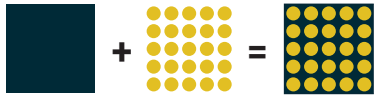
MULTISCALE SYSTEMS

We make mechancial metamaterials
We design geometric patterns to enchance performance of conventional materials instead of using chemical or molecular engineering.



Conventional material | Geometric pattern | Metamaterial

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LOWERING COSTS WITH MECHANICAL METAMATERIALS

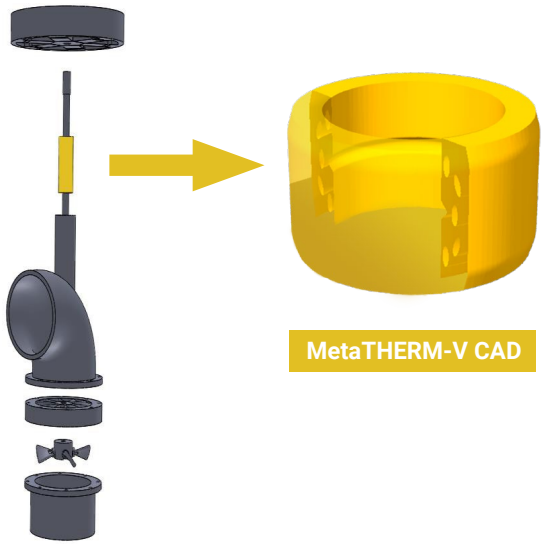
The Problem

Undampened vibrations in hydroelectric turbines accelerate wear, increasing maintenance costs and decreasing efficiency of electricity generation.

Image:
The Sayano-Shushenskaya hydro plant failure, which experienced vibrations 7x higher than the allowed baseline in the days before the event.

Our Solution

MetaTHERM-V is a bearing assembly component enhanced by mechanical metamaterials for improved vibration dampening, leading to reduced costs, increased efficiency, and superior supply chain logistics.



MetaTHERM-V CAD

MetaTHERM-V prototype

Why Us?

The proposing team has a track record of success developing commercial applications of metamaterial technologies.

- $1.5 Mn in equity-free seed funds
- USPTO 63/044646
- Full-time staff of 5
- 2,300 sq-ft facility
- Unique equipment for R/R&D/RDTE activity
- Synergistic applications in aerospace, defense, and transportation
- Native DfAM technology

Harvard University | Wyss Institute | Cornell University | University of Massachusetts Amherst

NASA | NSF | U.S. Department of Energy | Ansys | MassChallenge | Dawnbreaker | New England Business Association | TechSearch | Larta Institute | FedTech | LEVER | Massachusetts Clean Energy Center