

GEO DICT

The Digital Material Laboratory

for Liquid Filtration

Vision

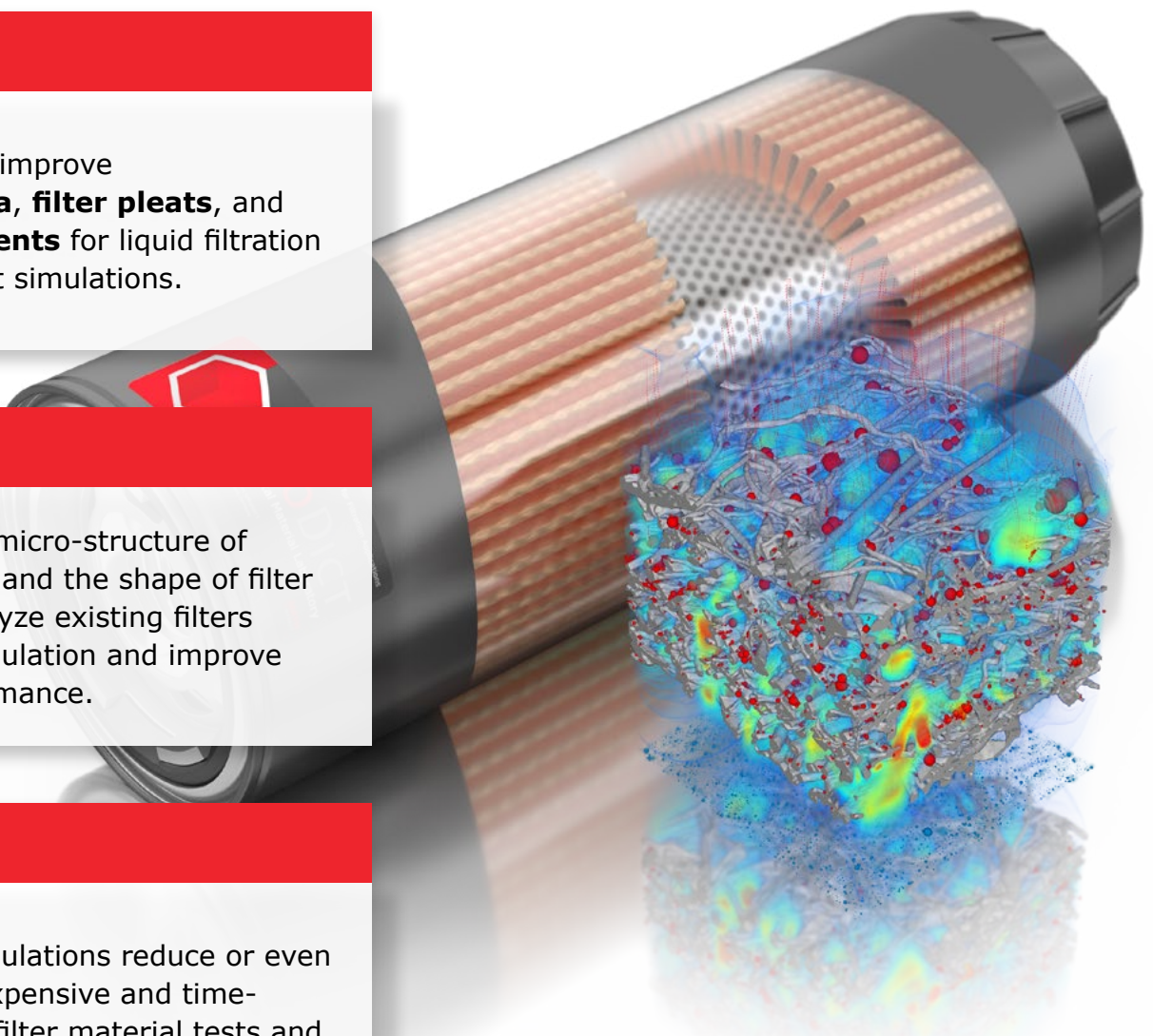
Design and improve **filter media, filter pleats,** and **filter elements** for liquid filtration through fast simulations.

