



GE Additive



GE Aviation



OUR JOURNEY

GE Aviation qualified the first additively manufactured part for commercial jet engines. And now, they've built a turboprop engine with more than a third of its parts produced additively. But it didn't stop there – GE Additive was born and we started helping businesses, just like yours, transform how they design and build.

The minds of GE Additive are the same minds that launched GE Aviation's additive transformation. We are users of additive technology and understand first-hand how this technology can help transform businesses by improving products and manufacturing operations. We have deep domain expertise and we know what it takes to implement this change in your organization.

From defining the business case, to teaching design, to enabling production, to managing qualification, we can help you transform any part, product, process or business.

ADVANTAGES

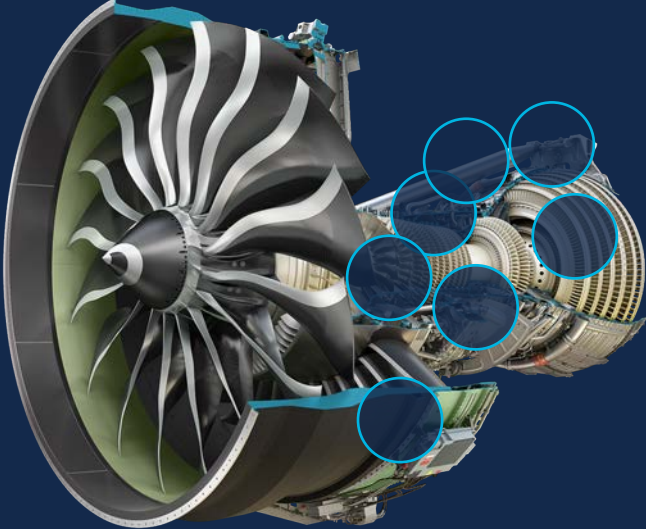
- Lower costs and simplified supply chains
- Improved product performance
- Faster time to market
- Faster cycle times



GE9X



Our engineers have decades of experience incorporating additive technologies into the aviation sector. That gives us an unparalleled understanding of this highly regulated industry.



