Opportunities for Convergence within Critical and Emerging Technologies (CETs)

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CET Convergence: Scope

NIST

For the purposes of this conversation:

CET Convergence: two or more technologies that, when combined, result in new or enhanced capabilities

Convergent technologies can present new opportunities/risks, while challenging the paradigms of measurement and standards

Examples:

- Convergence of **biotechnology** and **AI** to solve complex protein structure challenges in the development of new therapeutics
- Convergence of **quantum science** and **electronics** to develop compact sensors for measuring environmental changes

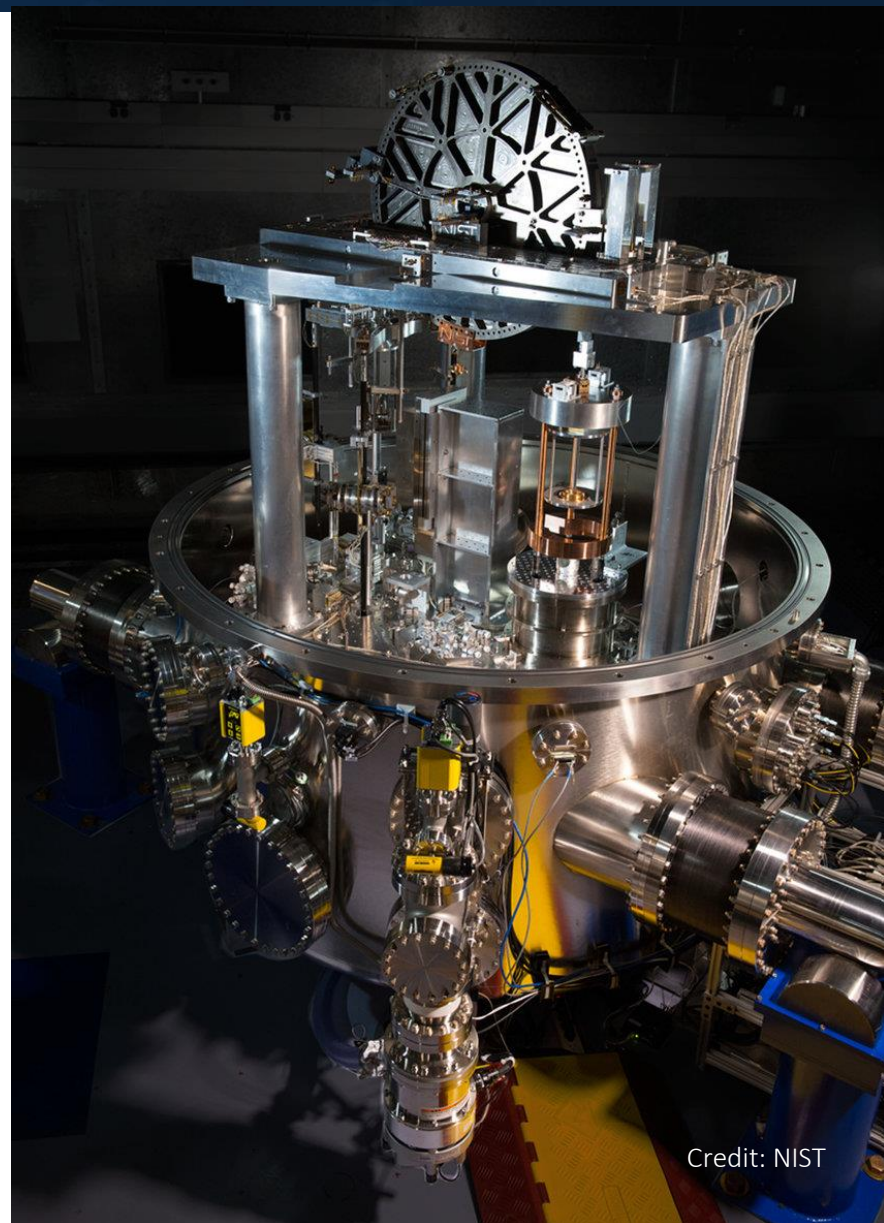
CET Convergence: VCAT Discussion

Questions to the VCAT:

- Where are there opportunities for convergence within cybersecurity, semiconductors, and advanced communications?

- Where are there opportunities for convergence within these CETs and biotechnology, quantum, and other CETs?

- Do VCAT members view technology convergence as completely new efforts or combinations of expertise from each technology area?



Credit: J. Stoughton/NIST

NIST Visiting Committee on Advanced Technology (VCAT)

October 2024 Meeting