LITHOZ
We are ceramic 3D printing.

CERAMIC ADDITIVE MANUFACTURING BEYOND PROTOTYPING

How to turn novel ceramic applications into reality

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CERAMICS EXPO

Industrial and Semicon



Medical and Dental



LITHOZ®



Research and Development



Aerospace & Aviation

3D-Printed Ceramics for More Reliable Applications

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Ceramics

- Mechanical performance
- Chemical resistance
- Thermal resistance
- Special properties of each ceramic

+

3D Printing

- Fast iteration cycles
- Efficient use of material
- Cut lead times & increase yields
- Mass customization
- Freedom to create functional geometries

Manufacturing with Ceramic AM

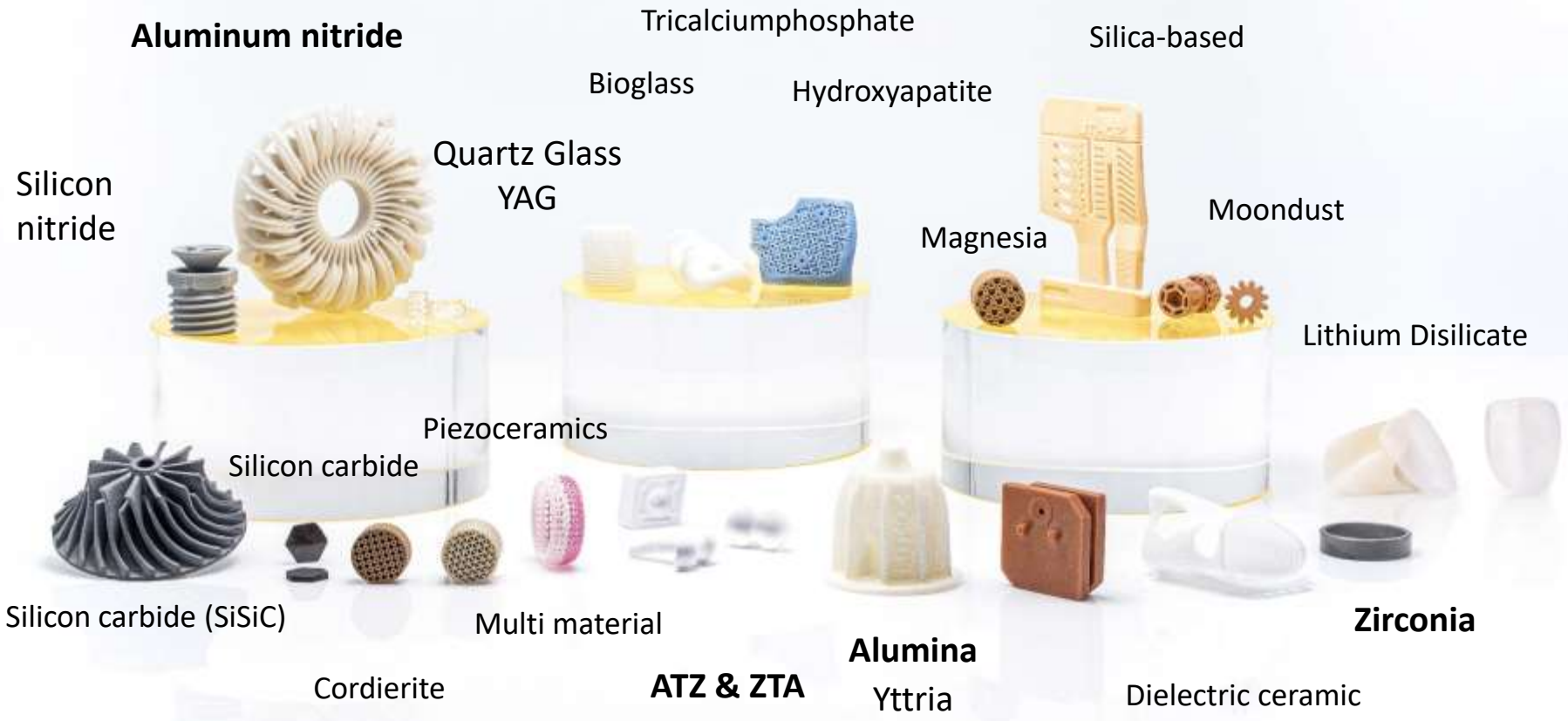
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Connecting Range of Needs in the Process Chain

- Materials → Reliable options & Openness to explore
- Scaling → Ability to handle parts across wide size range
- Design control → Consistency across features, parts, and prints
- Industrial Controls → Enable integration to Manufacturing Controls Systems
- Integration → Connection to next steps: Finishing, metallization, brazing

Materials flexibility: Off-the-shelf to Custom

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Feature control over range of part scale

Lattice

Micro

Internal

Free

S25

µm — mm



Lattice Cube
Alumina
struts - 55 µm; channels 100 µm



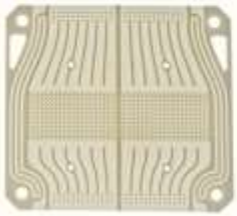
FDM Nozzle
Silicon Nitride
nozzle opening 500 µm; thread ≥ M 1.6

