

Synthetic Biology Manufacturing Innovation Institute

3 January 2020

Dear Colleagues:

The U.S. Department of Defense recently [announced its intent](#) to create a Synthetic Biology Manufacturing Innovation Institute (Synbio MII). The Synbio MII will be the fifteenth institute under [Manufacturing USA](#) to catalyze innovation American an American manufacturing industry. In anticipation of the formal request for proposals, the EBRC is taking steps to engage the community and build a strong coalition. As an existing, trusted partnership at the intersection of industry, academia, and government, we are well-placed to build an institute with the following guiding principles:

A successful institute should be:

- **Inclusive** of companies and other stakeholders in the American bioeconomy.
- Run by an **impartial, trusted organization** focused on the needs outlined by the U.S. Government, industry, and academic members.
- **Community-driven**, with governance and participation based on an organization's membership level.
- **Focused** on enabling bioeconomic development through research and development producing American-owned IP.
- **Accessible** to the U.S. government and industry to advance scale-up biomanufacturing, down-stream processing, and test & evaluation.
- **Developed openly** and with input from all community members.

As an initial step, we invite you to [join us on January 24, 2020](#) in Houston, TX to share your vision on the important features of an Institute and work with us to develop a community-focused MII dedicated to accelerating biomanufacturing for the next-generation bioeconomy.

Fostering the Bioeconomy

The U.S. bioeconomy has been [formally identified, by both the Department of Defense \(DoD\)](#) and [the White House](#), as a critical area of development for domestic innovation and security. With both public and private investment accelerating rapidly, we have the opportunity for biotechnology to lead significant economic growth in the coming decade.

The abundance and diversity of biomass in the U.S., in addition to our leading pool of talent, gives the U.S. a tremendous opportunity to lead in biomanufacturing. However, the U.S. currently lags in domestic biomanufacturing capacity requiring U.S. companies and the government to endure long wait times or use overseas facilities to produce biobased materials. To combat this challenge, the U.S. government is stimulating growth of the bioeconomy through the [passage of engineering biology legislation in the House of Representatives](#), the recent White House Summit on America's Bioeconomy, and the forthcoming [DOE Biomanufacturing InnovationXLab](#). Additionally, the DoD has designated biotechnology as one of its top R&D priorities for modernization and is poised to be a key user of biomanufactured goods over the next decade. With a long history of early adoption of technology, the DoD is on track to be a significant player in the biotechnology ecosystem.

The Engineering Biology Research Consortium (EBRC)

The EBRC is at its core a coordinating body for practitioners of engineering biology. EBRC is a non-profit organization dedicated to bringing together an inclusive community committed to advancing engineering biology to address national and global needs. We identify pressing national challenges and articulate compelling [research roadmaps](#) to address them. The EBRC's current [membership](#) represent the diverse perspectives of the engineering biology research community and includes some of the top scientists and engineers spanning the science and engineering enterprise. Individual Members are principal investigators from leading universities and non-profit research institutions. Institutional Members range from small start-ups to larger, well-established biotechnology research and manufacturing companies. Our members engage actively with the U.S. Government, including the DoD, to establish national priorities in research & development, education, security, and policy.

The EBRC, as an existing, trusted public-private partnership is well-suited to establish and run the Institute in service of enabling a greater domestic biomanufacturing capacity. We recognize that the maturation of engineering biology projects from research and development to commercial products can take a decade or more and cost millions of dollars. While a number of products have made it to market, each has required a largely artisanal dedicated effort. This financial burden results in a large number of products being stranded at the R&D stage, despite their potential market value. Coordinated efforts toward learning generalizable lessons from scaling biobased products can help narrow this industrialization *valley of death* by generating relevant domestic IP through community developed projects.

In addition to our work coordinating general technology development for the field, the EBRC and its members have extensive experience working with the DoD on synthetic biology roadmapping and advancing biotechnology topics relevant to defense needs. With this year's successful release of [Engineering Biology: A Research Roadmap for the Next-Generation Bioeconomy](#), an ongoing commitment to education and workforce development, and a proven community-focused approach the EBRC is ideally suited to continue serving the community by establishing and running a Manufacturing Innovation Institute for engineering biology.

The Path Forward

We invite you to join us in developing an institute to serve the community. As a next step, we are hosting a meeting on January 24, 2020 in Houston, TX to outline our general vision for the institute and discuss community needs. Specifically, we will address Membership & Structure, R&D Planning, Institute Capacity Needs, Location, IP & Data Sharing, and Workforce Development. We will use input from this meeting to draft a framework of the Institute community feedback and continued dialogue.

For more information on the meeting and to RSVP, please visit <https://ebrc.org/SynbioMII>. You can reach the team at SynbioMII@ebrc.org or contact me directly at dcf@ebrc.org.

Best regards,



Douglas Friedman
Executive Director