

FONON CORPORATION'S FUSION 3D METAL AM SYSTEMS

MARKET APPLICATIONS



FONON
CORPORATION

FASTEST PATH TO MRL10 PRODUCTION

“Manufacturing Readiness Level (MRL) is a 10 step measurement system developed by the United States Department of Defense (DOD) to assess the maturity of manufacturing readiness”
(Source: Wikipedia)



FONON
CORPORATION

FONON'S FUSION 3D METAL AM SYSTEMS WILL REVOLUTIONIZE USA MANUFACTURING BRINGING CRITICAL INDUSTRIES TO NEW LEVELS THAT PREVIOUSLY WERE IMPOSSIBLE

Integrate Complex Structures Reducing Multiple Components to One
Replace Parts on Demand in Hours Instead of Months
Improve Manufacturing Efficiency
Reduce Size, Weight & Cost



FONON
CORPORATION

FONON'S PRIMARY USA MARKET APPLICATIONS

- **Aviation: Revolutionize Jet/Gas Turbine Engines Shrinking Size & Weight/Toque Ratios**
- **Aerospace: Leading to Self-Sustaining Space Exploration and Stratospheric programs**
- **Power Generation: New generation of compact Megawatt Grade Gas Turbines**
- **Military: Enhance National Security with Hypersonic Advanced Missiles and War Heads**
- **Medical: Manufacture Customized Patients Specific Bone Structures and Joint Replacements**
- **Automotive: New Generation of light weight automotive Engines and Structural components**
- **Defense: Improve Battlefield Readiness/Enhance Fleet Capabilities**

*"3D printing in metal will allow the technology to be used to
manufacture final production parts in a wide variety of industries"*

(Source: LinkedIn)



Military & Defense Applications

Improve Fleet Readiness & Capabilities, Enhance National Security



“The US Navy has been particularly interested in getting 3D printers on board of warships with an eye on emergency repairs”
(Source: 3ders)



“Future full-body military armor to include cooling systems to regulate body temperature, motorized exoskeleton to support added weight powered by small engines”
(Source: 3dprint)



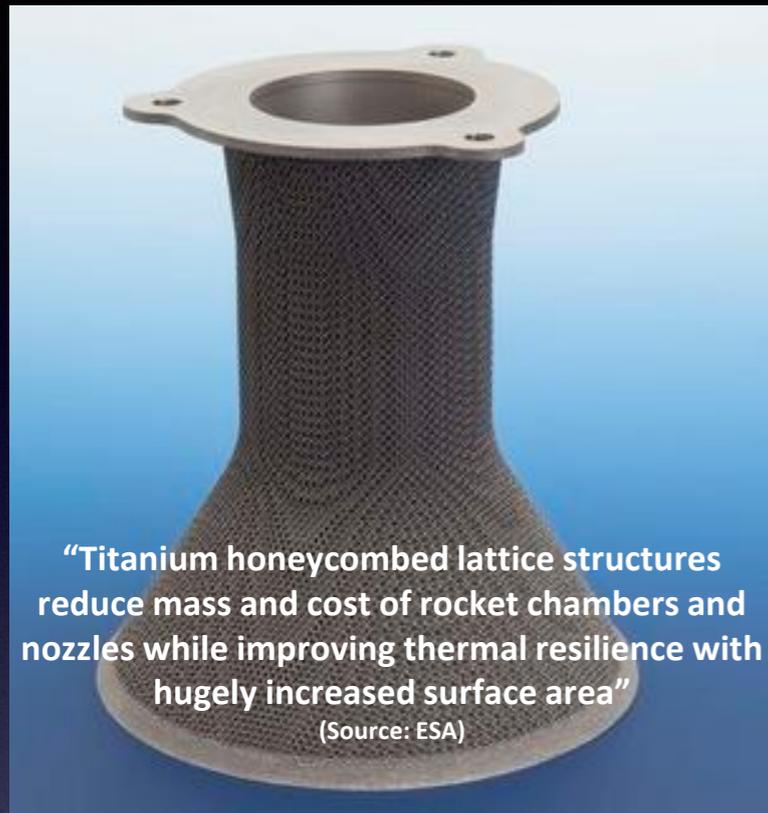
“Eventually soldiers will be able to print guided missiles & weapons right in the battlefield extending their range and payload capability based on the battlefield dynamics”
(Source: Laser Photonics)



