

Electron Microscopy

Town Hall Meeting 09 April 2014



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Research Infrastructure

EPSRC

Pioneering research
and skills

Engineering and Physical Sciences Research Council

BIS Consultation on Proposals for Long-Term Capital Investment in Science & Research

■ AIMS OF CONSULTATION

- To identify UK priorities in building a world-leading science and research infrastructure for the 2020s
- Government commitment to increase capital investment to £1.1 billion in 2015/16, growing with inflation to 2020/21
 - How should this be delivered?
 - Build a strategic vision for research infrastructure
 - Opportunities for leverage
 - Large/longer-term projects
 - Efficiencies: sharing/access/collaboration

Consultation Questions

Q1: How do we strike a balance between capital requirements at the project and institution level relative to large-scale capital projects, including international collaborations?

Q2: What should be the UK's priority projects for large-scale strategic capital investment in the national interest, including where appropriate collaborating in international infrastructure projects?

Timescales

- To be launched 26th April
- 6-8 weeks for consultation

Tiers

- Large-scale capital projects (Government)
- Projects (RCs)
- HEI capital (HEFCE)

Messages from Consultation

- Importance of leverage, sharing, collaboration all stressed
 - EPS has good examples of this that could usefully be highlighted
- Campuses seen as key drivers for innovation, inward investment etc.
 - How does this fit with EPS?
 - We don't have institutes, our `campuses` are the universities

Issues for Discussion

■ Disciplines/sub-disciplines:

- Are there common issues?
- Can a long-term integrated roadmap (or roadmaps) be developed which has political appeal/impact?

■ High-profile `grand challenges`:

- What is the next `Quantum Technologies`?
- What are the next technique/measurement developments that would lead to breakthroughs in EPS research?

Pyramidal Model for Electron Microscopy

- How is the pyramid populated now?
- How should it look in the future?
- How much will it cost to get there?
- Where do the funds come from for the different levels for capital and running costs?



EPSRC Funding of Atomic Level Microscopy

- Around £20M capital since 2006
- £0.8M through core Chemistry call
- £7.5M (of ~£85M) through Great 8 Technologies Call
- £4.7M (of ~£40M) through Strategic Equipment Scheme
- **£13.6M (of a total of ~£47M) requested for “part B” of Core Chemistry call. Includes:**
 - FEI Titan Krios
 - FEG-TEM + HR-TEM imaging, STEM, tomography and EDX
 - SEM/Raman
 - FE SEM x 2
 - FEG-TEM column, SSD and STEM systems
 - EF-TEM