About

Design the micro-structure of filter media and the shape of filter pleats. Analyze existing filters through simulation and improve their performance.

Benefits

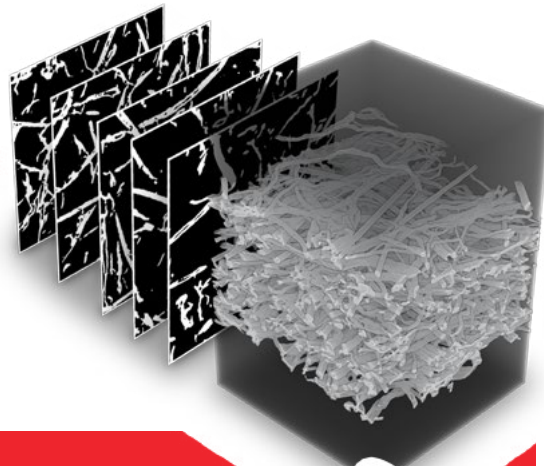
GeoDict simulations reduce or even eliminate expensive and time-consuming filter material tests and help save R&D costs.



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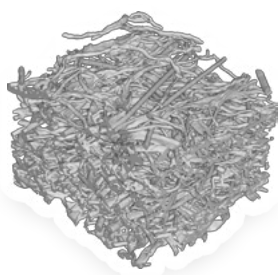
Import your materials

- Import and segment CT scans and FIB-SEM data and run simulations directly on the imported data.

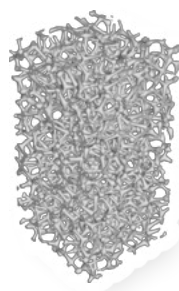
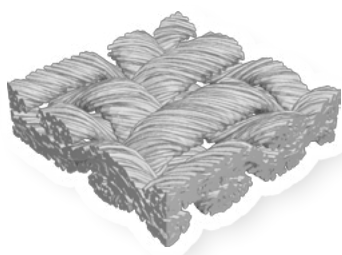


Design novel filters

- Create structure models of ...



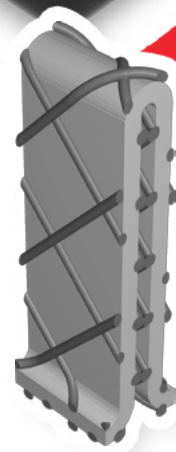
Nonwoven and woven fabrics



Foams



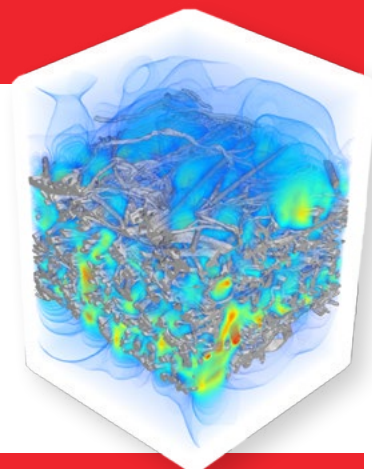
Metal wire meshes



Pleats and support meshes

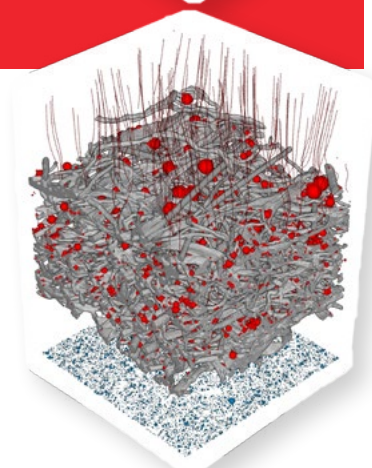
Characterize clean filter media

- Determine the initial pressure drop.
- Evaluate pore size distribution and bubble point.
- Find percolation paths through the medium.
- Analyze CT scans to find media thickness, fiber diameter, and fiber orientation.



Analyze filter performance

- Simulate multi pass tests.
- Determine the initial filter efficiency and filter class.
- Analyze the clogging behavior for different test dusts.
- Evaluate the pressure drop evolution, (fractional) efficiencies, and filter capacity.



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