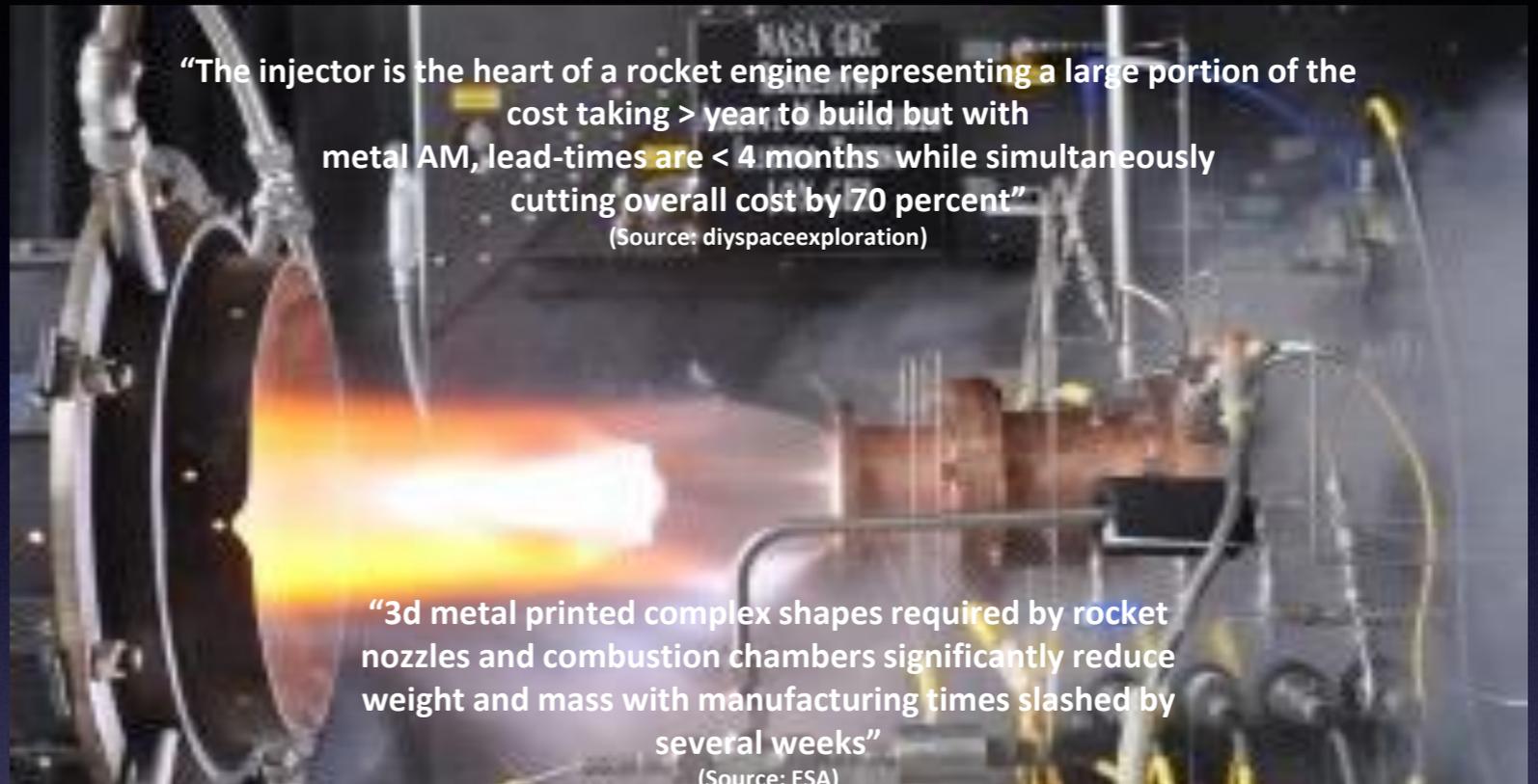
**Defense
Warhead Manufacturing**

Aviation Applications

Revolutionize Jet/Gas Turbine Engines Shrinking Size & Weight/Toque Ratios



“Titanium honeycombed lattice structures reduce mass and cost of rocket chambers and nozzles while improving thermal resilience with hugely increased surface area”
(Source: ESA)



“The injector is the heart of a rocket engine representing a large portion of the cost taking > year to build but with metal AM, lead-times are < 4 months while simultaneously cutting overall cost by 70 percent”
(Source: diyspaceexploration)