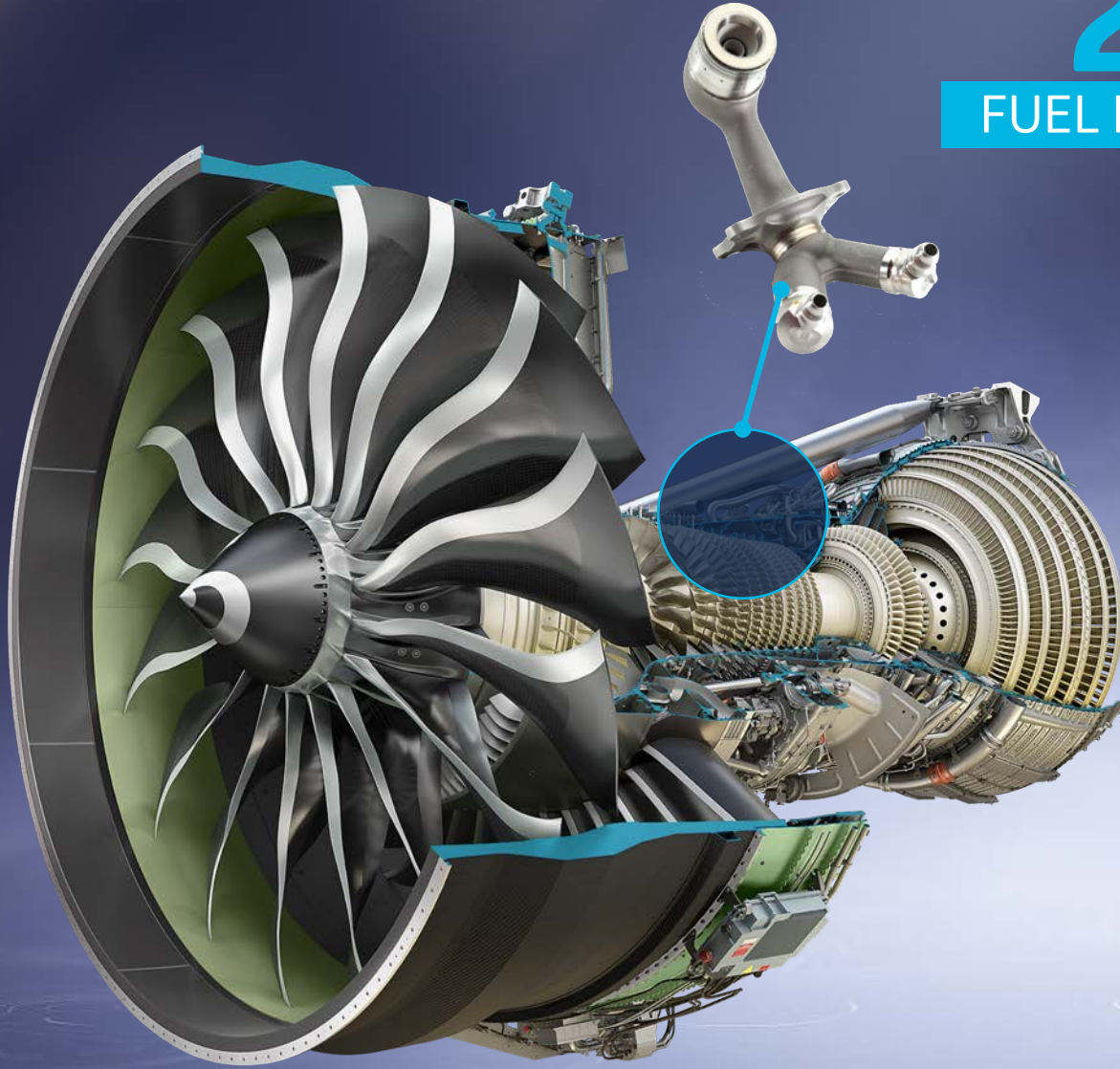
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FUEL NOZZLES



Fuel nozzle tip

WHY ADDITIVE?:

- Solving for fuel mixing, fuel emissions and cost savings

ADDITIVE BENEFITS*:

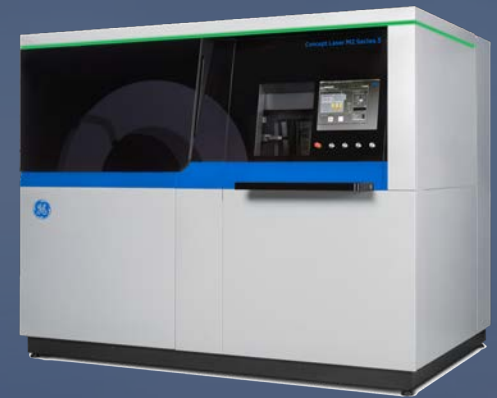
- 5X more durable
- 20 parts printed as one

MACHINE:

Concept Laser M2

POWDER:

