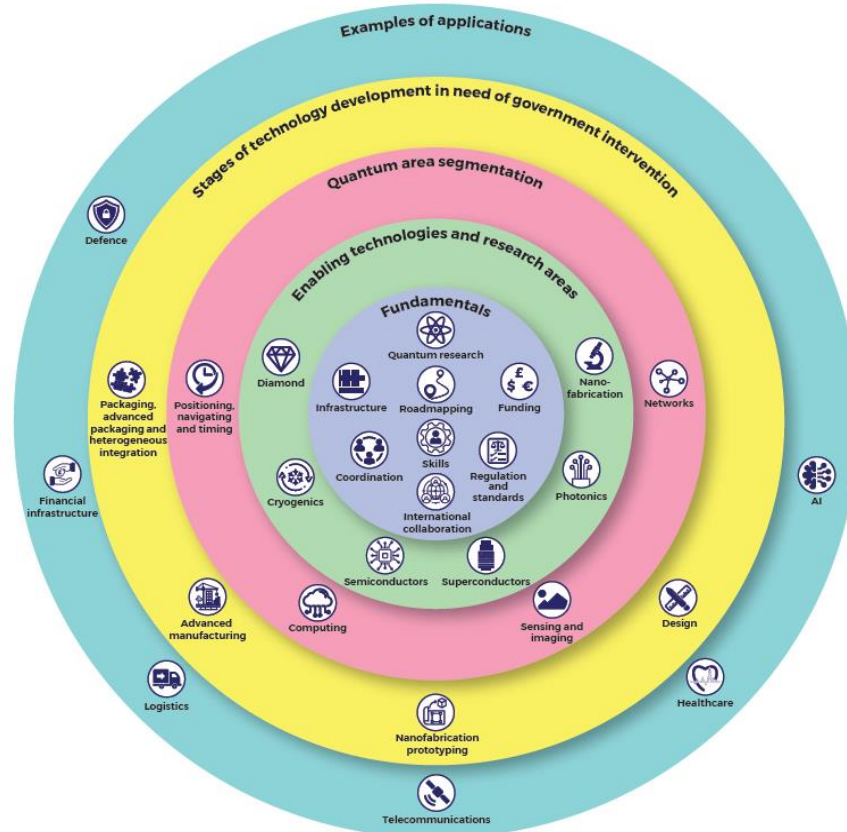


What can help plug this GAP for Quantum?

- Continue expanding opportunities for joint working
 - Speed up iteration around the loop of performance/effectiveness/risk/cost
 - Prototyping better matched to industry standards – prepare for manufacturing
 - Real world experiments/trials – continue to build confidence on impact
 - Testing and Evaluation
- Co-ordination – landscape is getting more complex
 - Signposting – funding opportunities, centres of excellence
 - Facilitating access to skills, infrastructure etc

UK QT Landscape

As set out in RAEng Quantum
Infrastructure Review



Infrastructure potentially worthy of investment – from RAEng consultations

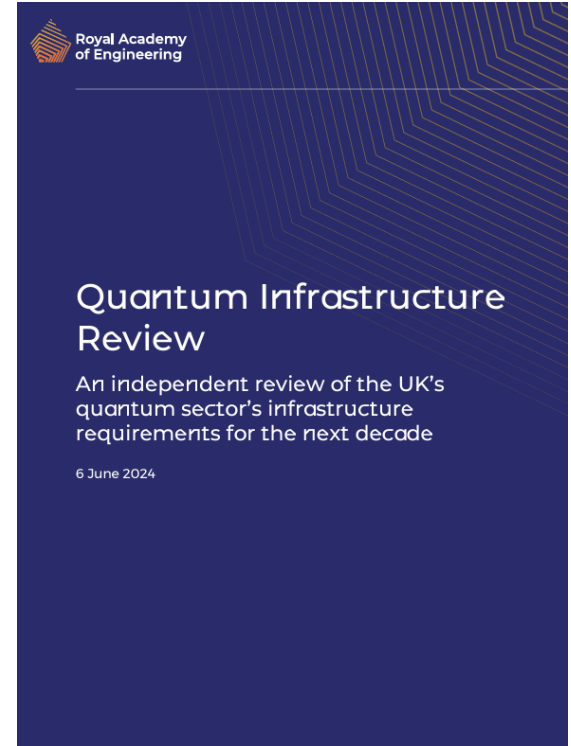
- Design Tools
 - Making it more cost effective to move from low volume to pilot production
- Nano-Fabrication Prototyping
 - Open access facilities truly accessible to industry (eg SMEs) and reduce gap between academic and industrial standards
- Advanced Manufacturing
 - How to support Industry investing in capabilities suitable for quantum – quantum demands will be different from existing applications that have driven specs and standards so far
- Packaging, advanced packaging and heterogeneous integration
 - Will prove to be essential to achieve real world systems and SWAPC targets
- Cannot afford everything so there will be difficult choices on make/buy/collaborate and industry must be engaged in that discussion

Quantum Infrastructure Review

Independent review commissioned through the National Quantum Strategy by the UK government's Department for Science Innovation and Technology (DSIT) and chaired by Dr Dame Frances Saunders DBE CB FREng

Published on 6 June 2024:

<https://raeng.org.uk/quantum-infrastructure-review>



Thank you

A decorative graphic on the right side of the slide, consisting of numerous concentric, slightly offset white lines that form a series of nested, elongated hexagonal shapes, creating a tunnel-like or ripple effect.