

A photograph of an industrial manufacturing environment featuring several large, black XJET CBO (Ceramic Bonding Oven) machines. The machines are arranged in a row, with the one in the foreground being the most prominent. It has a large, dark, rectangular body with a transparent window on the right side showing internal components. The XJET logo is visible on the front of the machine. In the background, other similar machines and industrial infrastructure like pipes and overhead lighting are visible. A red octagonal sign with white text is overlaid on the left side of the image. A semi-transparent dark grey banner is at the bottom, containing white and red text. The XJET logo is also present in the bottom right corner.

Booth
17-227

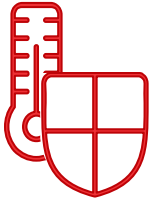
Dror Danai, XJET CBO

Harnessing the Power of AM

Ceramics UK, 2022

XJET

Technical ceramics are unique and highly efficient materials



Heat
resistance



Extreme
hardness



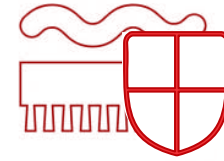
Chemical
resistant



Electrical
insulation



Pressure
resistance



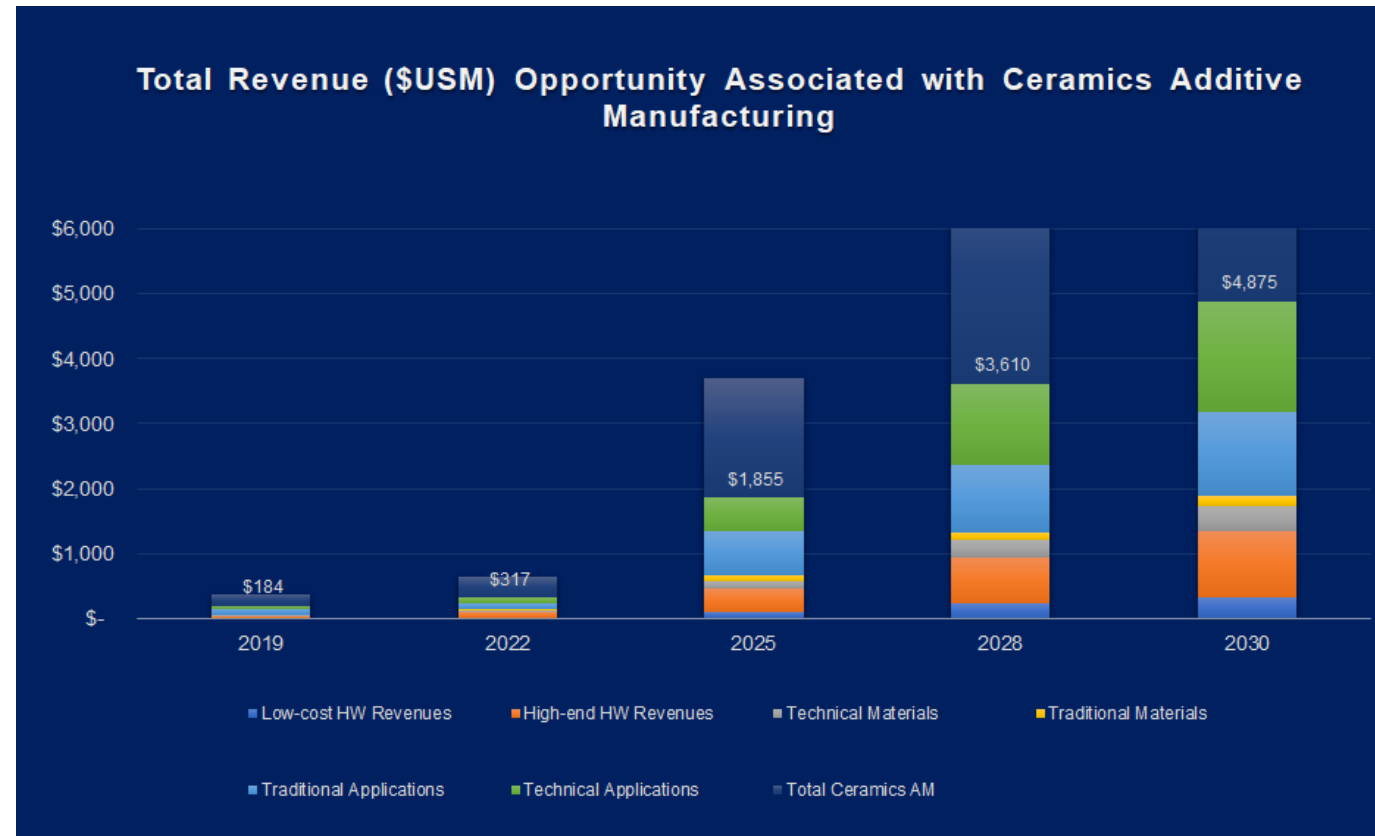
Wear
resistance

And more ...