Cobalt-chrome alloy

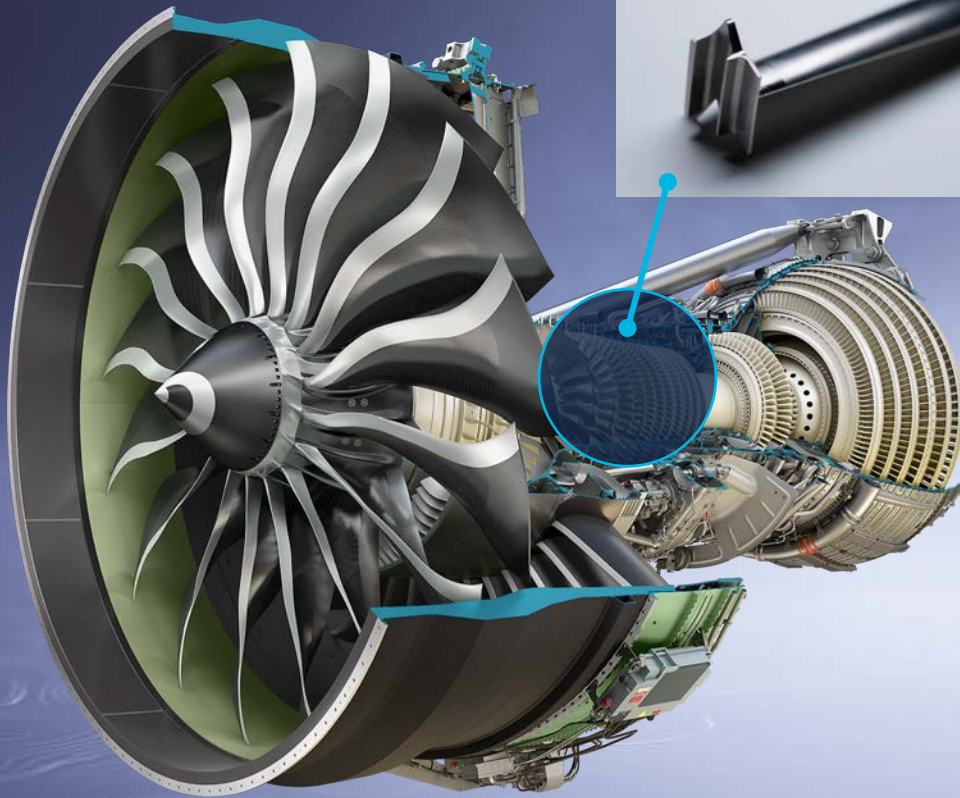


*Compared to traditional manufacturing

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STAGE 5 & 6

LPT BLADES



Low pressure turbine
(LTP) blades

