

UK RESEARCH AND INNOVATION

ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL

NOTE OF THE 6th EPSRC SCIENCE ENGINEERING AND TECHNOLOGY BOARD (SETB) MEETING, HELD ON 3 February 2021, HELD REMOTELY VIA ZOOM

In attendance:	Professor Charlotte Deane (EPSRC) (SETB Chair) Professor Cameron Alexander (University of Nottingham) Professor Paul French (Imperial College London) Professor Dame Jane Jiang (University of Huddersfield) Dr Leigh Lapworth (Rolls-Royce) Professor Adrian Mulholland (University of Bristol) Professor Graham Niblo (University of Southampton) Professor Susan Rosser (University of Edinburgh) Professor m.c. schraefel (University of Southampton) Dr Mike Sutton (Lubrizol) Professor Phillip Taylor (University of Bristol) Professor Su Taylor (Queen's University Belfast)
Apologies	Jonathan Legh-Smith (BT) Professor Nick Jennings (Imperial College London)
Council Members:	Dr Joe de Sousa (Melhor Consulting)
EPSRC Staff:	Andrew Bourne (EPSRC Director, Partnerships) Jane Nicholson (EPSRC Director, Research Base) Kedar Pandya (EPSRC Director, Cross Council Programmes) Diane Howard (EPSRC Senior Manager, Big Ideas) Claire Spooner (EPSRC Head of Programme, Advanced Materials) (<i>items 3 and 5</i>)
Secretary:	Sinead Balgobin (EPSRC, Senior Manager, Governance and Planning)

1. Welcome and Formalities (SETB Chair)

- 1.1. Charlotte Deane (CD) welcomed everyone to the meeting and formally opened the meeting. Apologies had been received from Jonathan Legh-Smith and Professor Nick Jennings.
- 1.2. CD updated the board on developments related to the Spending Review, the previous evaluation of EPSRC Institutes and future plans for cross-council engagement. As of this meeting the UKRI and thus EPSRC allocation following the Spending Review had not been announced. CD noted that we are going into a phase where we will need to be ready for future mechanisms. In terms of cross-council working, SETB reiterated their interest in engaging with other Councils.
- 1.3. The SETB agreed that the note of the September meeting was an accurate record of the meeting.

2. Review of the SETB Terms of Reference

- 2.1. Sinead Balgobin (SB) led this item, asking the SETB to review the Terms of Reference to ensure that they accurately reflect the business of the board. The SETB provided the following feedback on the Terms of Reference:
 - The Terms of Reference should incorporate guiding principles related to EDI, social justice, ethics, unconscious bias etc.
 - The Terms of Reference should be clearer about the scope of SETBs involvement in the oversight of the EPSRC Institutes in order to be more transparent with the community.

2.2. SETB also discussed under this item how best to communicate the work and outputs of the SETB, especially in relation to the Big Ideas initiative. It was noted that a key role of the SETB is to help EPSRC secure funding for EPS through advising on scientific priorities, and this may not be well understood by the community as it is a relatively new way of working. SETB discussed potential comms opportunities to disseminate Big Ideas success stories and key messages in a way which encourages the community to get involved with the initiative and to engage with SETB. CD noted that workshops and focus groups are also good ways to engage with the community.

ACTION: Sinead Balgobin

3. Big Ideas – Update on previous Big Ideas (Diane Howard)

- 3.1. Diane Howard (DH) presented a dashboard of Big Ideas previously seen by the board and their current status, noting those which are running or have run workshops recently and will be providing updated submissions.
- 3.2. SETB noted that some EPSRC themes were less represented in the dashboard and discussed how SETB and the Big Ideas team can better engage with themes to increase the number of high quality ideas especially in areas where there appears to be fewer directly relevant Big Ideas. DH noted that she had attended Strategic Advisory Team (SAT) meetings and was actively encouraging themes and SATs to engage with the initiative and help their communities engage.
- 3.3. Claire Spooner (CS) gave an update on the progress of the Digital Chemistry item, discussed at the September 2020 meeting. She noted that the feedback from SETB had been discussed with the Physical Sciences SAT. acknowledging the balance between fundamental and industrial approaches. The next steps will be to carry out a landscaping exercise beyond the remit of the Physical Sciences theme to understand the broader area and engage with the wider community.

