

# FVMat

## Materials that Matter

### Design, Simulation & Production of Novel Meta-Materials

## The Basic Idea

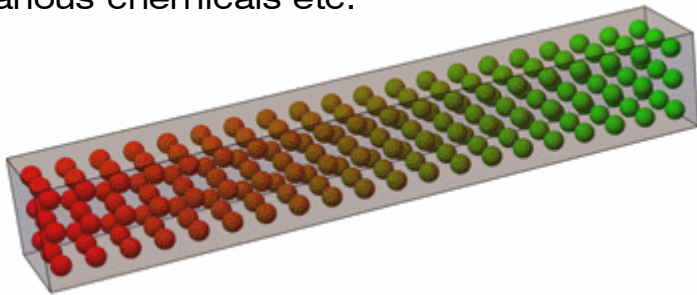
#### What are Meta-Materials?

The era of 3D printing opens many horizons and the capabilities of this technology go far beyond supplying a convenient way of producing familiar parts and products. Today the dream of creating a new class of materials with an endless variety of possible features becomes a goal within reach.

Meta-Materials are materials with an engineered artificial micro-structure that is designed to produce desired physical and mechanical properties, which cannot be found in nature.

#### A New Class of Meta-Materials

FVMat pioneers a new concept of meta-materials that enables the production of materials with extra ordinary properties. We are able to design and manufacture materials with controllable density, stiffness, heat transfer and expansion, permeability, dialectic and electrical coefficients, reaction to the presence of various chemicals etc.



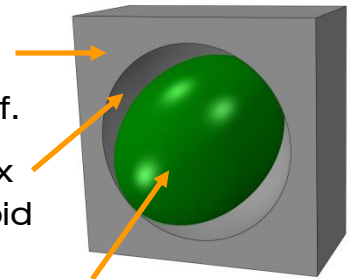
All properties can be externally varied in all three dimensions during product lifecycle.

The basic concept is simple, but the applications are vast!

#### Meta-Material's Micro-Structure

A matrix – the main substance from which the material is made of.

A void inside the matrix – with a controllable void shape and size.



A substance – particles, fluids, powders, gases, or any combination of the previous residing inside the void.

By controlling these building blocks we can design and manufacture materials with groundbreaking properties never thought of before.

#### Applications

A new class of meta-materials opens unique playground for design, simulation and fabrication of novel materials, products, and devices in various fields:

UAVs, Airplane & Automotive components, Safety catches and Safety mechanisms, Electronic components, Antennas, Controllable heat transfer, Self-lubricating materials, Damage indicating materials, and Acoustic controlled materials.

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