- ✓ No magnetic interference
- ✓ Excellent & predictable dielectric nature
- ✓ Excellent sound attributes

Why **ADAPT** additive manufacturing?

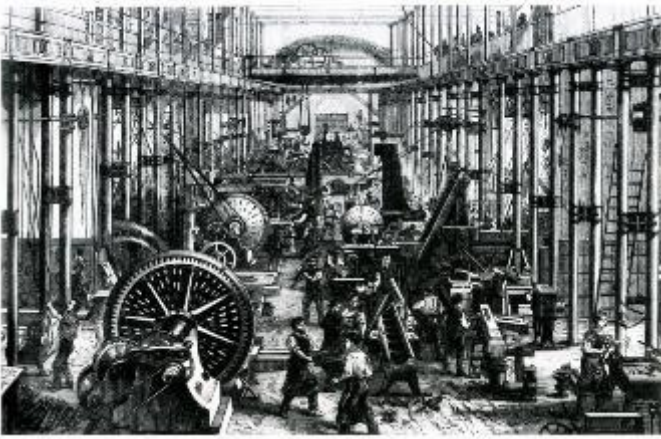
- Growing market:
 - by 2030 4.8B\$
 - CAGR of 41%!
- Operational advantages
 - Economical viable solution for short runs
 - Time to market advantages – re-shoring manufacturing; on-demand manufacturing
 - Sustainability advantages – low waste, reduces shipments
- Make the impossible possible:
 - Complex geometries
 - New opportunities



Source: SmarTech Analysis

Cost that becomes **negligible** changes the world

The industrial revolution ~1800



Cost of **Power**
became negligible

Trains, cars, ships, mass production lines: drive modern consumption, urbanization, woman labor, family structure change, democratization, and more.

The second revolution ~1850



Cost of **Communication**
became negligible

Telegraph, radio, telephone, electricity, vacuum tube: drive colonialization and globalization, literacy and education, modernism, secularization and more.

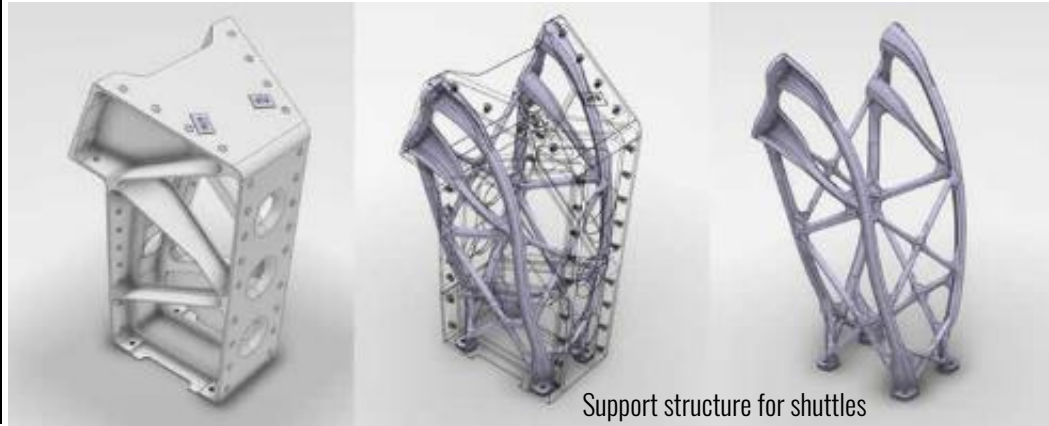
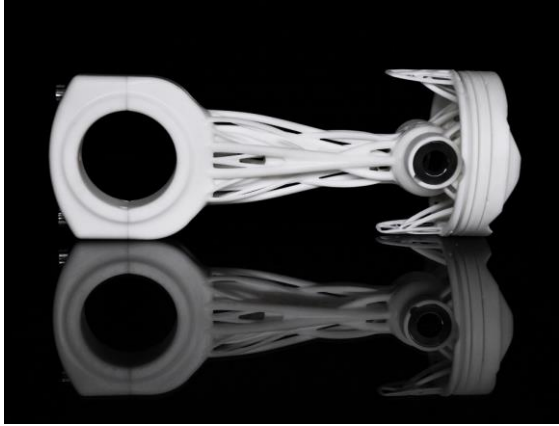
The third revolution ~1960



