

Application Center

Education

Hands-on training to develop technical and practical skills, fostering innovation.

Application Development

Creation of new solutions for different market needs.

R&D and Innovation

Development of advanced and sustainable technologies.

ENGINEERING & DESIGN

FUTURA
LA SCUOLA
PER L'ITALIA DI DOMANI

Finanziato dall'Unione europea NextGenerationEU

Ministero dell'Istruzione e del Merito

Italiadomani

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ITALIA 21-27
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IDEA → ENGINEERING → OPTIMIZATION

Our engineering team translate functional requirements into optimized designs, choosing the best fit between standard additive or hybrid manufacturing.

The focus is not only geometry;
But feasibility, performance, and cost.



Topology & generative optimization

Part consolidation

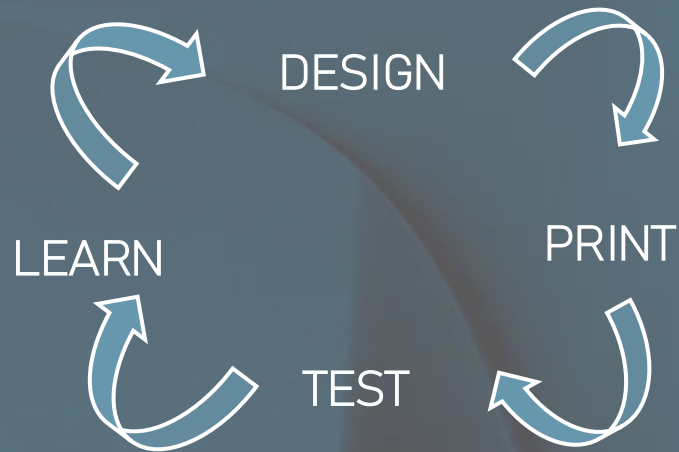


Lattice & lightweight strategies



Design rules aligned to AM/hybrid processes

Optimization Process



- ▶ Hybrid/advanced manufacturing enables fast design iteration without tooling constraints.
- ▶ Functional prototypes are produced using the same technologies and materials as end-use parts.
- ▶ Aesthetic, ergonomic, and mechanical validation happens early, reducing risk later.

Manufacturing Readiness

Bridge production for
low-to-medium volume
manufacturing

Large-scale and near-
net-shape components

AM-specific tooling, jigs
and fixtures

Supply Chain Transformation

Digital inventory instead of
physical stock

On-site, distributed
manufacturing

Reduced lead times and
logistics complexity

Sustainable Engineering

Optimized material usage

Part consolidation
reduces waste and
assembly

Lower CO₂ footprint

POLYMER & COMPOSITE TECHNOLOGIES

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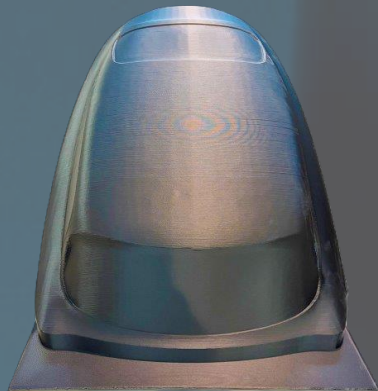
	Machine Model	Size Class	Build Volume	Materials	Industries	Use Cases
LFAM	Caracol HERON 300 HV Hybrid	XL	~3000 × 1500 × 1500	Thermoplastic pellets, CF/GF composites	Construction, tooling, industrial design	Automotive molds, boat hull molds, architectural façade panels, furniture prototypes
	FDM Composite	Markforged Mark Two	Small	320 × 132 × 154	Polymers + continuous fiber	Aerospace, robotics, industrial
FDM Polymer		Bambu Lab X1 Carbon	Small	256 × 256 × 256	Thermoplastics (PLA, ABS, PETG, TPU)	Product design, consumer goods
	SLA	Formlabs Form 4L	Medium	353 × 196 × 350	Photopolymer resins	Design, medical, prototyping
SLS		Formlabs Fuse 1	Small	165 × 165 × 300	Nylon powders (PA12)	Industrial, engineering, small series