“3d metal printed complex shapes required by rocket nozzles and combustion chambers significantly reduce weight and mass with manufacturing times slashed by several weeks”
(Source: ESA)



“GE's LEAP engine nozzles have 5X more durability, weigh 25% less with 20 separate machined pieces reduces to one”
(Source: Dupress)



Aviation
Turbine Fuselage Ring



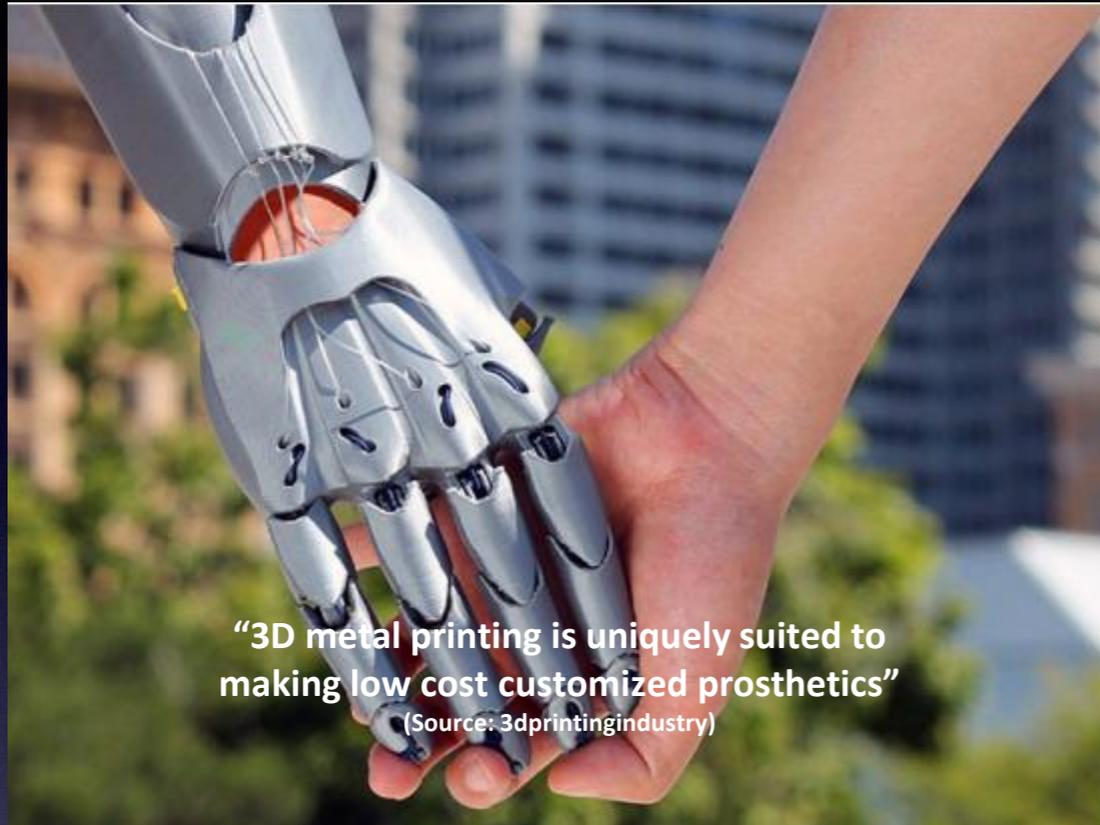
Automotive Applications

New Generation of Light Weight Car Engines and Structural Components

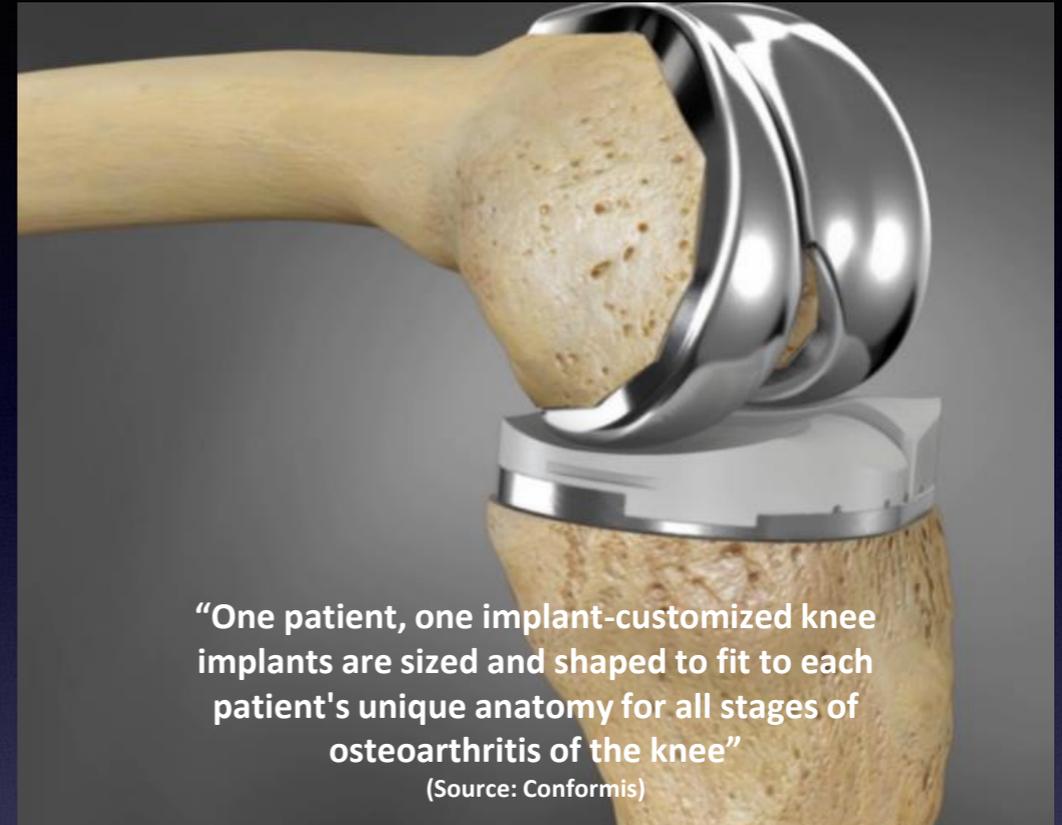


Medical Applications

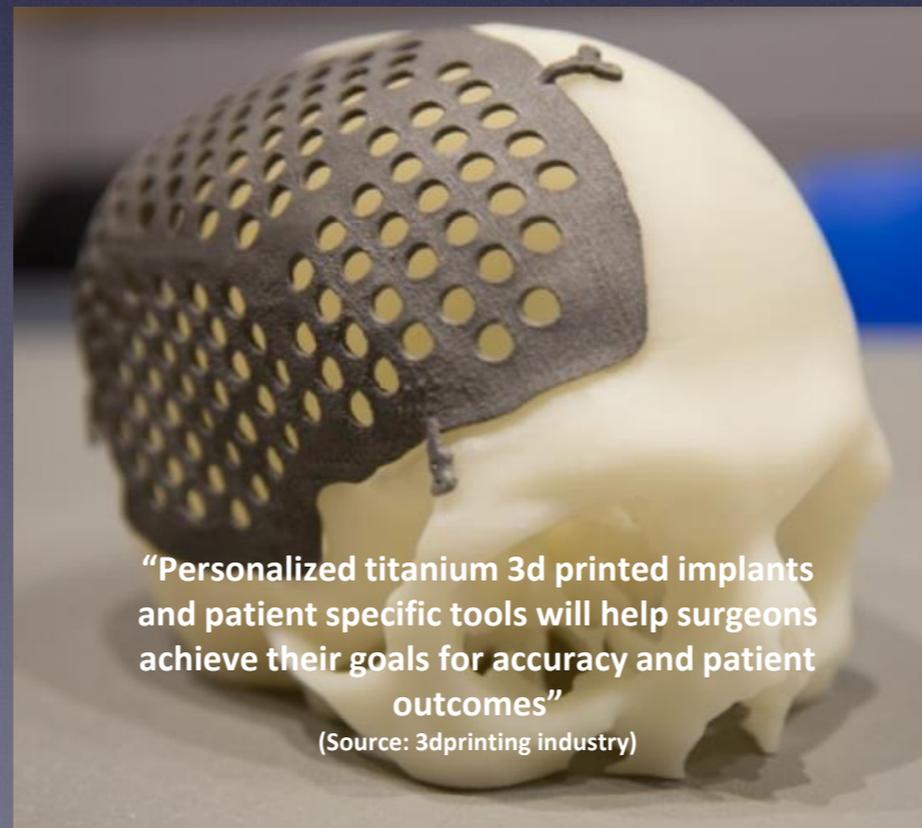
Ability to Manufacture Patients Specific Bone Structures and Joint Replacements