WHY ADDITIVE?:

- Reduce weight

ADDITIVE BENEFITS*:

- Hot process allows production of crack-prone materials
- 50% weight reduction

MACHINE:

Arcam EBM A2X

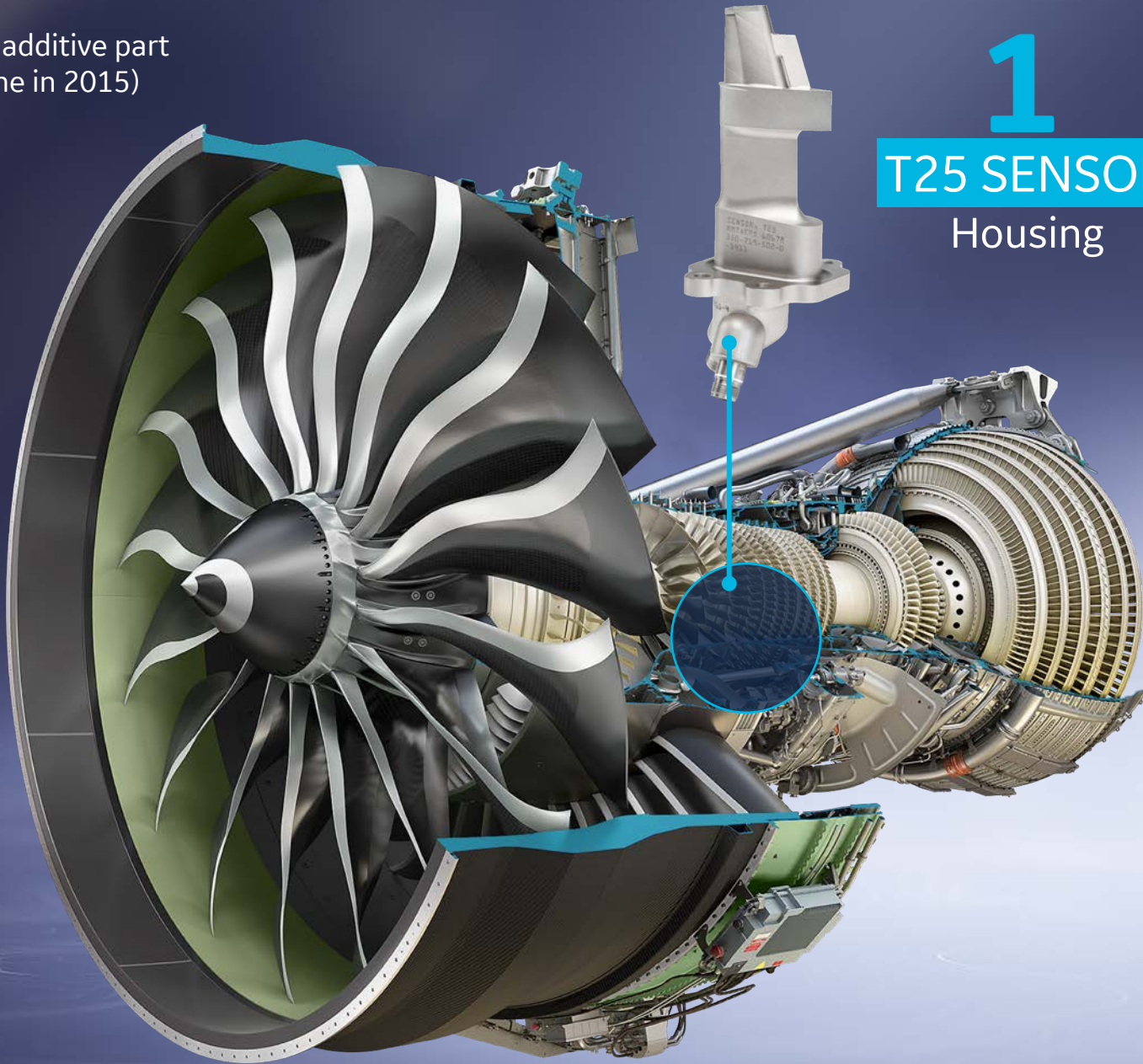
POWDER:

