Europe/Africa Workshop Summary

The Task Force on Engineering Biology Metrics and Technical Standards for the Global Bioeconomy hosted their third and final workshop in Brussels, 25th – 27th September 2023. The event opened with a welcome reception held in the Grand Place, where over 50 participants from industry, academia and government came together, alongside representatives from the European Commission, to discuss the potential for standards and metrics in engineering biology to support the growth and success of the bioeconomy. The two-day workshop comprised participants from 15 countries. On day one a series of presentations and panel discussions took place, followed on day two by deeper-dive breakout sessions on some of the key topics. There was an overriding consensus that Europe needs to move forward more quickly; to harness the growing momentum arising out of academia and industry, as part of a rapidly advancing global bioeconomy. There was excitement and agreement regarding the advancements that engineering biology – as part of the wider bioeconomy – could bring to the region, specifically the significant potential of engineering biology to achieve a more sustainable, bio-based future. Despite this tremendous promise, the participants acknowledged that much work needs to be done. In particular, support needs to be garnered from policy makers and, most importantly, citizens, without whom a bioindustry in this region would simply not compete globally. They identified the need for improved communication and stakeholder engagement with potential investors, customers, and the general public, to better convey the needs and opportunities for engineering biology to address pressing global issues, such as climate change and sustainability.

The aims of the workshop were to identify how and where standards and metrics in engineering biology might enable and support the rapid growth of a European bioeconomy. Participants discussed the potential for standards and metrics to help simplify current regulatory processes, which many deemed more complex than in other geographical regions. Standards might also prove a useful tool in building trust with consumers, by standardizing certain processes and product specifications, alongside better science communication with the general population. Within breakout sessions, more in-depth discussions took place on topics including: data standards and access; coordinating with existing standards; safety, sourcing and traceability; and biomass and sustainability. No one disagreed that standards and metrics would assist with reproducibility and global interoperability.

However, in Europe, the precautionary principle prevails for new biotechnology developments. There is a need to step back and identify Europe's current positioning within the global bioeconomy; to consider the 'bigger picture' and potential risks. As one participant put it, we are seeking the "golden balance" between conservatism and innovation. Many participants also cited the complexity of defining the problem space, although recognising that engineering biology is a rapidly growing area and complacency could be economically damaging. The development of vaccines for the Covid-19 pandemic provided an excellent example of safe but nimble innovation to meet a global need, with Europe playing a key part in global Covid vaccine development. In this fast-moving field, it was felt that Europe needs to move rapidly to remain relevant and that standards and metrics could offer important tools to aid innovation, rather than hinder it; help regulators and policy makers; and to help industry – big and small – overcome regulatory hurdles.

Having now convened three regional workshops, a strategic report will be developed, building on the outcomes of each and identifying key commonalities. This will be led by the Task Force, composed of representatives from the Engineering Biology Research Consortium, the National Institute of Standards and Technology, the National University of Singapore, Imperial College London, and Schmidt Futures. Details of all three workshop discussions will be made publicly available within the final report.