



Building a sustainable future  
through Advanced Manufacturing



2017

Foundation

4

Operational  
Sites

14

Employees

5

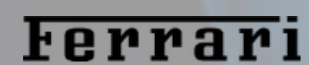
International  
Partners

Strategic and Tech  
Consulting & Training  
5000+ hours delivered

On Demand and Proprietary  
Innovation and R&D Projects  
35+ custom projects

Advanced Engineering &  
Manufacturing  
120+ yrs collective experience

Industry 4.0  
Tech Distribution  
75+ systems installed





# CORE ACTIVITIES

Engineering solutions from strategy to industrial application

Engineering and manufacturing services to help customers define, design, and optimize advanced industrial solutions.

ENGINEERING &  
MANUFACTURING

Cutting-edge tech solutions for advanced engineering:

Bright Laser Technologies in the field of AM;

Arkite in the field of AR solutions for assembly lines.

TECHNOLOGY  
DISTRIBUTION

Leveraging our high competences in engineering and materials to create intellectual property or JV with clients and partners.

VENTURE  
BUILDING



# Applications among industries

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Automotive



Sport



Connected  
Features



Motorsport



Engines



IoT AI-based  
SW



Aerospace



Art, Fashion  
& Design



Aviation



Rapid  
Prototyping




Defense



Medical

*... and much more*

A white KUKA robotic arm is the central focus, positioned in a factory or laboratory environment. The arm is mounted on a complex mechanical structure with various cables and components. The background shows a window with a grid pattern and some industrial equipment. The overall scene is dimly lit, with a dark overlay that makes the white text stand out.

# ENGINEERING & MANUFACTURING

## Project Management

Design and analysis, regulatory compliance, risk assessment & management

## Operations

Technical expertise, feasibility study, stakeholder engagement

## R&D

Training & development, sustainability consulting, technology integration

# Engineering services from concept to production

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- ▶ Design & Development
- ▶ Research & Development
- ▶ Analysis & Testing
- ▶ Project Management
- ▶ Manufacturing & Production
- ▶ Consulting
- ▶ Maintenance & Support