Cost of **Calculation**
became negligible

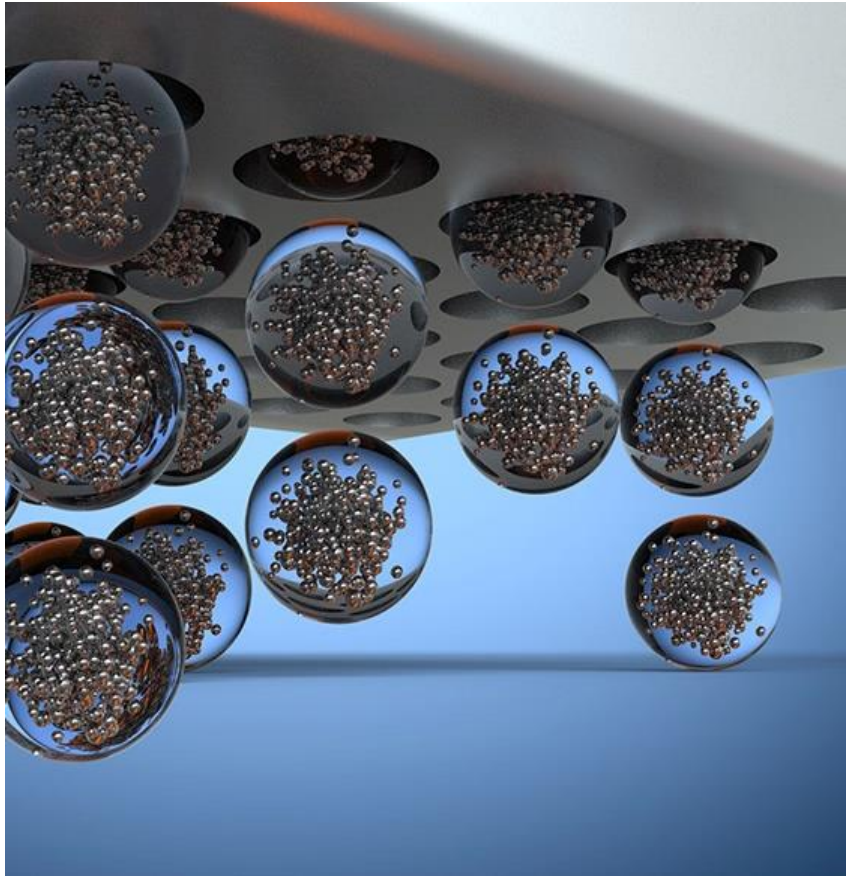
Transistors, microchips, computers: drive banking and finance industries, warfare, engineering, science, space travel, communication, and more.

3D printing -> cost of complexity

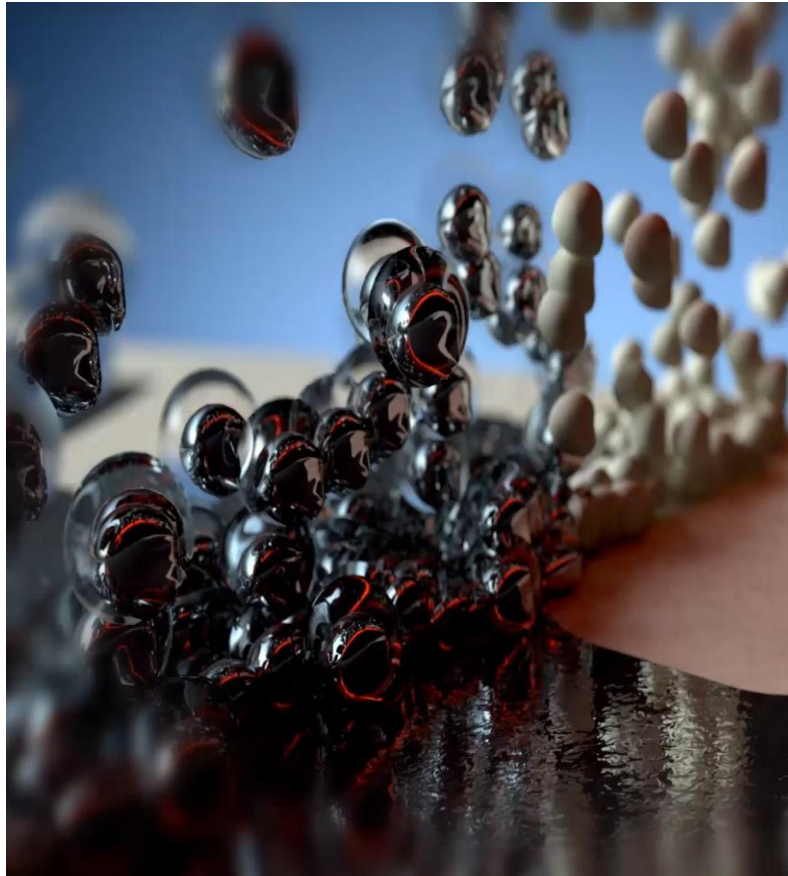


- Zero cost of complexity
- No design constraints: curves, cavities, internal structures etc.
- DfAM & computed design -> saving materials, weight to strength optimizations, high precision etc.