LFAM



LAMINATION TOOL

Aerospace, Tooling
PC CF



SPORTS CAR ROOF

Automotive & Motorsport
ABS CF

FDM Composite



ROBOTIC GRIPPER JAW

Industrial
Nylon composite



WISE AND SOFT JAW

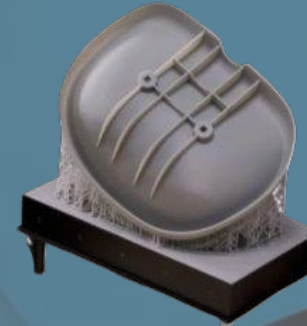
Tooling
Composite

FDM Polymer



JET ENGINE MODEL
Product Design
PLA

SLA



RADIO FLYER SEAT PROTOTYPE
Consumer Products
Resin

SLS



AIR DUCT
Automotive
Nylon Powder



GOLF CLUBS
Sporting Goods
Resin



BLT

METAL TECHNOLOGIES

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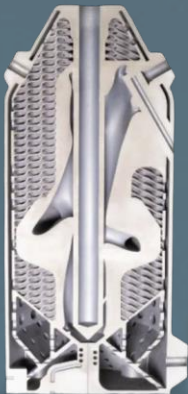
	Machine Model	Size Class	Build Volume	Materials	Industries	Use Cases
LPBF	BLT-S400	Medium	400 × 300 × 400	Metal powders (Ti, Al, Inconel, steels)	Aerospace, motorsport, medical, industrial	Fuel nozzles, lightweight aerospace brackets, heat exchanger cores, orthopedic implants
	EOS M290	Small	250 × 250 × 325	Metal powders (Ti, Al, Inconel, steels)	Aerospace, medical, tooling, industrial	(porous titanium structures), turbine blades, satellite brackets, surgical guides, conformal-cooled injection inserts
WAAM	Caracol VIPRA XP STUDIO	XL	~2000 × 2000 × 1000	Metal wire (steel, aluminium, alloys)	Heavy industry, energy, marine	Ship hull sections, structural beams, large aerospace tooling blocks, repair of high-value metal structures
Metal FDM	Markforged Metal X	Small	300 × 220 × 180	Metal-filled filament (17-4PH, H13, tool steels)	Manufacturing, industrial	Custom wrenches, robotic grippers, drill jigs, low-volume tooling fixtures

