



BIOHOME3D

The first 3D-printed house made entirely with forest-derived, durable and economical materials



TACKLING OUR HOUSING SHORTAGE

80,000 affordable housing units are needed in Maine. BioHome3D technology tackles labor shortages and supply chain issues that inflate housing costs by using automated, off-site manufacturing to reduce on-site building time and construction waste.



STRENGTHENING OUR FOREST PRODUCTS INDUSTRY

Using resource-efficient, locally sourced wood fiber feedstock, BioHome3D reduces reliance on a limited supply chain. The 600-square-foot prototype includes 3D-printed floors, walls, and roof made from wood fibers and agri-based-resins. Fully reclaimable, it features high insulation with 100% wood-based materials.



LOCAL SOLUTIONS

Developed by the University of Maine's Advanced Structures & Composites Center (ASCC), a leader in large-scale additive manufacturing, and in collaboration with Oak Ridge National Laboratory through the Hub & Spoke Specialized Materials & Manufacturing Alliance for Resilient Technologies (SM²ART), BioHome3D is a transformative solution to critical housing challenges.

This technology not only reduces reliance on traditional labor-intensive construction methods and constrained supply chains but also offers a pathway to rapid and scalable housing production. The 600-square-foot prototype demonstrates the potential for efficient, rapid production of entire homes—floors, walls, and roof—while also supporting Maine's forest products industry.



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