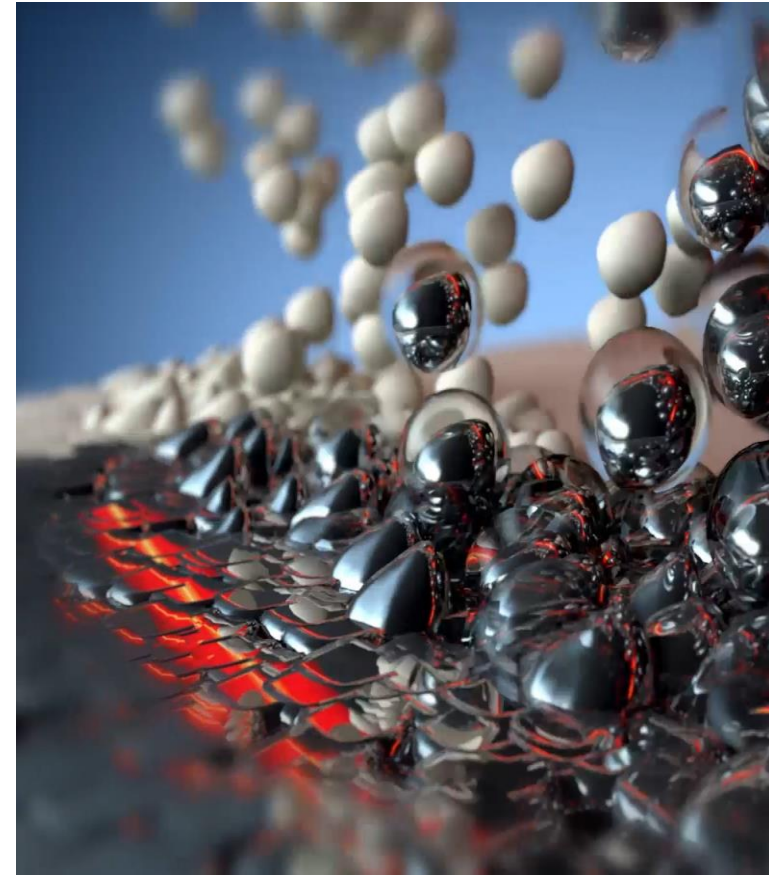
NanoParticle Jetting technology - printing process