LBPFF



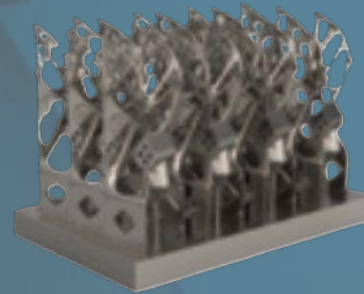
SLIDING PIECE

Aerospace
Nickel alloy



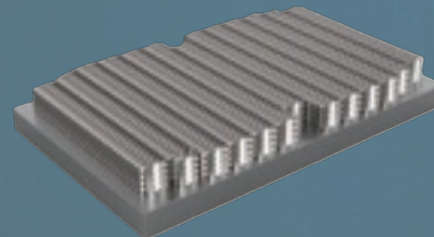
VAPORIZER

Energy
Aluminum



FULL CHAMBER SUPPORT

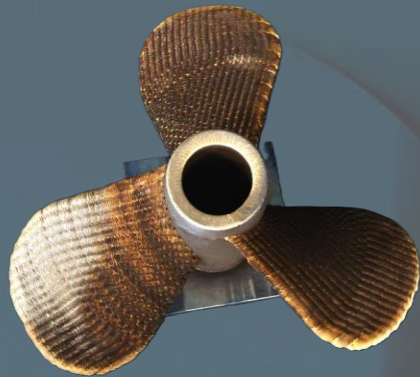
Automotive, Motorsport
ABS CF



FULL SUBSTRATE STEEL SHEET

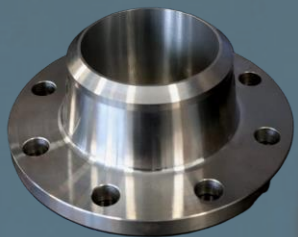
Aerospace, Tooling
PC CF

WAAM



BOAT PROPELLERS

Marine
Aluminum-Nickel-Bronze



NECK FLANGE

Energy
ER70S Steel, Inconel625

Metal FDM



SURGICAL PROTOTYPE

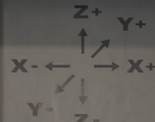
Medical
17-4PH Stainless Steel



CRUCIBLE CLIP

Scientific Instrumentation
Inconel 625

HS 664 RT



SUBTRACTIVE TECHNOLOGIES

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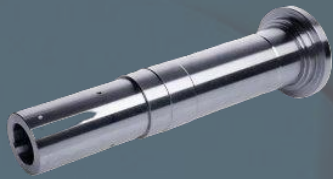
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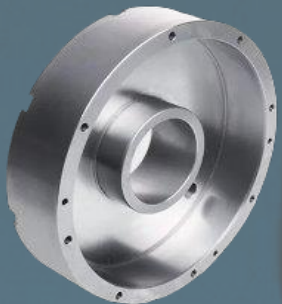
	Machine Model	Size Class	Build Volume	Materials	Industries	Use Cases
5-axis CNC milling	Fidia HS664 RT	Large	~600 × 400 × 400 mm (rotary table integrated)	Metals, composites, engineering plastics	Aerospace, automotive, tooling, energy	Aircraft structural ribs, turbine casings, injection molds with deep undercuts, impellers
3-axis CNC milling	DMG MORI DMC 632 V ecoline	Medium	~630 × 500 × 500 mm	Metals, plastics, aluminum, steels	Industrial manufacturing, tooling, general engineering	Machine housings, brackets, jigs and fixtures, prototype mechanical parts
CNC turning (lathe)	DMG MORI CTX alpha 500 (Gildemeister)	Small/ Medium	Max turning diameter ~500 mm, turning length ~500 mm	Metals (steel, aluminum, alloys)	Automotive, industrial, mechanical engineering	Shafts, bushings, hydraulic connectors, motor axles, threaded components

3-Axis CNC Milling



SHAFT
Automotive
Aluminum

CNC Turning

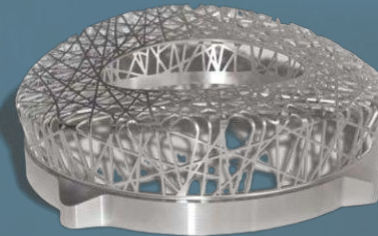


MOTOR HOUSING
Industrial
Aluminum

5-Axis CNC Milling



**MOLD FOR
MANIFOLD**
Industrial
Aluminum



**LIGHTWEIGHT
STRUCTURE**
Industrial
Aluminum



POST-PROCESSING

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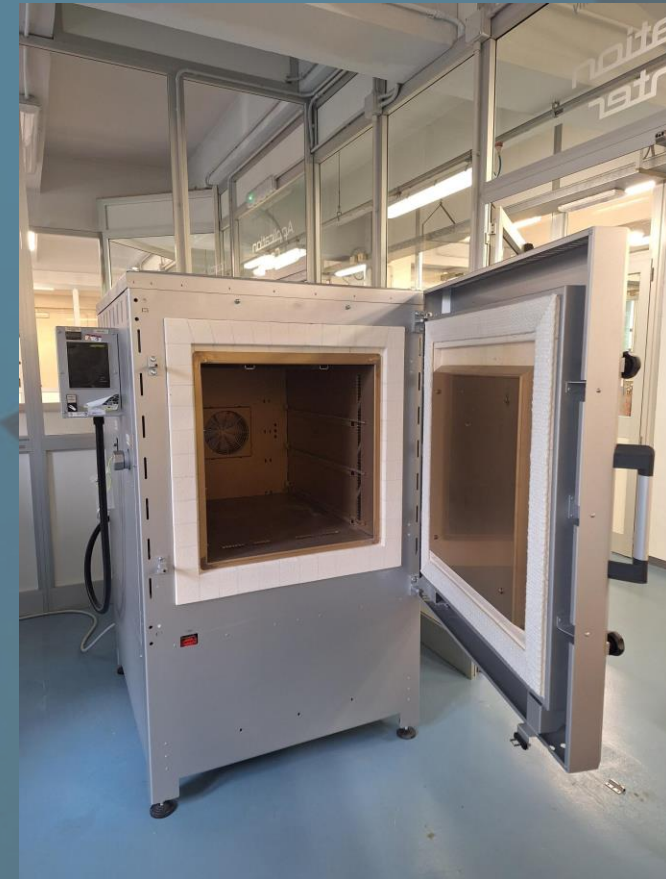


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Wire EDM • Sand blasting machine • Furnace for heat treatments





Application Center

Engineering

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