



**Engineering Biology Leadership Council – Meeting 06**  
**Wednesday, 20th October 2021**  
**2h Online meeting**

**Attendees:**

Prof Lionel Clarke, Lee Rowley MP (for the first hour), Dr Tim Brears, Dr Jason Vincent, Prof Richard Kitney, Dr Dana Heldt, Dr Martin Cannell, Prof Tim Daffron, Prof Dale Sanders, Prof Peter Oyston, Prof Joyce Tait, Valdemar Alsop, Dr Laura Finney, Caroline Diggory (on behalf of Mark Oakes), Stephanie Croker.

Apologies: Mark Oakes, Dr David Tew, Dr Gordon Ford

**1. Discussions with Lee Rowley MP**

Lionel Clarke (EBLC Co-Chair) welcomed everyone to the meeting and introduced the invited guests and new attendees:

- Lee Rowley MP – EBLC Co-Chair
- Valdemar Alsop – BEIS
- Caroline Diggory – DiT
- Stephanie Croker – GoS

This meeting was the first attendance for Lee Rowley MP as the new EBLC Co-Chair and Lionel gave an overview of the activities the EBLC has been carried out to date and its priorities. He and EBLC members talked through the slide deck (EBLC6 Session 1 Discussion materials) which had been shared ahead of the meeting with everyone. Points highlighted were:

- How EB aligns and contributes to the Government's Innovation strategy
- Laura Finney (BBSRC) and Richard Kitney highlighted the funding the SBRCs have received, the translational work the IKC has supported and the National Programme for Engineering Biology which is developed across the research councils.
- Joyce Tait summarised the work she and the Governance subgroup have carried out around regulation, gene editing and BSI standards. She also highlighted the need for continued public engagement.
- The growth of engineering biology start-up companies and private investment was highlighted, with private investment into US and UK start-ups increasing at a rate of 70% pa for the past 6 years and set to exceed \$20bn in 2021 alone. Investments into UK-based companies exceed £2bn to date, but could potentially be substantially higher if the rate of commercial translation

from our research base was closer to that achieved by comparable start-up companies in the US. More support for translation relative to early-stage research is essential if a strong base is to be established within which to anchor growing companies for the future. At present there is a risk that companies remain isolated and become overseas acquisition targets - Synpromics given as an example, which was acquired by US-based AskBio. Richard Kitney mentioned the 30 companies the IKC has worked with that are now worth over £790 mio.

- For companies developing applications in the non-human-health segment – encompassing bio-industrials to agri-food and the environment – the challenge of attracting private investment or big company interest relies heavily on the capacity to demonstrate and de-risk at relevant scale, well beyond that typically available within academic laboratories. A limited range of suitable facilities currently exist at certain institutions within the UK, but accessibility and affordability can be beyond the resources of start-ups, which stultifies growth rates and forces them to seek resources abroad. The provision of affordable scale-up infrastructure could provide a substantial benefit to unlock growth. The EBLC is assessing the potential for smaller-scale facilities to assist early-stage translation, whilst the IBLF, which with the EBLC is liaising closely on this subject, is pursuing a study of potentially larger fermentation facilities more suited to the needs of larger, more established, companies.
- Examples were given where synbio can make significant contribution, with potentially massive job growth opportunities associated, including:
  - Biofibres, eg Spidersilk and its use in composite materials and defence.
  - Novel and alternative food, eg alternative protein, artificial and cultured meat.

It was noted that the most effective mechanism to accelerate progress and transformation within the (non human-health) Bioeconomy is likely to be to first identify and prioritize specific applications ('trailblazers'). By setting out more detailed development plans and identifying associated policy requirements, the actions required to capture such innovative opportunities may be more readily pinned down. By addressing the fundamentals for success in such specific cases, the foundations for multiple related innovations to follow will be set.

Lee Rowley thanked the EBLC members for the overview and insights into the UK's synbio and engineering biology landscape and the opportunities coming from this technology.

## 2. Internal Business

The minutes from the last meetings were picked up and discussion took place around infrastructure, especially medium and large scale and the access to those facilities, and the different needs from start-up (funding to gain access) and well-

established companies (de-risking local large-scale capabilities). There is a missing piece between technology/products coming out of the foundries and the large scale up process, and further discussion is needed.

**Action:** Richard Kitney will work with Manchester Institute of Biotechnology and develop an action plan.

Joyce Tait shared an example of a policy document with EBLC members ahead of the meeting outlining the opportunities and recommendations on the required policies on the specific topic. Discussion took place how this could be used as case studies to highlight where engineering biology impacts. Such documents could be useful for various ministers who are discussing each topic separately. It also enables HMG officials to feed into the cross ministerial Whitehall group. Those documents would build on the '[Building back better with Engineering Biology](#)' document which was previously published by the EBLC.

**Action:** Joyce Tait, Jason Vincent, Dale Sanders will work together to screen the Landscape and develop policy documents for specific AgriFood topics.

### 3. Stakeholder update

#### Update from Science and Technology Group

Richard Kitney gave an update from the S&T group. The detailed subgroup minutes were shared with EBLC members ahead of the meeting as pre-reading material. He drew specific attention to the discussion around

- A Primer document from America
- Skills needed on all levels
- Updates from the Centres can be found within the document.

#### Update from the Engineering Biology Advisory Committee

Tim Brears gave update from EBAC meeting which took place in September. Topics discussed at this meeting where:

- EBLC update provided by Lionel Clarke
- An update on the National Security Bill which comes in force in January 2022 was provided and there is concern around investment. BIA provided input into the synbio definition.
- An update on Nagoya was provide. Note: Joyce asked to be connected to the BIA Nagoya expert.
- A presentation about the governments Innovation strategy took place
- Update on the National programme for Engineering Biology was provided by Rowan McKibbin.

### 4. AOB

No other business was raised.

It was proposed and agreed to carry out ad-hoc online meetings as needed to support the actions arising (for example in Mid Jan 2022), to complement the formal plenary meetings to be set for next year.

### Actions

The actions are summarised in the table below

Actions	Description	Responsibility	Due date	Progress /outcome
6.1	Develop a policy document for a focussed 'AgriFood' application (using Joyce T's doc as template)	Joyce Tait, Jason Vincent, Dale Sanders	Mid Jan 2022	
6.2	Develop a policy document for a focussed 'Spider-silk' application (using Joyce T's doc as template)	Richard Kitney, Petra Oyston, Lionel Clarke	Mid Jan 2022	
6.3	Develop the case for improving access to scaled fermentation infrastructures in the UK, at the smaller start-up and academic research scale. (Complementary to the ongoing larger-scale IBLF study)	Richard Kitney with members of the UK FBRH, Manchester	Mid Jan 2022	
6.4	Follow-up meeting with the Minister (together with George Freeman if it can be arranged)	Val Alsop, Lionel Clarke	Before end 2021	
6.5	Connect EBAC/BIA Nagoya protocol experts with Joyce Tait	Tim Brears	Nov 2021	
6.6	Maintain ongoing coordination with IBLF re infrastructure and related skills and growth plans	Lionel Clarke	Mid Jan 2022	
6.7	Arrange EBLC follow-up discussions with UKRI re the National Engineering Biology Programme re the balance of research and translation, once the full extent of support is clear following the CSR	Laura Finney	asap	