

COMPANY

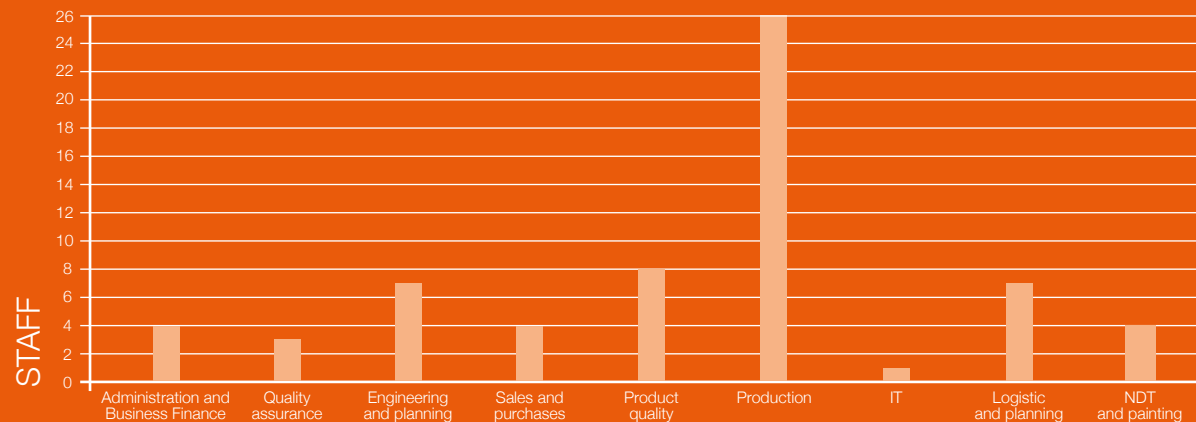
Merletti Aerospace was founded in 1972 by Gianluigi Merletti and his wife Narcisa. In 1995 the team has expanded to include their children Sabrina and Ruggero. Today we are proud to serve customers throughout Italy, Europe and the United States thanks to our consolidated know-how in the field of precision 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, Defense 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	5382
Production line:	2900	31215
Offices:	500	5382
Metrology room:	100	1076
Available for future investment:	3500	37674



Photovoltaic plant (265 kW)

2000

21527

Second Unit (NDT and painting)

	m ²	ft ²
Plant:	600	6458
Available for future investment:	1200	12917

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
- Tooling 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

- Customs Authorization for
Inward/Outward processing

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)

	X	Y	Z
Aluminium: 3,4,5, and 6 axis machining up to:	3000 x 6000 x 1000		
Titanium and steel: 3,4,5, and 6 axis machining up to:	1800 x 1300 x 1000		

TURNING AND MULTITASKING

MAX. CAPACITY (MM)

Turning and multitasking

Ø 660 x 1542

Milling with turning table and gear skiving 2.0

Aluminium

Ø 630 x 500 (table speed 1200rpm)

Titanium and steel

Ø 1600 x 1775 (table speed 400rpm)



