

Melters - Selective Laser Sintering (SLS)

- Additive manufacturing technique using high power lasers to sinter powder (like nylon or metal) into a solid structure based on a given 3D model
- Process repeated layer by layer
 - Doesn't require support materials → complex designs and less waste
 - High efficiency
 - Strong mechanical properties ideal for functional prototypes
- Novel applications in the aerospace industry
- Aircrafts like Airbus, Boeing, Lockheed Martin, using SLS to make aircraft cabin components
 - video monitoring shrouds
 - air vent grills, air ducts
 - cabin sidewalls
 - all lightweight and using flame resistant material
- Eplus3D, manufacturer of 3D printers in China have developed a SLS printer specifically specializing in aerospace applications: EP-P420
 - Large customized parts for aircrafts
 - Advanced optical scanning ensuring quality details
 - Chip-type heating to print polymers with faster and uniform heating
- More advancements/uses in future for engine turbine blades, brackets, fuel nozzles, and more

Sources & More Info:

- <https://www.eplus3d.com/the-application-of-sls-3d-printing-in-aerospace.html>
- <https://amfg.ai/2020/01/21/the-evolution-of-sls-new-technologies-materials-and-applications/>
- <https://www.protolabs.com/resources/blog/advantages-and-disadvantages-of-selective-laser-sintering/>
- <https://www.eplus3d.com/products/ep-p420-sls-3d-printer/>

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