S65

mm — cm



Gas Equalizer
Alumina
organic channel design



Cold Plate
Aluminium Nitride
gyroid structure; fine channels 500 µm

S320

cm — dm



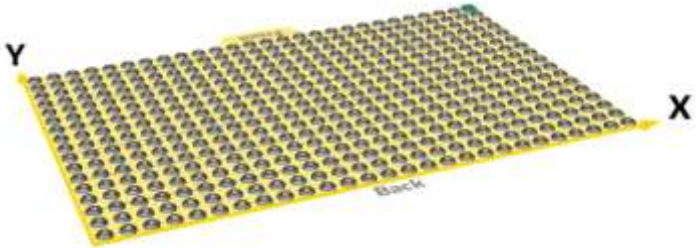
Porous Filter
Alumina
high surface gyroid structure



Casting Core
Silica-based
complex design; high aspect ratio

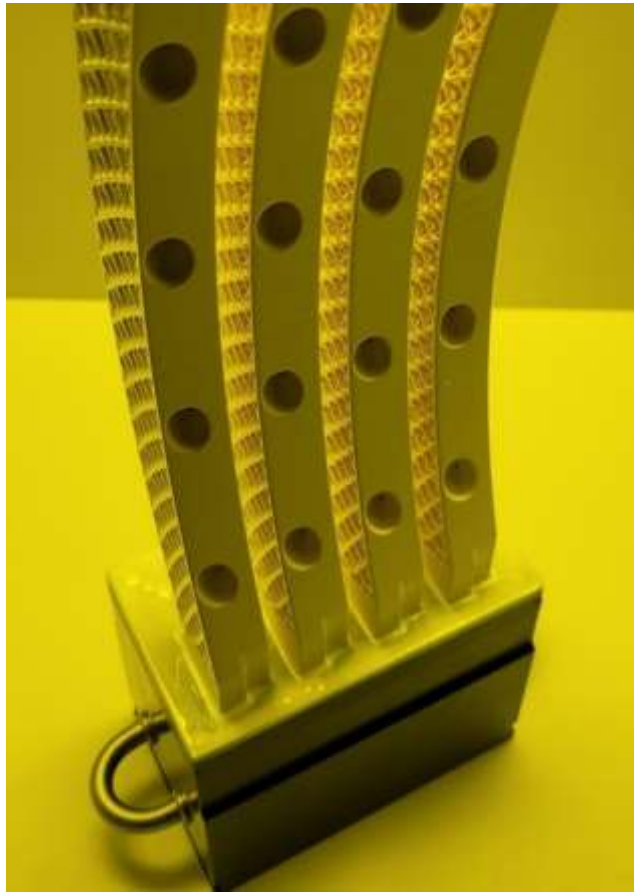
Strategies Small to Large Parts







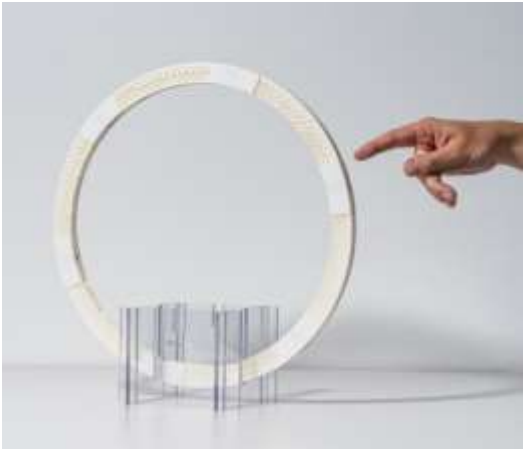




Enabled by 3D Printing

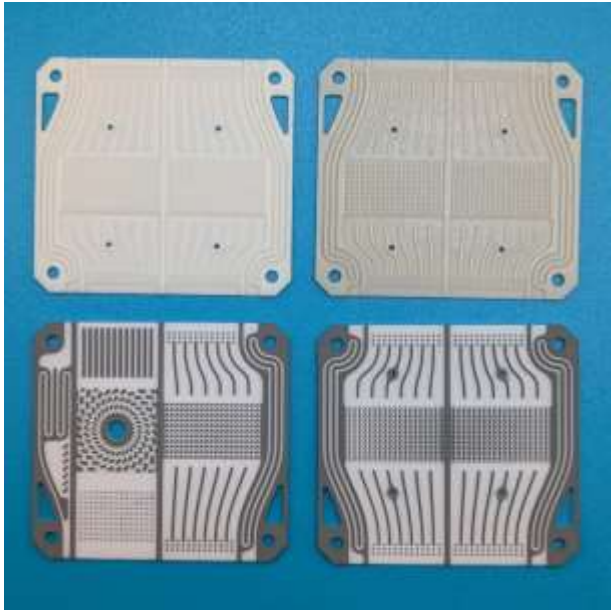
- Complex geometries
- Lightweight design
  - Materials efficient
  - Faster thermal processing
- Fast development due to short cycles
- Low impact scaling of small parts
- Joining segments to make larger components





Provide Linkages Beyond Ceramic Manufacturing

- Finishing
- Polishing
- Metallization
- Brazing
- Joining



Metallization by

SIGMA ADVANCED MATERIALS


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