

Second Advanced Materials Leadership Council Meeting
29th September 2017
Abbey Community Centre, London

In attendance

Robert (Bob) Sorrell, BP (Chair)
Alex Aucken, Solvay
Owen Lozman, Merck
Jane Thornback, Construction Products Association (deputising for Diana Montgomery)
Andrew Hosty, Royce institute
Jane Nicholson, EPSRC
Nail McKenzie, BEIS
Mary Ryan, Imperial College London (deputising for Neil Alford)
Simon Edmonds, Innovate UK

Guests:

Peter Oakley, TWI
Kalyan Sarma, Innovate UK

Secretariat:

Ben Walsh, Innovate UK
Lien Ngo, Innovate UK
Richard Gunn, EPSRC
Kate Thompson, BEIS

Apologies

Alan Partridge, Rolls Royce
Elizabeth Rowsell, Johnson Matthey

1) Welcome and introductions

BS welcomed members and guests to the meeting.

a) Register of Conflict of interest

BS reminded all members to fill in the conflict of interest register as required.

b) Updated matrix

The Council was reminded that the Matrix should be considered a live document and that all members could contribute to it as they see fit. Any edits and comments should go to LN. Input to the matrix can be solicited from the LC's network.

The matrix's purpose was further clarified as being reactive to proposals developed from the materials community. It was important that the AMLC provide guidance to BEIS to aid decision making but there was a need for the AMLC to help develop a longer term strategic view for advanced materials.

ACTION

All: ensure that additional information is provided to LN on matrix topics as and when they arise.

c) Advanced Materials Landscape study

BW reported that BEIS and Innovate UK were commissioning consultants to map the size of the UK advanced materials sector. The main output of the work will be a searchable database that will help inform UK government policy on advanced materials. The work is due to complete in March next year. BW asked the Council to provide input into the materials areas of focus and on the database structure that should be used.

ACTIONS:

BW to provide:

The original scope

Minutes from first meeting

The categorisation and database structure

AMLC to provide feedback on the categorisation and database structure within one week of receipt

2) Update on Industrial Strategy and ISCF

a) Update on Industrial Strategy

NM provided an update on the Industrial strategy. There will be a white paper around budget time (22 November). The Industrial Strategy is focused on boosting earning power, particularly outside the South East. More detail will follow the white paper next year, particularly to mitigate against Brexit.

Sector Deals are a continuous process. One or two sector deals are close but are not materials-focused. There is another larger batch to follow. There are materials interests in many of these, but there are no specific sector deals for materials industries in the first wave and the AMLC may want to become involved to ensure that materials are well represented in these deals. The Life Sciences sector deal could be an example to learn from as the AMLC needs to identify commercial and market opportunities in Advanced Materials and develop those into a pitch with asks.

Discussion revolved around which big markets have materials pinch points and where value can be extracted and this is one way to identify the opportunities for advanced materials. Information such as size of market, margin, growth would then be needed to develop the full picture and target the right opportunities.

b) Medicines Mfg + Robotics and Artificial Intelligence

No information from the medicine manufacturing ISCF programme on materials needs. RAI development projects have several particular materials needs, but there were no materials-centred projects in the most recent round of funding. The council were asked how we could better promote these opportunities to the community. RAI materials needs were: new materials, for example, lightweight with improved mechanical capabilities and long life in extreme environments; improved robotic structural capabilities; new sensor devices, for example, for low-light operation, or force and tactile sensors; in-situ materials characterisation and inspection; radiation-tolerant electronics.

c) Faraday: materials development needed for Faraday

SE presented on the Faraday Challenge (slides attached). Materials would be a large part of the challenge and with Jacqui Murray as co-director, who is also Head of Advanced Materials at Innovate UK, we had a materials champion at the centre of the challenge. Thanks to those who responded to

the briefing for materials topics in the Faraday Challenge; this will be used in communications to disseminate the materials needs in the Faraday Challenge to the right people, companies and communities.