# 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.

# APPLICATION CENTER | *from design to production*



Design freedom &  
complex geometries

Rapid iteration  
and validation

Material and  
performance exploration

DESIGN &  
INNOVATION

On-demand  
tooling and fixtures

Bridge production  
and small series

Large structural  
components

MANUFACTURING  
& SCALING

Digital inventory

Distributed manufacturing

Part consolidation

SUPPLY CHAIN  
IMPACT

# TECHNOLOGIES

## Polymer & Composite

LFAM | *Caracol HERON 300 HV Hybrid*

Composite FDM | *Markforged Mark Two*

Polymer FDM | *Bambu Lab X1 Carbon*

SLA | *Formlabs Form 4L*

SLS | *Formlabs Fuse 1*

## Metal

LPBF | *BLT-S400, EOS M290*

WAAM | *Caracol VIPRA XP STUDIO*

Material Extrusion Metal | *Markforged Metal X*

## USE CASES



### SPORTS CAR ROOF

LFAM  
Automotive &  
Motorsport  
ABS CF



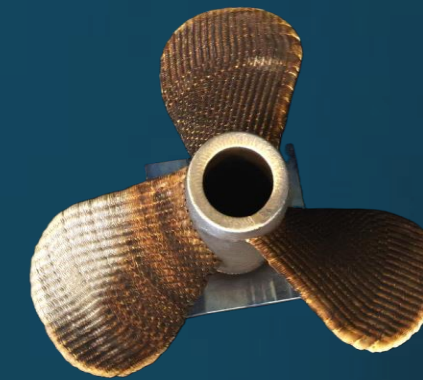
### AIR DUCT

SLS  
Automotive  
Nylon Powder



### ROBOTIC GRIPPER JAW

FDM Composite  
Industrial  
Nylon composite



### BOAT PROPELLERS

WAAM  
Marine  
Aluminum-Nickel-  
Bronze



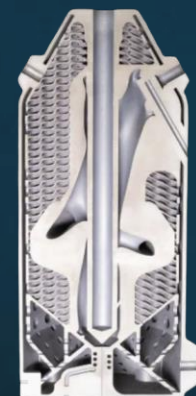
### JET ENGINE MODEL

Polymer FDM  
Product Design  
PLA



### SURGICAL PROTOTYPE

Metal Material Extrusion  
Medical  
17-4PH Stainless Steel



### VAPORIZER

LBPF  
Energy  
Aluminum



### RADIO FLYER SEAT PROTOTYPE

SLA  
Consumer Products  
Resin



# Use Case Hydraulic Manifold

High performing, better fluid dynamics, in Ti-6Al-4V

Meets all project constraints;

Improved flow thanks to smooth transitions between the internal channels;

Last Generation TPMS structures lead best Mass-Stiffness Ratio;

The bionic design and small series were ideal for AM.

SAVING

75 %

Weight Reduction

No need for auxiliary drillings, less chance of leakage

Improved Production

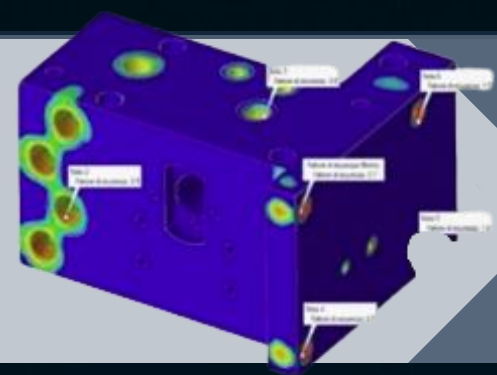
PERFORMANCE CRITERIA

Weight 4 kg

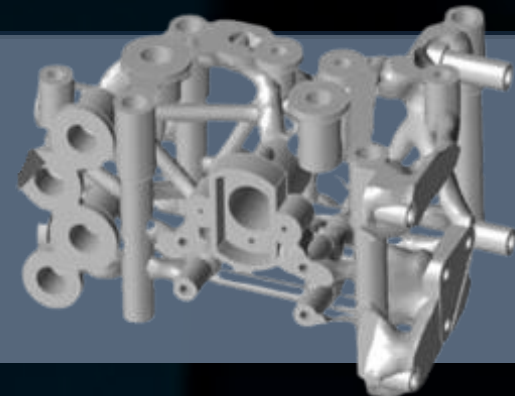
Size 240 mm x 206 mm x 135 mm

PRODUCT

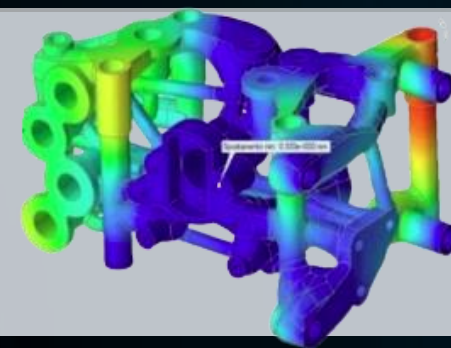
Material Titanium Grade 5  
Prod. Process Metal 3D Printing



