



UK Research
and Innovation

Endless Frontier Symposium 2022

*Re-evaluating the structure of institutions and the
Scientific Enterprise*

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The Endless Frontier 1945 - now

- The eternal questions of Research and Innovation

What is this?

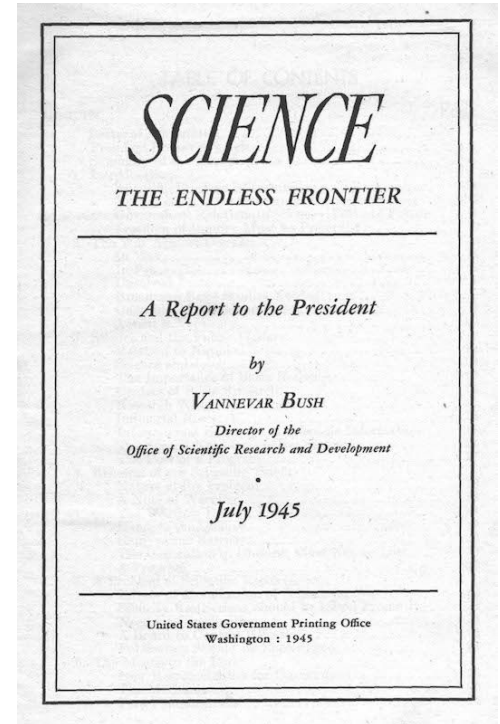
How does it work?

How can we make it better?

- Eternal questions for societies

How can we organise the research and innovation system to address those questions most effectively?

How can we ensure the benefits from the answers are optimally realised?



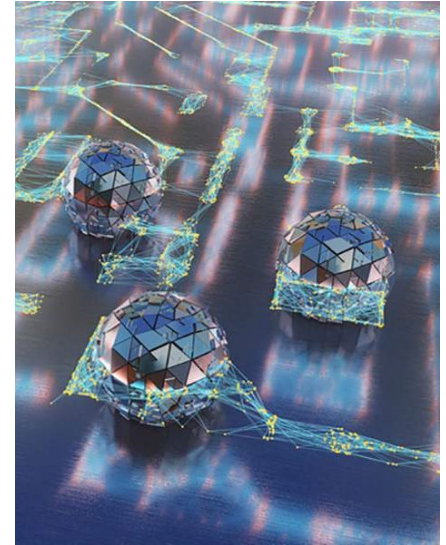
The Endless Frontier now

- The 21st century answers to all those questions focus on multiscale, cross-sector, cross-disciplinary systems -

Ecosystems, Energy systems, Cellular systems etc etc

Skills and careers, infrastructures, institutions, funding etc etc

- Good answers require systems approaches



What needs to change?

- The global R&I system is highly competitive and disproportionately focused on narrow criteria for excellence, and too often on individuals
- This has locked in silos, segregating disciplines, research from innovation, and R&I from wider society
- We need more capability to withstand shocks, to create new opportunities, and pivot to capture their benefits
- This requires a portfolio approach to risk and concerted effort to bridge the disconnects between research, innovation and wider society



Principles for change

Re-evaluating the structure of institutions and the scientific enterprise

Diversity— support the diverse people, places and ideas needed for a creative and dynamic system

Connectivity— build connectivity and break down siloes across the system, nationally and globally

Resilience— increase the agility and responsiveness of the system

Engagement— help to embed research and innovation in our society and economy



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The future of R&I

- Change needed at all scales- careers, research groups, departments, faculties, institutions - all need diversity with connectivity, resilience and engagement
- Shift in thinking from parts to the relationships between them, and what that means for the whole
- Multi-scale systems with emergent behaviours - incentive structures are a key point of influence
- Harder to build compelling narratives for our many audiences- but this is a priority





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Thank you



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