3) AMLC support for potential proposals

a) TWI discussion on larger intervention in materials

PO was invited to lead a discussion on development of a significant intervention for advanced materials in the UK. In 2006, the Materials Innovation Growth Team developed a strategy for materials. Unlike similar strategies written at the same time for the automotive and aerospace sectors, the funding and profile of the materials sector has been much lower, perhaps because it is perceived as a cross cutting discipline which struggles to coalesce around a single idea. The ISCF is a potential source of funding to develop a large vision for materials. PO has proposed that we need to have a similar strategy and vision to that presented by the High Value Manufacturing Sector in 2011.

To be successful, we need to develop a challenge that materials innovation can solve. In particular, to echo Sir Mark Walport's request, proposals should address three points: how do we leverage our world class research, ensure economic growth and deliver societal impact?

The vision and ideas for an advanced materials programme should be results-led, rather than determined by materials input, look at how to bridge the gap between vision and market- what big challenge can materials help solve? The IGT report was perhaps too diverse and the AMLC needs to focus: there should be a sweet spot at the intersection of place, sector, profit and material. The AMLC should focus, and it was suggested that the largest materials manufacturing sectors in the UK should be this focus (where the UK can make the largest profits). Ideas should have industry muscle behind them. The environmental impact of materials could be a good hook for a grand challenge.

The Council decided that a workshop to explore potential areas is the most appropriate approach. The workshop should comprise about 30 members of the community (including industry, RTO, academic, end users and government). TWI have offered to help run this workshop to generate advanced materials proposals- perhaps the invitation can be sent out signed by a minister?

It was thought that 2-3 challenges would be needed by January. The workshop would be scheduled for November and a teleconference would be organised for December to discuss the outputs.

ACTION

Secretariat to work with PO to develop a workshop

KT to develop a series of "seed challenges" for the workshop

KT to investigate having a minister invite the attendees

Secretariat to set dates for teleconference to discuss write-up.

b) Innovation Hubs

KS presented slides detailing an advanced materials innovation hub. The council felt that there needed to be a stronger sense of purpose and to clearly state its objectives and working structure. There was particular concern over the ability of the bid to differentiate from all the currently available support structures.

ACTION:

KS to revise the bid given the Council's feedback and present back.

c) Artificial Intelligence for Materials.

LN presented on Artificial Intelligence for Materials proposal. The council thought the bid had merit and would appeal to the materials community. However, they felt that it should be incorporated into a larger, more ambitious bid and that the problem was ill-defined or more a solution based approach rather than focusing on the challenge. LC suggestion was that a demonstrator for a specific customer with a problem would help. OL identified other organisations that are taking a similar approach including Citrine (<https://citrine.io/>). The council also needed clarity over where the impacts of the project would fall and how would we ensure that the UK was the main beneficiary. Feedback on proposal from ISCF panel asked for evidence of value to companies- AMLC suggested it was possible to provide estimates on this. Feedback also asked for evidence of industry match funding, which was more difficult to procure.

The council recommended that this bid be incorporated into larger a bid.

ACTION

LN to gather estimates of value to industry, speak to other organisations looking to do similar, update proposal.

4) Materials Research Exchange

BW provided an overview of the MRE. This large materials innovation showcase event aims to attract 1,200 delegates to the Business Design Centre in Islington March 12th and 13th. BW invited the AMLC to hold a meeting at the event and for the Chair to speak as part of the plenary session on the first morning. The Council were keen to hold a meeting at the event.

ACTION

Secretariat to organise AMLC Meeting during the MRE.

BW to liaise with BS over potential speaking slot.

5) Wrap up and AOB

a) From AMLC members – please suggest to LN before the meeting or we can take topics from the LC at the meeting

There was a general discussion on the necessity of skills; training; and sponsored degrees.

b) Next meeting

BS outlined the timetable for the next 6 months:

- Telephone conference organised for December to present initial findings from the workshop
- Follow up Telephone conference to finalise proposed intervention in advanced materials.
- Face-to-face meeting in March to coincide with the MRE
- Meeting in June to determine next steps.

ACTION

BS and Secretariat to organise meetings.

c) Dissemination of work from this meeting

LN noted that further stakeholder engagement was needed and some method of wider dissemination of the Councils Group might be appropriate. The materials KTN newsletter appeared to be the most appropriate method for further dissemination.

ACTION

LN to liaise with KTN to disseminate AMLC minutes and publications