



MULTISCALE
SYSTEMS



2020 Annual Report

Successes, new and notable in 2020

Introduction

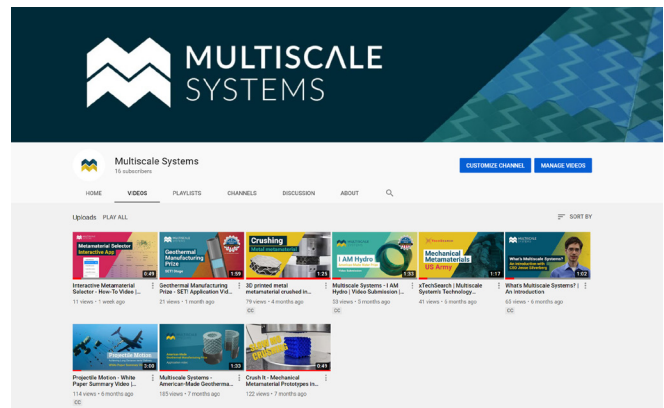
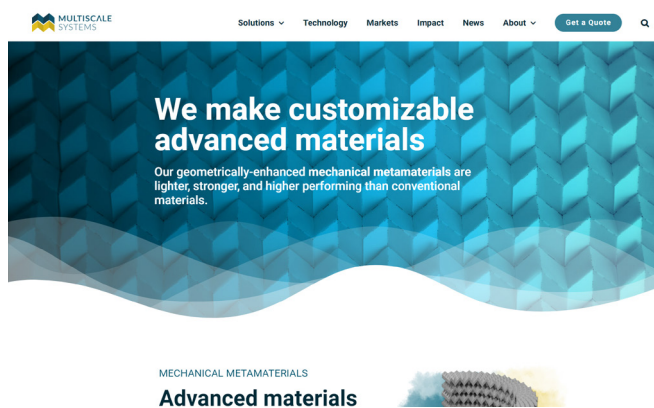
An exciting and productive year, 2020 proved an important growth period for Multiscale Systems. We filed our first patent, underwent a brand overhaul, acquired the necessary equipment to outfit our skunkworks in order to continue designing and testing new metamaterials, and were awarded several grants and prizes worth approximately \$1.2 million.

Patents

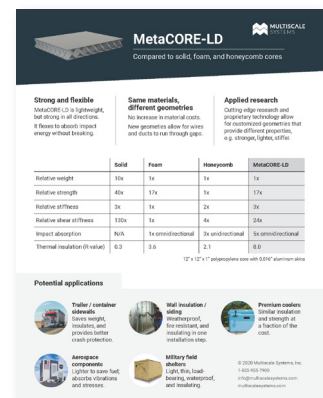
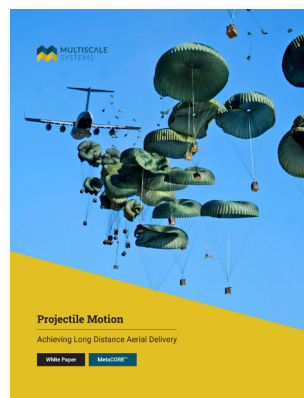
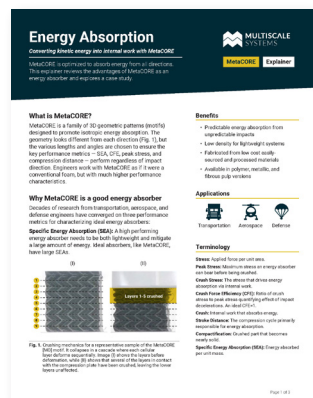
One patent and three trademarks were filed.

Rebranding

Multiscale Systems underwent a company-wide rebranding in 2020, including a revised brand identity, internal documents, website, and social media presence.



Relaunched website (multiscalesystems.com); Above right: Multiscale Systems' steadily growing YouTube channel.



A selection of print and digital resources with revised branding.

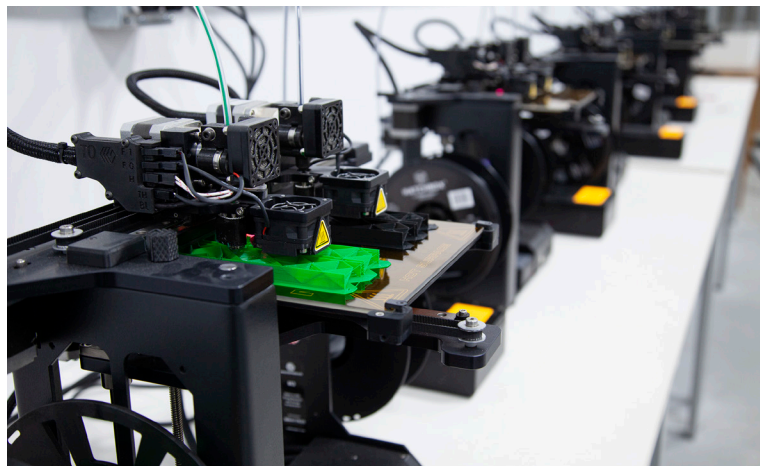
Skunkworks facility

Throughout the year, our 2,300 sq-ft headquarters in central Massachusetts has transformed into a workshop capable of sustaining our R&D efforts of prototyping, testing, and validating new metamaterial solutions.

Equipment acquired

A number of important equipment acquisitions were made, including:

- Instron Universal Tester
- StepCraft Q.204 CNC
- MakerGear M3-ID printers (6 units)
- Titan High Performance Computer



Left: Installation of the Instron; Top right: Print farm of MakerGear M3-ID printers; Bottom left: StepCraft CNC.

Successful proposals

The following proposals had approved funding decisions made in 2020, with an approximate total value of \$1.2 million.

Type	Funder	Description
SBIR Phase I	DOE	Development of mechanical metamaterials to address needs in geothermal technologies.
Grant	MassCEC Catalyst	MetaCORE for weight-reduction in transportation.
Prize	xTechSearch, Phases II and III	Soldier protection with MetaCORE.
Prize	DOD Army Innovation Combine, Phase I	Advanced materials for future mobility.
SBIR Phase II	NASA	Ultra-lightweight mechanical metamaterials for mitigating impacts and crashes of Urban Air Mobility Vehicles.
Prize	American-Made Challenge: Geothermal Manufacturing Prize, READY! Stage	Additively manufactured mechanical metamaterials for improving EGS survivability in the downhole environment.
Accelerator	StartUp Worcester	Initiative of the Worcester Regional Chamber of Commerce, The Venture Forum, and WorcLab. New business incubation and talent retainment in the Worcester area by providing a year-long membership to each organization.
Prize	American-Made Challenge: I AM Hydro Prize	Lowering the costs of hydropower with mechanical metamaterials.

Version: 1.0 (03-19-2021)

© 2021 Multiscale Systems, Inc.