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

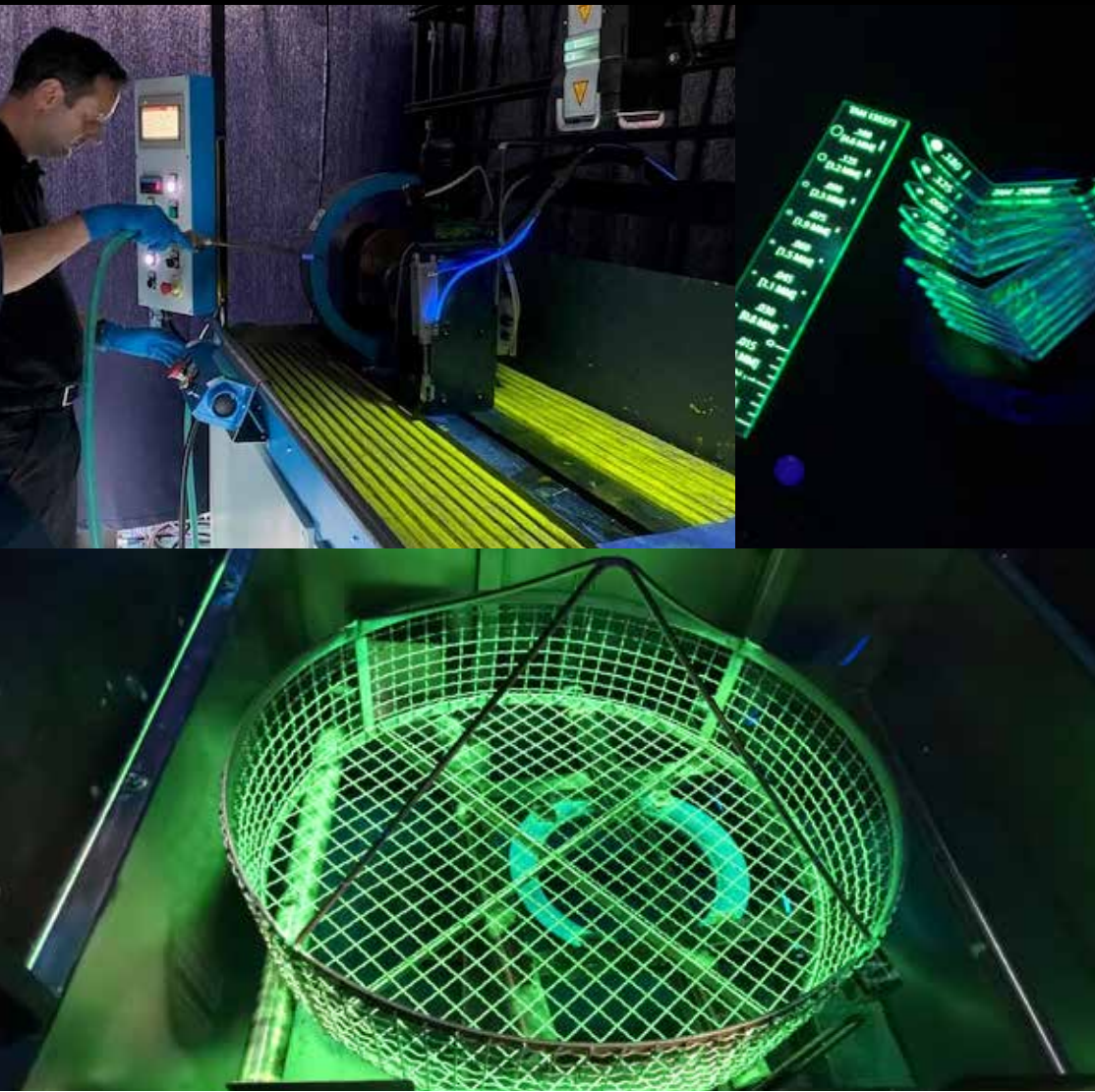
- Max part dimensions:
900 x 900 x 900 mm
35,4 x 35,4 x 35,4 inches
- ASTM E1417/E417M
- WW - Type 1, method A, Form a/d, sensitivity level 3
- PE - Type 1, method D, Form a/d, sensitivity level 3, immersion technique



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



PAINTING



MAX. CAPACITY (MM)

	L	W	H
Liquid painting booth with dry filtration (vertical airflow - downstream 0,5 m/s)	4000	3000	2500
Drying oven T 60 - 80°C (TUS/SAT certified)	4000	2500	2500
Paint mixing room	4000	2400	2500
Deburring room with industrial vacuum cleaner and sandblaster for paint stripping	4000	2500	2500