4. Big Ideas – Assessment of Updated Ideas

- 4.1. CD introduced this session by providing some context about the principles of the process to consider updated Big Ideas.
- 4.2. The SETB discussed three updated Big Ideas submissions, providing specific advice for each one, which will be taken forward by the Big Ideas team in conjunction with the submitters. The Big Ideas discussed along with the overall SETB recommendations are listed below:

Title	Submitter	Recommendation	Next steps
Internet of Materials: Data-Centric Materials Discovery, Characterisation and Manufacture	Iain Todd	SETB were satisfied that the previous feedback had been met sufficiently to allow its inclusion in the EPSRC Ideas Bank. While SETB were supportive of the Big Idea being entered into the Ideas Bank, they did reflect on a number of additional elements that could be further elucidated, should the idea be matched to a future funding opportunity.	Idea submitted into Ideas Bank
Mathematical modelling for next generation formulated products	Stacie Tibos	SETB were satisfied that the previous feedback had been met and that the idea should be put into the EPSRC Ideas Bank. While SETB were supportive of the Big Idea being entered into the Ideas Bank, they did reflect that its future usage would be determined by the nature of any opportunity that arises.	Idea submitted into Ideas Bank
Post Transistor Society	Matt Clark	SETB determined that the Big Idea did not meet the requirements to be submitted into the Ideas Bank. Although the importance of this area was noted, SETB agreed that the revised submission did not sufficiently address the previous feedback given / questions raised by the Big Ideas Advisory Group (BIAG).	Do not develop further

ACTION: Diane Howard

5. Advanced Materials Strategy and Research Aims

5.1. CS attended this session to present a paper on the Advanced Materials Strategy and Research Aims. The SETB were asked to address the following points:

- Comment on the scientific vision prepared with the Advanced Materials Advisory Group.
- Provide feedback on how the advanced materials landscape fits within the broader EPSRC context.
- Provide advice on the appropriateness of the proposed strategy and highlight any areas for further work or of particular priority

5.2. SETB agreed that this is an important area and were very supportive of EPSRC’s ambitions and activities. Key points raised by SETB included:

- SETB received the strategy positively, praising both the content and the presentation.
- There is often a feeling that Royce is the default but there are pockets of excellence and diversity of research across the UK which really comes through. SETB acknowledged that the paper sets out that the Royce institute are integral to the strategy and the UK landscape, but national leadership and new ideas go beyond this and span across the whole landscape
- Perhaps missing engineering materials / engineered living materials as an area of interest; this is a growth area and an important topic internationally
- In terms of cross-council interest the strategy must incorporate social aspects (ESRC) as well as e.g. design, creativity, demonstration through links to AHRC; these cross-council considerations should be made more explicit
- What is the split of fundamental/translational research going forward?
- Manufacturing technologies to make these materials real-world compatible must progress, or many industries will struggle (e.g. scale up, affordability). It was noted that the Catapults will be key stakeholders for demonstrators to pull through research and the Advanced Materials theme will work with the Manufacturing the Future team and Royce to ensure there are strong links through to the Catapults.

5.3. Charlotte Deane (CD) summarised the discussion, confirming that the SETB endorsed the strategy and research aims and advised that the team incorporate the feedback regarding the additional areas of interest and cross-council links.

ACTION: Claire Spooner

6. Big Ideas – Assessment of new Big Ideas

6.1. DH introduced this session by providing some context about the principles of the Big Ideas assessment process.

6.2. The SETB discussed one new Big Ideas submission, providing specific advice which will be taken forward by the Big Ideas team in conjunction with the submitters. The Big Idea discussed along with the overall SETB recommendations are listed below:

Title	Submitter	Recommendation	Next steps
Motivation from Nature: materials for bottom-up integrated energy systems	EPSRC Materials Theme	SETB were broadly positive about this submission, but had a number of questions and points on which they would like to receive clarification, before progressing the idea further. SETB recognised that there is a significant level of activity taking place in individual (but related) areas, but that joining these parts up represents a big opportunity for the UK. They also recognised the scale of ambition presented in the ideal.	Develop further by providing update to SETB to address points of clarification requested

ACTION: Diane Howard

7. AOB and Close

7.1. Reflecting on the discussions in the meeting, SETB noted that there was a useful discussion under the Terms of Reference item in reference to communicating the outputs and successes of SETB and the Big Ideas initiative. In terms of key messages from this meeting, SETB noted the following points:

- Overall SETB was impressed with the Advanced Materials theme strategy, which showed very good progression.
- SETB encouraged EPSRC to capture exemplars of Big Ideas to show that the initiative is working; if and where Big Ideas are going forward we need to communicate this to show to EPSRC council that there is evidence that this process is working and is successful, and communicating back to the community the value of their effort.

The next meeting of the EPSRC Science, Engineering and Technology Board will an Institutes Evaluation Meeting and will be held on the 12 May 2021, remotely via Zoom.

Summary of actions:

Action	Description	Owner
06-01	Update the Terms of Reference incorporating SETB feedback	Sinead Balgobin
06-02	Communicate feedback to Big Ideas submitters and take forward any specific actions (e.g. workshops) (<i>for items 4 and 6</i>)	Diane Howard
06-03	Incorporate the feedback from SETB into the Advanced Materials strategy	Claire Spooner