

COMPANY

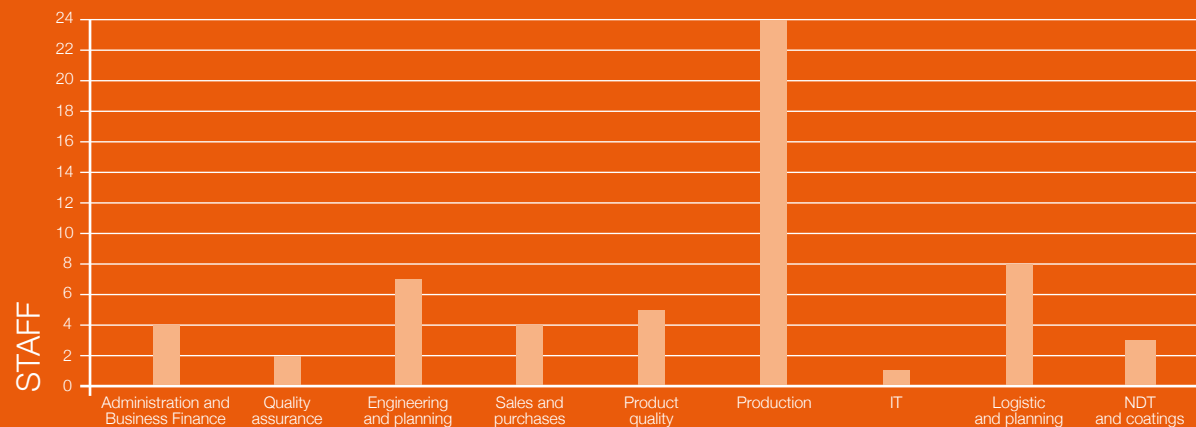
Merletti Aerospace was founded in 1972 by Gianluigi Merletti and his wife Narcisa. In 1995 the team has expanded to include their children Sabrina and Ruggero. Today we are proud to serve customers throughout Italy, Europe and the United States thanks to our consolidated know-how in the field of precision machining and engineering, together with maximum planning flexibility and superior product quality. Merletti Aerospace is a member of AIAD (Federation of Italian Companies for Aerospace, Defence and Safety) and of LAC (Lombardia Aerospace Cluster) an integrated ecosystem of companies, universities and research centres with technological skills and state-of-the art scientific know-how.

Certifications and approvals:

- UNI EN ISO 9001
- AS/EN 9100
- Part 21 Production Organisation (EASA/ENAC-IT Approval IT.21G.0062)
- TULPS licence (ex ART. 28) for the manufacture, assembly, collection, possession and sale of military items.
- NADCAP (Non Destructive Testing - PT, MT)



HUMAN RESOURCES



AIRCRAFT

HELICOPTER

DEFENSE

Main Plant

	m ²	ft ²
Warehouse and inventory:	500	3.229
Production line:	2.900	22.604
Offices:	500	3.229
Metrology room:	100	753
Available for future investment:	2.700	16.145



Photovoltaic plant (150 kW)

2.000

21.527

NDT plant

	m ²	ft ²
Plant:	600	6.458.35
Available for future investment:	1.200	12.917

Full Vertical Integration



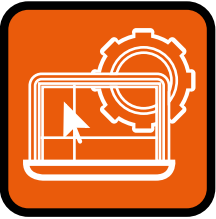
DESIGN

- CAE (Catia V5)



TEST, INSPECTION, NDI

- Proof loading test
- Stripping Test
- Dimensional measurement (CMM)
- Non Destructive Testing (PT, MT)



MANUFACTURING ENGINEERING

- Digital manufacturing
- Tool design
- Machining process planning and optimization
- CNC programs (CAD/CAM)



SURFACE TREATMENTS AND PAINTING

- Pre treatments (degreasing)
- Chemical processing
- Auxiliary
- Painting



PLANNING AND SUPPLY CHAIN

PLANNING

- ERP (Dynamics 365 Business Central)
- Business intelligence (Power BI)

SUPPLY CHAIN MANAGEMENT

- Raw material procurement
- Operations management



ASSEMBLY

- Mechanical parts assembly
- Thermal fitting
- Kitting



MANUFACTURING

- Machining (milling, turning)
up to:
↔ 6000 mm
Ø 3000 mm



PACKAGING AND DELIVERY

MILLING

The milling department is equipped with 3,4,5, and 6 axis horizontal and vertical machining centers up to 6000 mm.