Controlled temperature and humidity

SURFACE TREATMENTS



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



Auxiliary

- sandblasting (Corundum 180 mesh)
- solid lubricants application



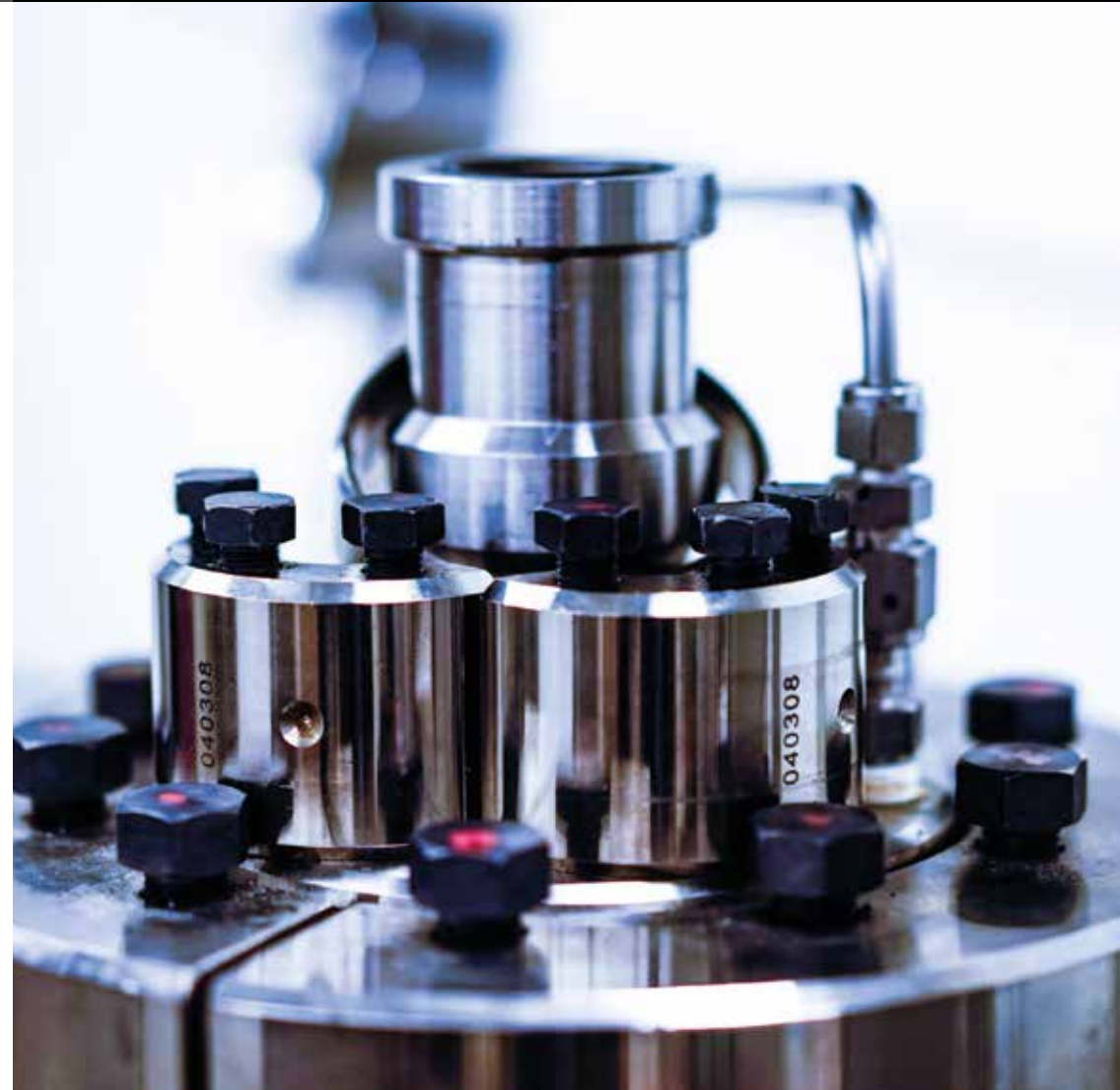
NADCAP approved processes

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



ASSEMBLY, FLY KITS AND GSE

Precision assembly and subassembly

Thermal fitting

Fly kits and Ground Support Equipment



INDUSTRY 4.0



Industry 4.0

Automatic line-robot

Vertical lift module and storage carousels

4.0 interconnected systems

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
AW 09
Boeing 787 Dreamliner
Dassault Falcon 6X
Dassault Falcon 7X
Embraer 175
SSJ100
T625 Gökbey

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

Defense Systems

Ariete AMV
Aster
Dart
Iris-T
KBA
Marlin 40
Marte ER
MSU
Pintle mount
Revolver Gun MK3
Skynex
Vulcano 127
Vulcano 155
Vulcano 76
X-TARD3D



Member of:



Approvals:



APPROVED BY:



AIRBUS

AVIO AERO

BOEING

GE AVIATION CZECH

GF PRECAST

LEONARDO

MBDA



NORTHROP GRUMMAN

OGMA

PATRIA

RHEINMETALL

SABCA

TURKISH AEROSPACE

UMBRAGROUP



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