Titanium aluminide (TiAl)



*Compared to traditional manufacturing

First FAA certified additive part
(on the GE90 engine in 2015)



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T25 SENSOR Housing

T25 Sensor Housing

WHY ADDITIVE?:

- Improved precision enabled through complex geometries

ADDITIVE BENEFITS*:

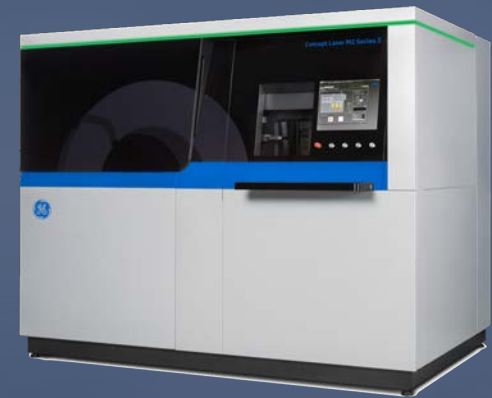
- 30% more precise
- 10 parts printed as one

MACHINE:

Concept Laser M2

POWDER:

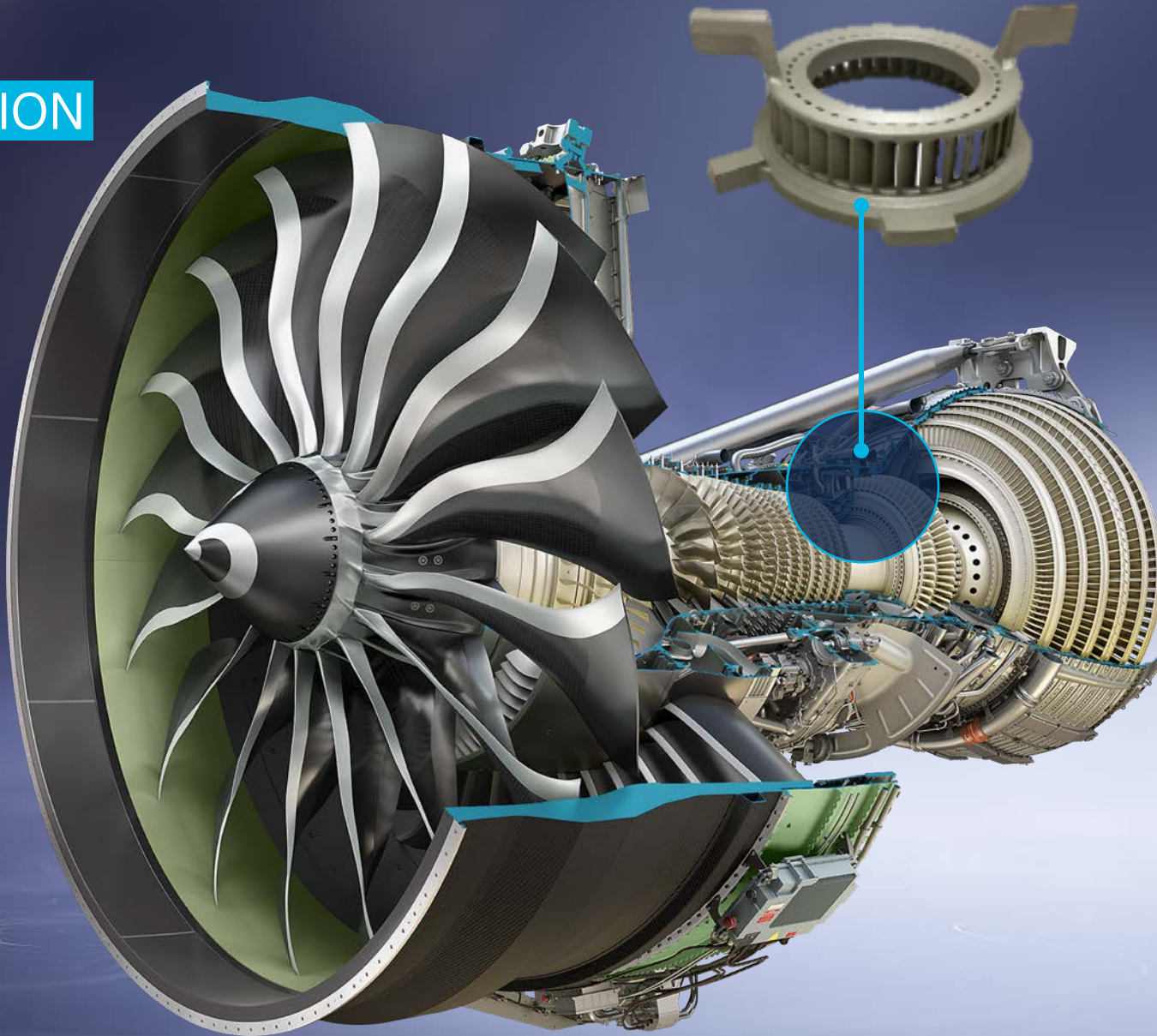
Cobalt-chrome alloy



*Compared to traditional manufacturing

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COMBUSTION MIXER



Combustion Mixer

WHY ADDITIVE?:

- Reduce part to part variation

ADDITIVE BENEFITS*:

- 3X more durable
- 6% lighter

MACHINE:

Concept Laser M2

POWDER:

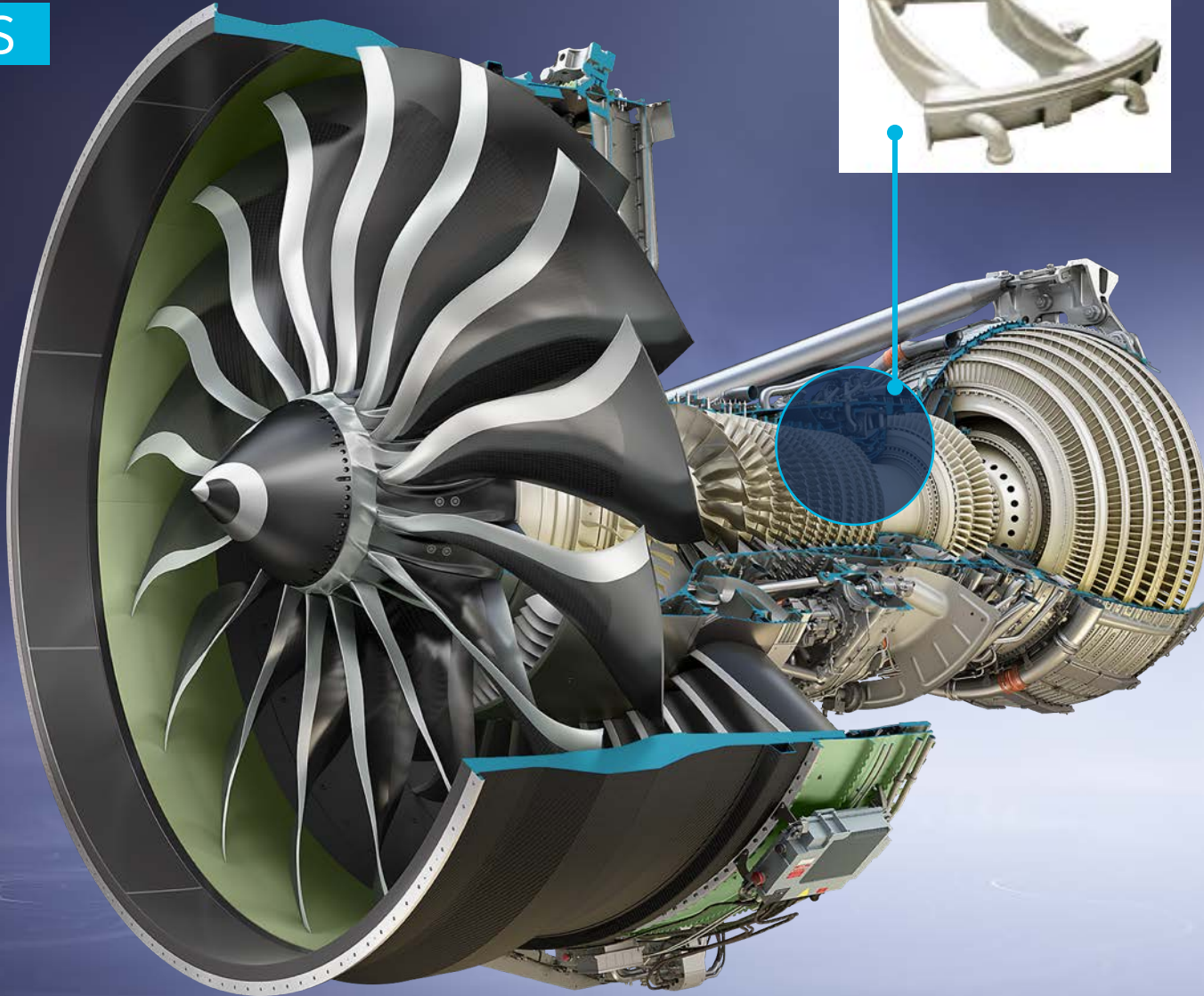
Cobalt-chrome alloy



*Compared to traditional manufacturing

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INDUCERS



Cyclonic Inducer

WHY ADDITIVE?:

- Enable reduction of cooling air debris to improve durability
- Complex geometries

ADDITIVE BENEFITS*:

- 2X more durable
- 13 parts printed as one part

MACHINE:

Concept Laser M2

POWDER:

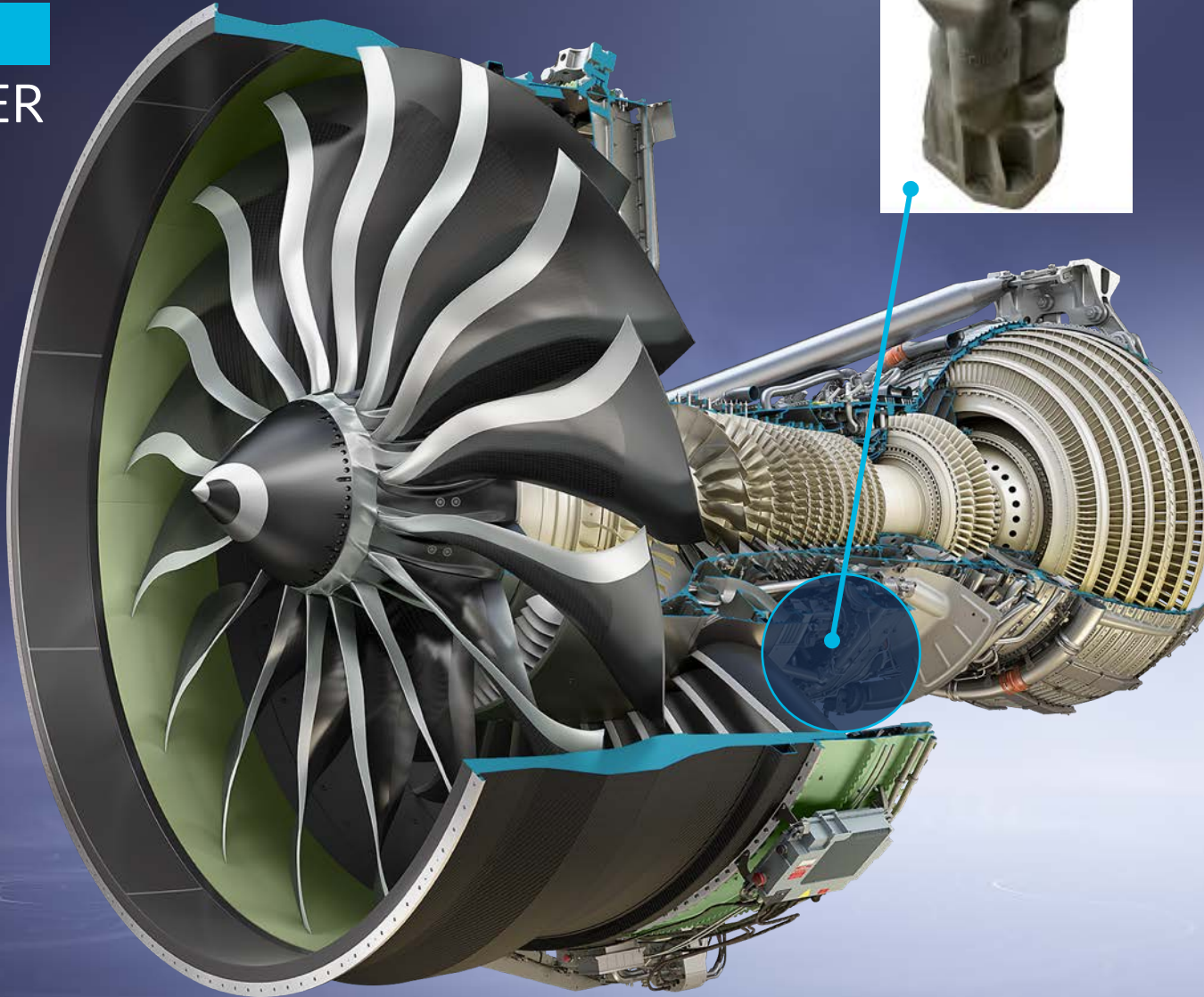
Cobalt-chrome alloy



*Compared to traditional manufacturing

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HEAT EXCHANGER



Heat Exchanger

WHY ADDITIVE?:

- Smaller, lighter, cheaper, improved durability

ADDITIVE BENEFITS*:

- 40% lighter
- 163 traditionally manufactured parts, now additively printed as one part
- 25% less cost to produce

MACHINE:

Concept Laser M2

POWDER:

Aluminum (F357)



*Compared to traditional manufacturing