MAX. CAPACITY (MM)

Aluminium: 3,4,5, and 6 axis machining up to:	6000 x 3000 x 1000
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Titanium and steel: 3,4,5, and 6 axis machining up to:	1800 x 1300 x 1000
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TURNING AND MULTITASKING

MAX. CAPACITY (MM)

Traditional machining

650 x 1580

Traditional machining

The shop floor is also equipped with traditional machines (modified for specific applications, when required) in order to support the entire production.

Milling, turning, lapping, internal-external grinding, tangential grinding, centerless grinding, roll straightening, slotting, high speed sensitive drilling up to 20,000 rpm, welding, pressing and shearing.



INSPECTION

All inspections are performed at a room controlled temperature of 20°C / 68°F



Dimensional

With 3d coordinate measuring machines up to (mm):
x-axis: 1600
y-axis: 4200
z-axis: 1000



Profiles With optical machines and profilometer

Hardness tests Rockwell, Brinell, Vickers

FLOURESCENT PENETRANT INSPECTION

Penetrant inspection unit

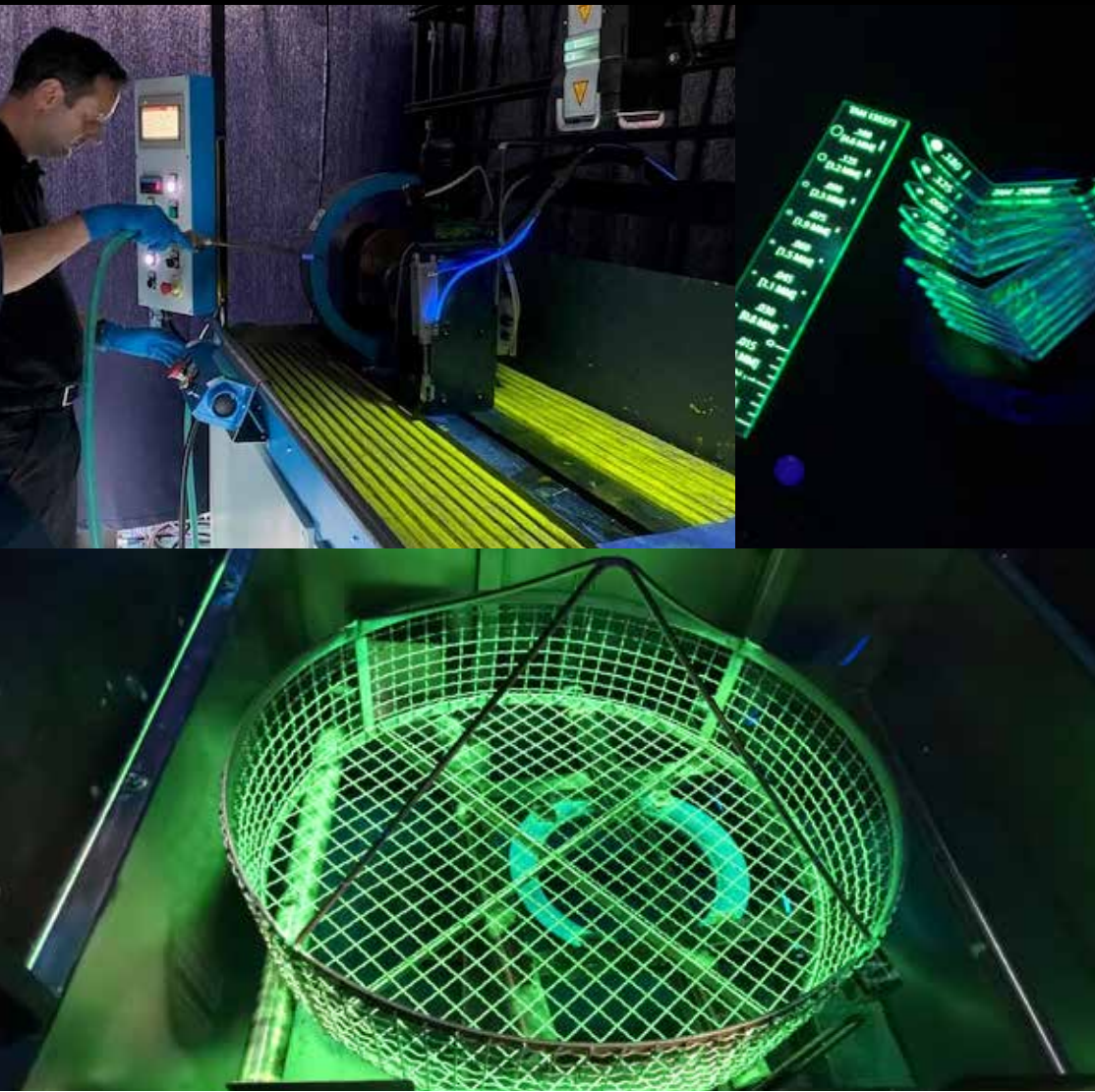
- Max part dimensions:
900 x 900 x 900 mm
35,4 x 35,4 x 35,4 inches
- ASTM E1417/E417M
- WW - Type 1, method A, Form a/d, sensitivity level 3
- PE – Type I, method D, Form a/d, sensitivity level 3 immersion