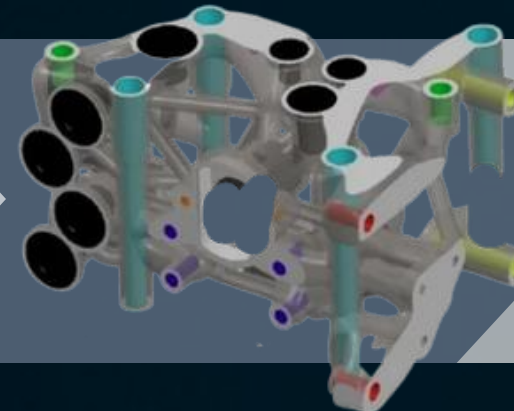
Meshing



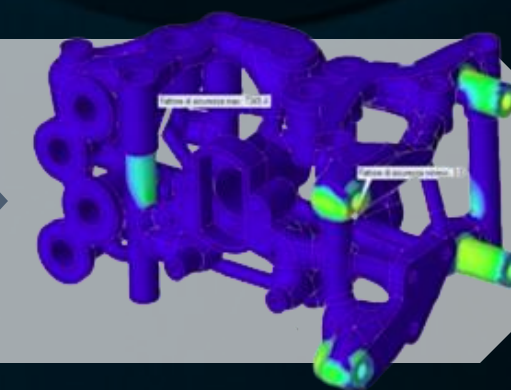
Optimization



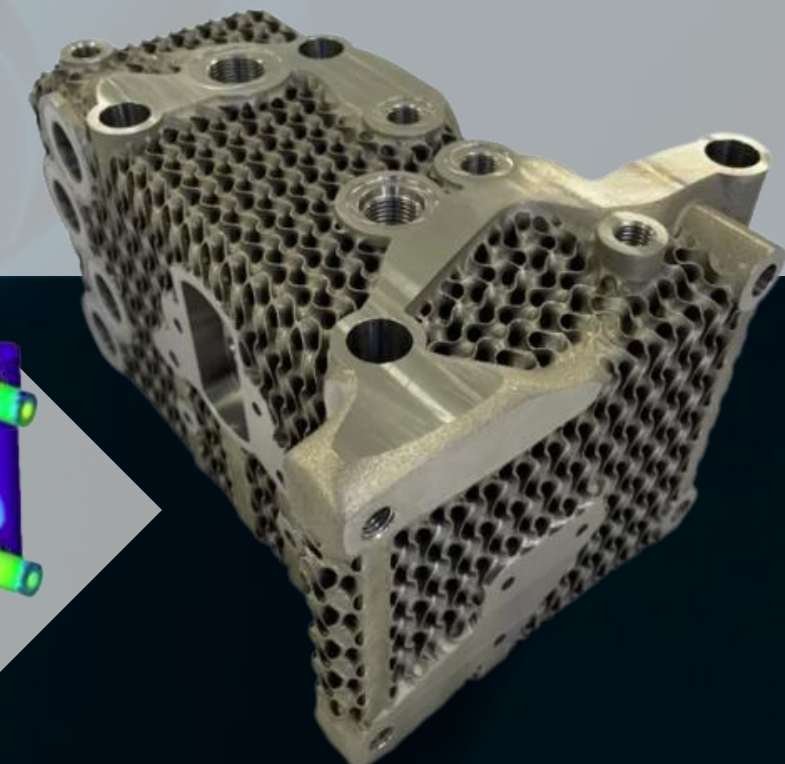
1st Simulation



Reconstruction



Analysis





**BLT**

# DISTRIBUTION

**BLT**

Metal 3D printing solutions using laser-based technology for high-performance industrial parts.

**Arkite**

AR-guided operator platform that provides real-time visual instructions and error validation for manual assembly.



