

ENERGY INNOVATION FORUM

UMass Lowell REMADE Manufacturing Institute and Plastics Engineering

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RESEARCH AREA

- Plastics Engineering Department Research

- Energy efficient polymer manufacturing
- Thin film & Flexible nanomanufacturing for energy/electronics
- Polymeric materials from biobased resources
- Composite processing/characterization for lightweighting and wind energy



- Currently members of six Manufacturing USA institutes, including DOE-led *Reducing Embodied-energy And Decreasing Emissions in Materials Manufacturing*



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KEY PRODUCTS/TECHNOLOGIES

- REMADE Institute structure: Headquartered in Rochester, NY



- Research themes: data/tools, materials/process design, sorting, separation/purification, reprocessing
- Membership Structure:
 - large vs. small (<500 employees) company
 - Tier 1: \$100K + \$150K cost share / \$15K + \$10K cost share
 - Tier 2: \$40K + \$ 60K cost share / \$2.5K + \$2.5K cost share
 - Tier 3: \$1K



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NEXT STEPS AND NEEDS

- Looking for: industry partners for proposal developments
→ particularly innovations in recycling and manufacturing efficiency
- Next Steps: first project call due Oct 30th; white papers due soon after
- Typical project:
 - Technology Readiness Level 3-4
 - Potential to significantly reduce use of raw materials and energy in metals, polymers, e-waste or fibers
 - Well-integrated partnership of academia,
 - industry, national lab members
 - 12 to 18 month effort, \$1M - \$2M