“3D metal printing is uniquely suited to making low cost customized prosthetics”
(Source: 3dprintingindustry)



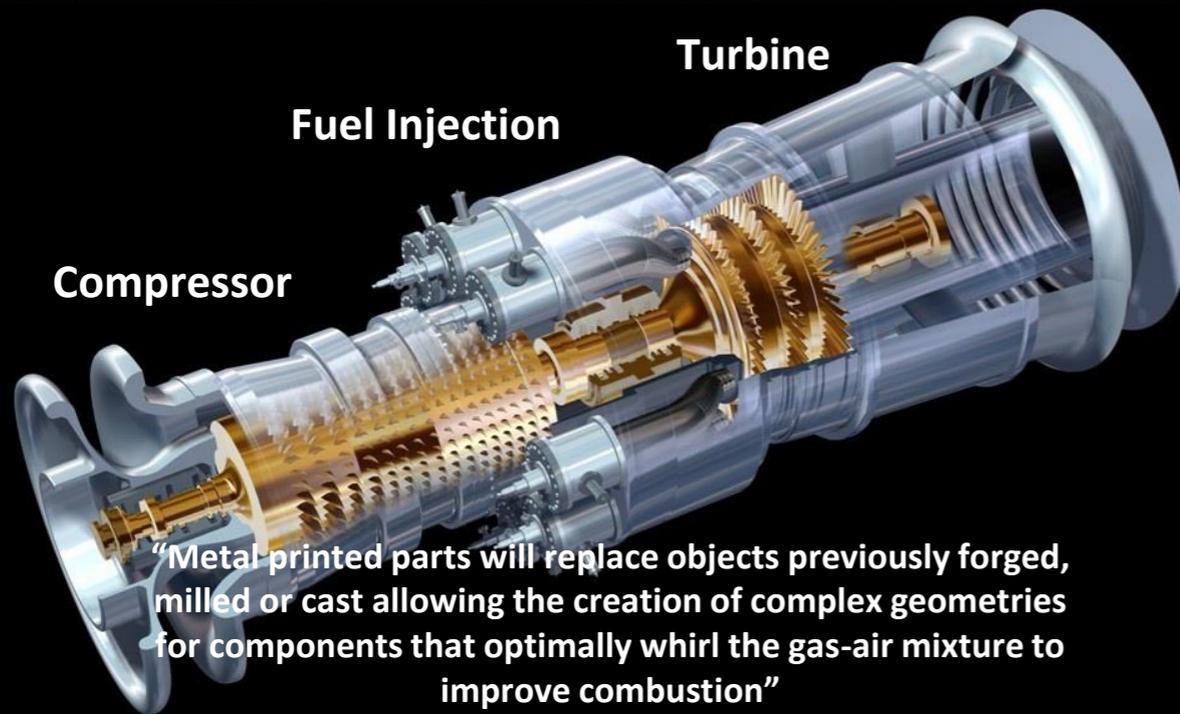
“One patient, one implant-customized knee implants are sized and shaped to fit to each patient's unique anatomy for all stages of osteoarthritis of the knee”
(Source: Conformis)



“Personalized titanium 3d printed implants and patient specific tools will help surgeons achieve their goals for accuracy and patient outcomes”
(Source: 3dprinting industry)

