



Enabling Defense Capabilities through Bioindustrial Manufacturing

- › Douglas Friedman
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BioMADE: the Bioindustrial Manufacturing Innovation Institute

About Us

BioMADE launched in 2021 and is an independent non-profit, public-private partnership initiated by the U.S. Department of Defense. In partnership with our members, we are securing America's future through biomanufacturing innovation, education, and collaboration by:

- › Propelling new biotechnology products from lab to market
- › Creating resilient supply chains
- › Enabling the workforce of the future



INDUSTRY

BioMADE Members

UNIVERSITIES

How BioMADE Advances U.S. Bioindustrial Manufacturing

Strategies

- › Create a dynamic member ecosystem
- › Support member-led projects across the industry and defense industrial base
- › Increase access to U.S. domestic scale-up infrastructure

Program Areas

- BioMADE co-invests with its members to advance projects in each of these three interconnected areas:
- › Technology & Innovation
 - › Education & Workforce Development
 - › 4S – Safety, Security, Sustainability, and Social Responsibility

BioMADE Projects

- › 65 projects
- › 63 members engaged in projects
- › Project work in 19 states
- › Over \$150M in funded work

What Can Bioindustrial Manufacturing Create?

Applications

- › Carbon-negative chemicals that can be used for water treatment, concrete, fertilizers, and detergents
- › PFAS alternatives and bio-based fire-resistant composite materials
- › Bioplastics and durable fibers
- › Chemicals used to make compostable tote bags, coffee capsules, and food packaging
- › Growable cement and alternative natural rubber to make tires
- › Proteins, probiotics, fragrances, and skincare products



Manufactured with Biology to Meet Defense Needs

Rubber Sourced from Dandelions



Farmed Materials



Fire-Resistant Coatings for Aircraft



Top Side of Panel:
The battery fire
burned/melted a roughly
circular 2-inch hole



Bottom Side of Panel:
The lower surface did not
melt/burn



Split-section of
panel cut in half
through center

Cambium

Advanced Warfighter Nutrition

Protein



Superbrewed
Food

Oil



Checkerspot



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Get Involved with BioMADE



BioMADE builds connections to bridge the bioindustrial manufacturing community and defense industrial base

Visit us in the Expo to learn more about how BioMADE can bridge the gap

Visit biomade.org for more information and to sign up for our newsletter

Questions:
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