# Advanced Engineering is not only AM



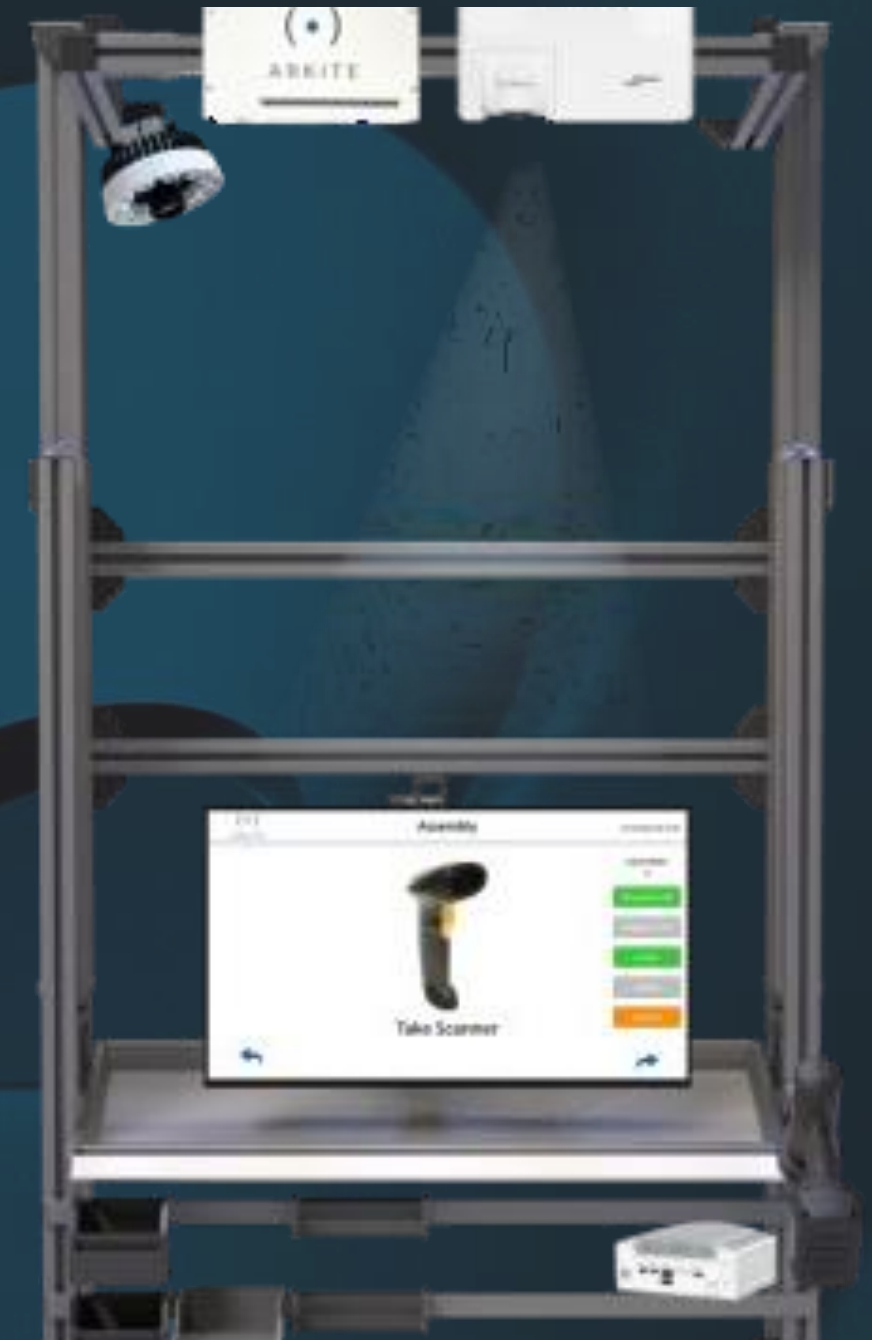
We seek for innovative solutions in:

Machinery

Process Engineering

Software

Circular Economy





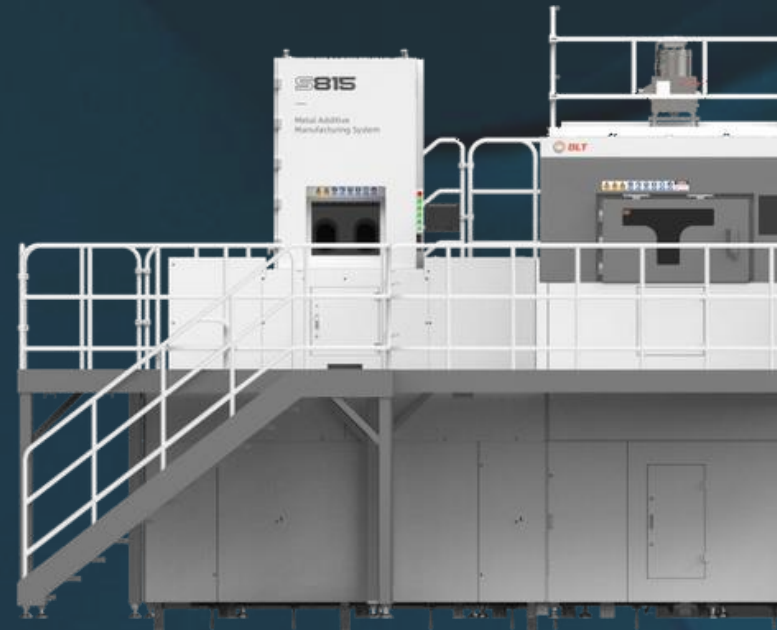


## System Comparison

Machine Name	Application Area	Build Dimension (WxDxH)	Available Lasers
200-line	Mass production, Medical, Education	Up to 160x160x200mm	1 or 2
300-line	Mold, Industry, Aviation	Up to 250x250x400mm	1 or 2
S400	Aviation, Aerospace, Engine, Medical, Automotive, Electronics, Research	400x300x400mm	2-3-5-6
S450	Aviation, Aerospace, Engine, Medical, Automotive, Electronics, Research	450x450x500mm	4-6-8
600-line	Aviation, Aerospace, Engine, Medical, Automotive, Electronics, Mold, Research, Energy, Electrical, Heavy Industry, Rail	Up to 600x600x1500mm	4-6
800-line	Aviation, Aerospace, Engine, Medical, Automotive, Electronics, Research, Mold	Up to 800x800x1500mm	6-8-10

Large Scale

600-line



800-line



Medium Scale

S400

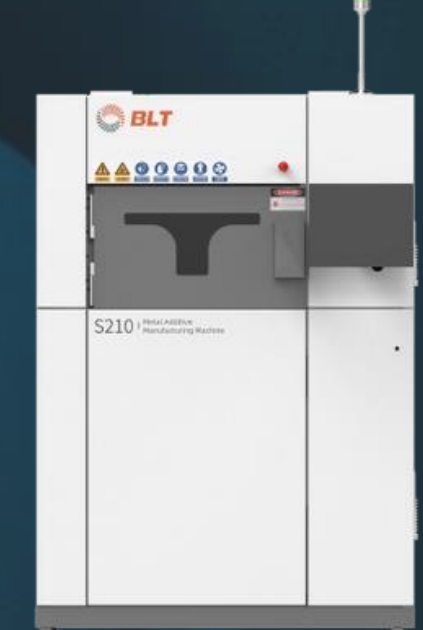


S450



Small Scale

200-line



300-line



# LEADERSHIP

Led by a strong, heterogeneous group of professionals, NIRI's leadership team combines strategic insight with significant track record and the proven ability to deliver impactful results across industries.



**Riccardo Nicastro**

Chief Executive Officer & Co-Founder



**Andrea Ricci**

Chief Financial Officer & Co-Founder



**Simone De Ruosi**

General Manager



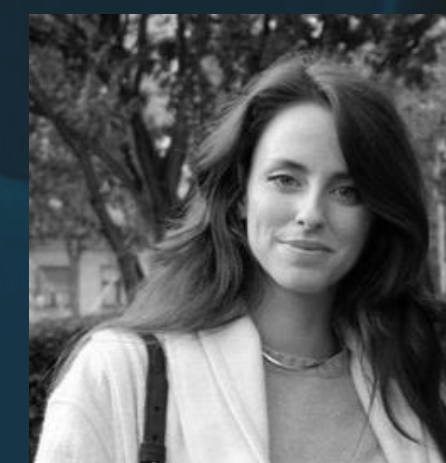
**Andrea Penna**

Technical Manager



**Giuseppe Lo Presti**

Chief Technical Officer



**Giulia Bissatini**

Legal & HR Manager





Stay in touch

GM / Commercial

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CTO

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