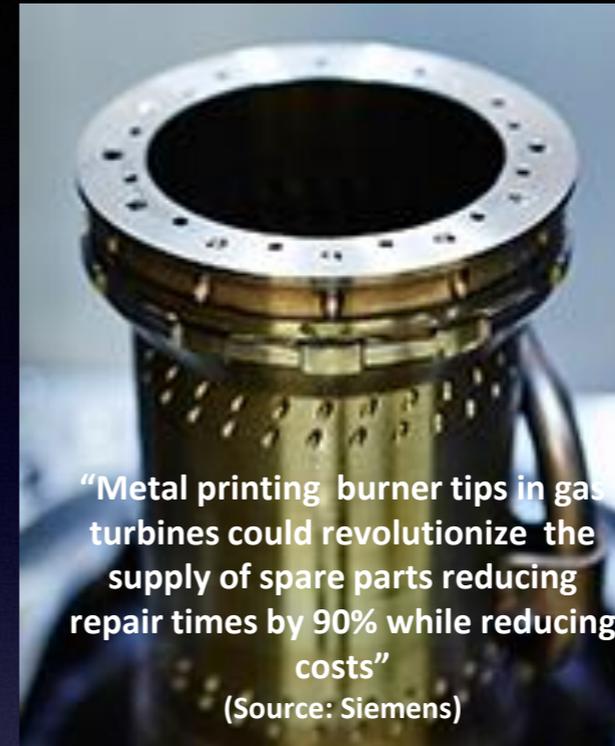
Gas Turbine Applications

New Generation of Compact Megawatt Gas Turbines



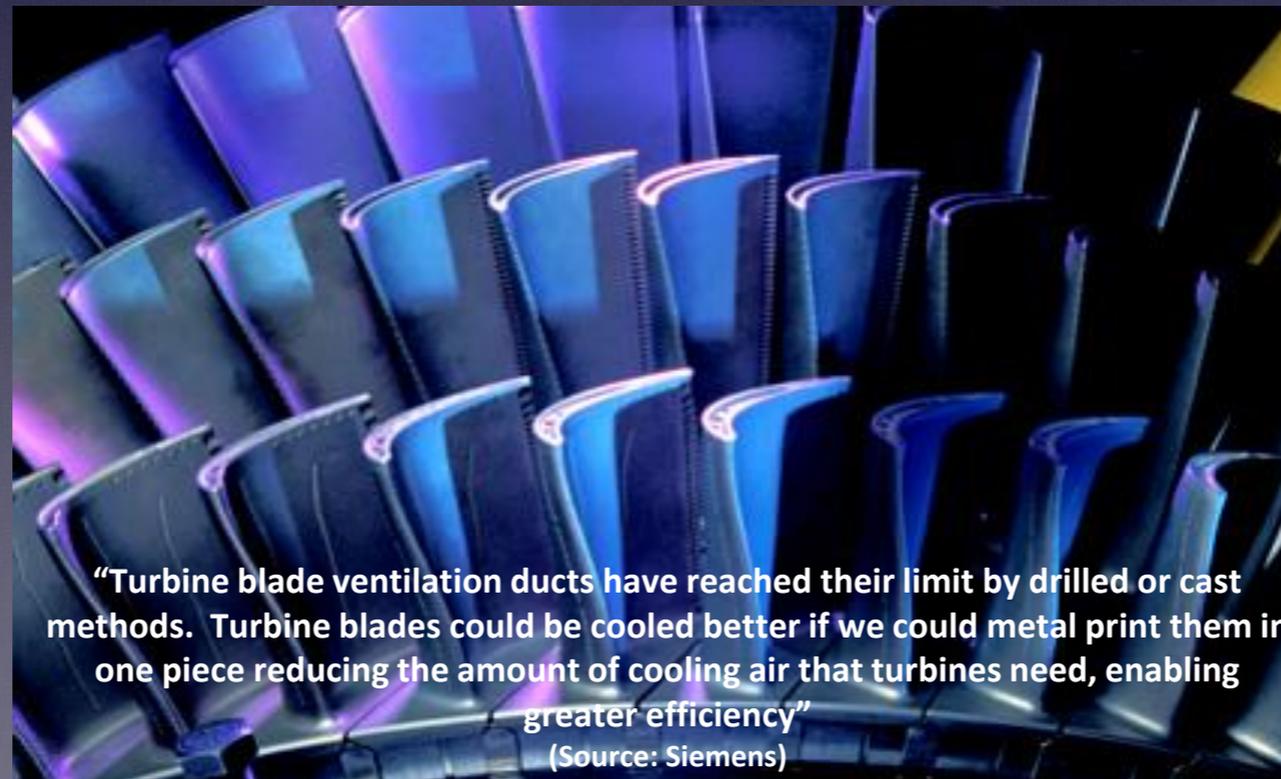
"Metal-printed parts will replace objects previously forged, milled or cast allowing the creation of complex geometries for components that optimally whirl the gas-air mixture to improve combustion"

(Source: Siemens)



"Metal printing burner tips in gas turbines could revolutionize the supply of spare parts reducing repair times by 90% while reducing costs"

(Source: Siemens)



"Turbine blade ventilation ducts have reached their limit by drilled or cast methods. Turbine blades could be cooled better if we could metal print them in one piece reducing the amount of cooling air that turbines need, enabling greater efficiency"

(Source: Siemens)

Space Applications Leading to Self-Sustaining Space Exploration and Stratospheric programs

