



Accelerating Public and Private Sector Biomanufacturing


The Agile BioFoundry (ABF) consortium collaborates with public and private sector organizations towards rapid innovation and cost-effective production of bio-based fuels, chemicals, and materials.

This consortium of U.S. Department of Energy (DOE) national laboratories is dedicated to developing an agile biomanufacturing platform that features:

- Industrially-relevant production microbes
- Advanced tools for biological engineering and data analysis
- Process integration and scale-up
- Techno-economic analysis and life-cycle assessment

Fast-Track Biomanufacturing Process Commercialization

ABF Goal:



Enable **50% reduction** in time from conception to the industrial scale up of bioprocesses (current average is 10 years). Companies and institutions can leverage ABF's world-class DOE biomanufacturing domain expertise and infrastructure to:

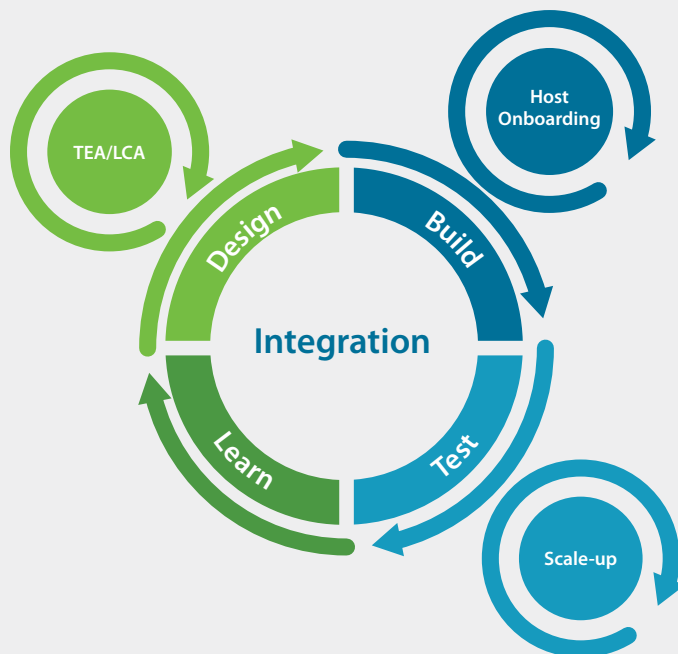
- Reduce risks in bringing bio-based products to market
- Develop performance-advantaged bioproducts
- Reduce biomanufacturing carbon footprints and energy intensities

Agile BioFoundry Capabilities

The ABF platform unites the unique abilities of DOE national laboratories with targeted outcomes such as an improvement in Design-Build-Test-Learn biological engineering cycle efficiency, new microbial host organisms, and market transformation through the transfer of intellectual property and manufacturing technologies to U.S. industry.

ABF's core capabilities include:

- Engineering biology
- Computer-aided bioprocess design
- Microbial host development
- Multi-scale cultivation
- Deep multi-omics analysis
- Biosensor development and application
- Metabolic flux analysis
- Statistical and machine learning
- Techno-economic analysis (TEA)
- Life cycle assessment (LCA)



Agile BioFoundry consortium core capabilities integrate efficient biological engineering cycles with TEA and LCA, microbial host onboarding, and process integration and scale-up.

Industry Partnerships to Advance the U.S. Bioeconomy

The success of the ABF platform requires critical feedback from industry concerning:

- R&D challenges facing the bioengineering and biomanufacturing industry
- Contracting and intellectual property mechanisms through which industry and the ABF consortium interact
- Key performance indicators for the ABF

Current public and private partnerships that have helped ABF advance the bioeconomy include:

Agilent | Kiverdi | LanzaTech | Lygos | TeselaGen |
University of California San Diego | University of Georgia |
Visolis | ZymoChem

Learn more about the Agile BioFoundry consortium, its partners, and impact on the bioeconomy at agilebiofoundry.org.



Front page photo: Panoramic view of the Fermentation Laboratory at the Advanced Biofuels and Bioproducts Process Development Unit at Lawrence Berkeley National Laboratory. Photo by Roy Kaltschmidt, LBNL