MATERIALS THAT MATTER
FVMat

DESIGN, SIMULATION & PRODUCTION OF NOVEL META-MATERIALS

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NOVEL MATERIALS WITH EXTRAORDINARY PROPERTIES

Taking Composites beyond their capabilities via intelligent design of Meta-Materials

About Us

FVMat introduced a novel concept of composite materials with extraordinary properties, which cannot be found in nature. These meta-materials are multi-functional and dynamically controlled. They are fabricated by combining 3D printing and proprietary additive techniques.

Our technology enables the production of lightweight intelligent parts with superior performance characteristics.

Service Portfolio

FVMat provides a full material design process that is validated by multi-physics simulation and optimization. The resulting micro structured material has unique properties that adapt to changing environment conditions.

DESIGN SIMULATION OPTIMIZATION MICRO STRUCTURE

The product is then 3D printed as an integrated multi-material component.

Value Proposition

FVMat enables system simplification

Integrating several components into one

Weight reduction – less material, improved performance

Optimizing performance through efficiency

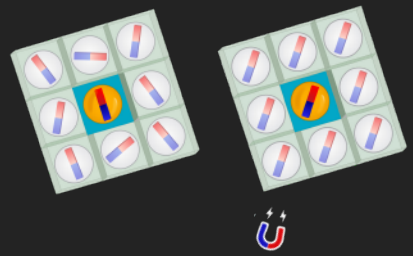
Reduced maintenance

Enhanced system reliability

This is achieved via evolution of composite materials to become dynamic, multi-functional and adaptive.

Technology

FVMat revolutionized composites by designing meta-materials with dynamic microstructures.



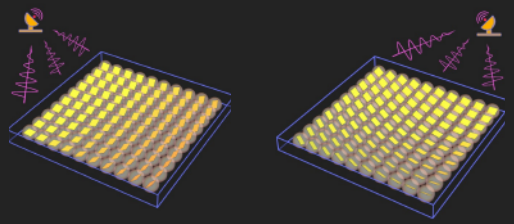
Production

The components are fabricated by combining 3D printing and proprietary additive techniques.

Applications

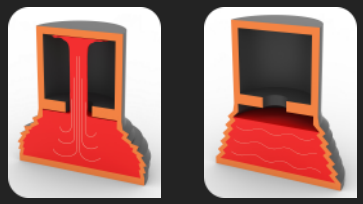
Micro-Antenna Array with Dynamic Focus-Control or Multifocal Antenna

The focal point changes its location in 3D space, and each individual micro-antenna aligns itself accordingly. The overall effect is an antenna with controllable and dynamic characteristics.



Shock Absorbing Solution

The shock is absorbed via viscosity & friction of oil flowing through the orifice. Impact is also partially transformed into kinetic energy of the oil.



Achievements

- Founded 2019, TRL 5&6
- Initial paying customers
- Collaboration UC Berkeley
- Starburst startup accelerator
- PCT & Patents: USA, Europe, China & Israel

Sustainability

- Weight reduction up to 40%
- Low energy, automatic production process
- Lightweight design for emission reduction