Droplets jetted



Droplets touch hot tray



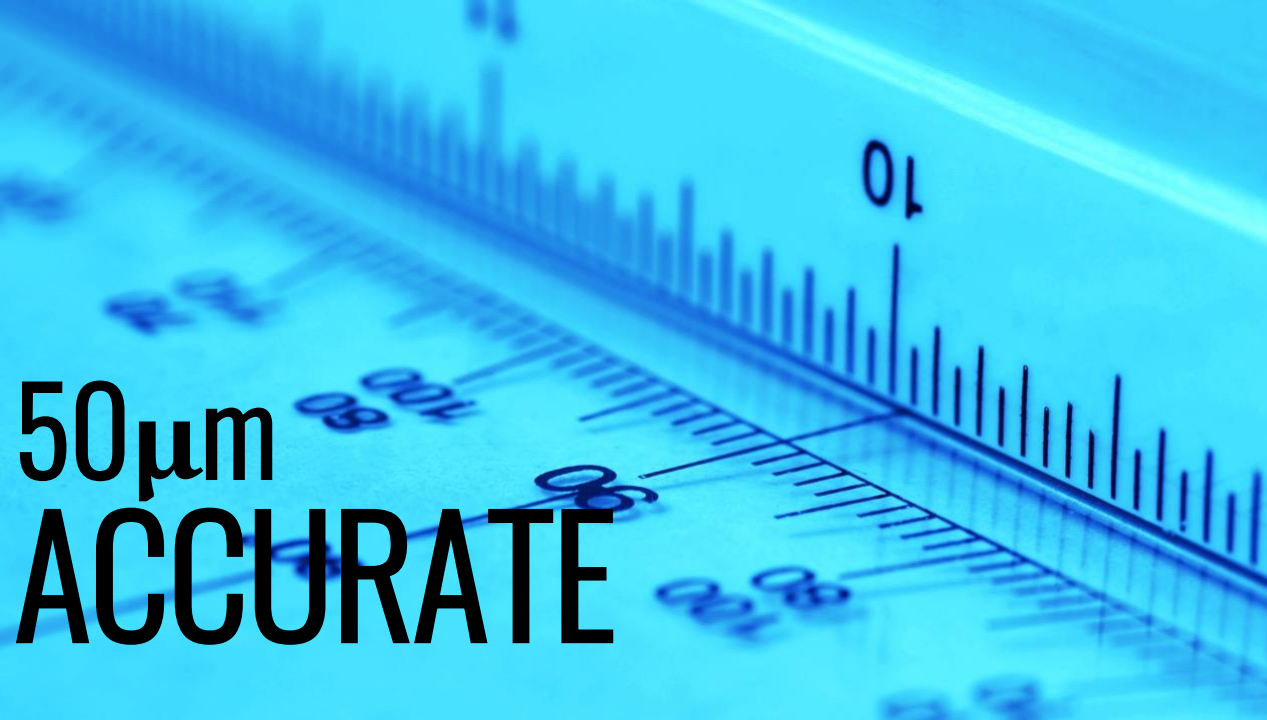
Liquid evaporates



**200 μm
DETAILS**



**3.2 μm
SMOOTH**



**50 μm
ACCURATE**



**100%
DENSITY**



**MAKING THE
IMPOSSIBLE
POSSIBLE**

XJET

Plethora of applications & industries



Consumer Goods

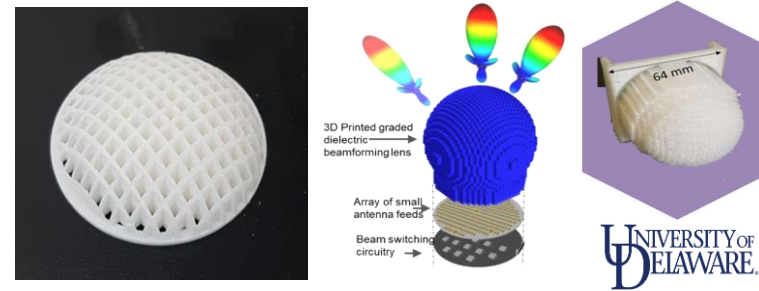


Ear Buds Internal Sub Systems

- Personalized for high-end customers with quality sound requirements
- Needs internal cavities and snail like tunnels that can not be produced to date with current technologies
- No assembly, no molds

For the first time in the 3D printing industry, consumer goods are mass produced with an Xjet 3D printer!

Telecom/Cellular



Passive Antenna Lens for the 5G Market

- Needed geometrical complexity can't be made today
- High density and high uniformity providing consistent dielectric constant, ensuring the perfect electromagnetic wave reflection
- Smooth surface & exceptional sharpness
- High accuracy and fine details

Accelerate the 5G communication revolution through 3D-printed antennas that boost the internet speed in a cost-effective way

Healthcare



MARVEL
MEDTECH

Breast Cancer Preventive Treatment Probe

- Internal complex geometry & features
- Smooth surfaces enable flow of freezing gas in the internal channels
- Zirconia / Ceramics are IDEAL for MRI compatibility
- Can't be done today any other way

“AM [Technology] makes the impossible possible” thanks to Xjet machine unique properties”

Healthcare



syqe®



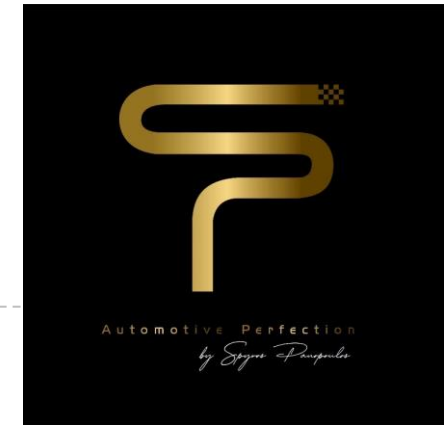
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Automotive

Engine piston for the Chaos 'ultracar'



- Complex geometry & features
- Anadiaplasi design – special design for AM method
- Alumina light weight coupled with heat & pressure resistance
- Can't be done today any other way

“XJet systems are uniquely capable of producing this part in ceramic, and there's absolutely no room for error in this project.”



At your service (uk)

Booth 17-227

Systems



www.tritech3d.co.uk

Parts



www.the-mtc.org

Thank you