NADCAP approved processes



MAGNETIC PARTICLE INSPECTION



Magnetic particle inspection unit

- Max part dimensions:
3350 x 2000 x 2350 mm
132 x 79 x 92 inches
- ASTM E1444/E1444M
- Head opening length: 2100 mm x 827 inches
- Type of current control: DC and AC
- Maximum output
Head: 3491 A
Coil: 2905 A
- Quick break: Yes
- Coil diameter / # of turns: 400 mm / 5 - 15,7 in / 5
- Quick break: Yes

Demagnetizing unit

- Step down - AC



NADCAP approved processes



SURFACE TREATMENTS AND PAINTING



Surface (galvanic)

- chromic acid anodizing
- sulfuric acid anodizing
- sulfuric hard anodizing
- chemical conversion coating (Alodine 1200s)
- stainless steel passivation

Pre-treatments

- degreasing and etching



NADCAP approved processes



ASSEMBLY, FLY KITS AND GSE

Precision assembly and subassembly

Thermal fitting

Fly kits and Ground Support Equipment



Auxiliary

- sandblasting (Corundum 180 mesh)
- primer and top coat application
- solid lubricants application
- painting (3 rooms of 6m each)



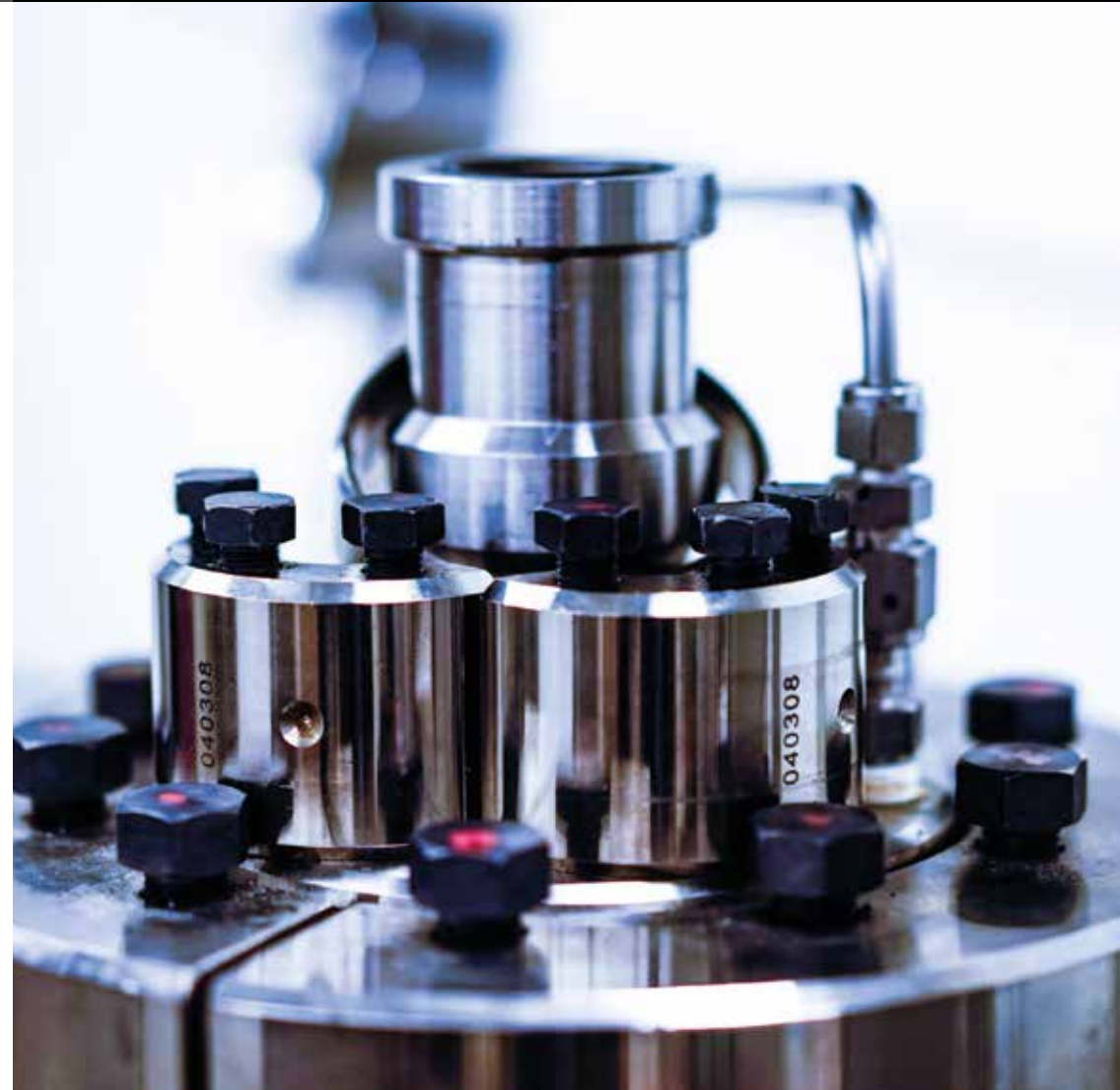
NADCAP approved processes

Tanks size:

↔ 2.800 x 1.000 x ↕ 600mm

↔ 6.6 x 3.3 x ↕ 2 ft

Internal laboratory for chemical analysis and coating tests



INDUSTRY 4.0



Industry 4.0

- Automatic line-robot
- Vertical lift module and storage carousels
- 4.0 interconnected systems

CUSTOMERS

Leonardo

SABCA

Ogma

Patria



Patria

Avio Aero

GF Precicast

GE Aviation Czech

MBDA

Northrop Grumman

Rheinmetall



Commercial programs

Airbus A319
Airbus A320
Airbus A321
Airbus A330
Airbus A350
Airbus A380
AW 101
AW 109
AW 119 Koala
AW 139
AW 169
AW 189
AW 609
Kopter AW09
Boeing 787 Dreamliner
Dassault Falcon 6X
Dassault Falcon 7X
Embraer 175
SSJ100

Military programs

Airbus 400M
AW 101
AW 109
AW 139
CH 47
Embraer KC390
Eurofighter Typhoon
F35
M346
MB339
NH90
Saab 2000 Erieye AEW&C
T129 ATAK

Aircraft engine

PW1100
PW4000
GEnx
H75
H80
H85
Trent 1000

Member of:



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