# The Cluster

**UNITED WE STAND** 







### **The Cluster**

**AENCOM** is a **cluster of Italian companies** working together towards a single objective: provide fully integrated solutions for **AE**ro-**EN**gine **COM**ponents, sub-assemblies and equipments.

Thanks to our skilled chain, we can find the easiest and fastest solution to satisfy your requests.

Capable as a BIG
Competitive as an SME



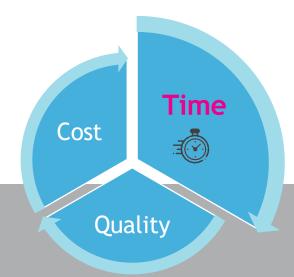


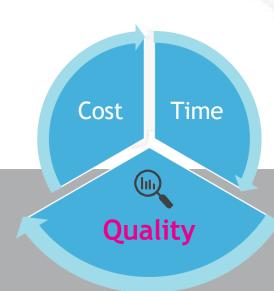
## Why choose the Cluster

Fast reaction
Scalable capacity
Territoriality
Short supply chain

EN 9100 Quality System
Customer qualified processes
NADCAP qualified processes
Cluster members qualified by P&W

Vertical solution
Wide range of service
Specific knowledge in the
propulsion supply chain











#### How the team works

The basis of the work is a turn-key approach with a clear governance: a **Cluster Network Agreement** signed by all partners within the project **Torino Piemonte Aerospace** - Italy.

The Cluster Leader, in accord with the Customer, assigns a Main Contractor to each project and distributes tasks to the partners involved, performing Project Management, Capability and Capacity Assessments, Risk Management, Planning and LOBs up to the FAI and delivery to the Customer.

By applying a detailed Capability Matrix, AENCOM gives Customers full visibility on the execution of each task.

EASY, LEAN, SMART



## **Our Numbers**



**16** Involved Partners

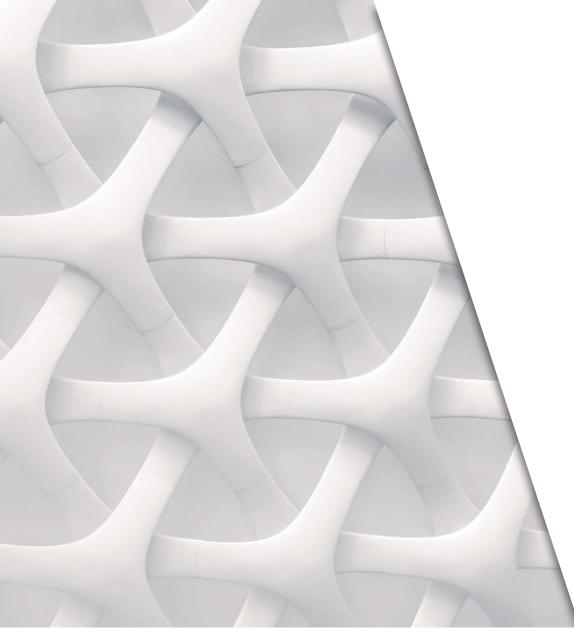


**1150** Total Employees



240M€ Total Turnover







## **Our Capabilities**

- Innovative design: Design for Additive Manufacturing | Multi-Disciplinary Optimization
- Concurrent Product Development
- Industrialization: Assembly in clean room class 100K ISO 8 |
   Certification of Process | Certification of Conformity (CoC)
- Wide range of manufacturing process: NADCAP Near-Net-Shape Hot/Warm Forging and Rolling (production process designed around the desired material fiber disposition) | Full Machining capabilities | NADCAP massive Heat-Treatment process (low and high-alloy steels, nickel alloys) | Sheet Metal Cutting and Fabrication | Forming | Manual Surface Finishing | Welding and Brazing | Composites Manufacturing
- Non-destructive Inspection and Testing: 3 Ct scan from 300 to 450 kv for components until 0.5 mt diameter to 1.0 high in a metrology room EN 9100 certified
- Special Process
- Kitting
- Assembly
- Technical Painting
- Testing and Qualification



#### **Our Products**

 Turbine components and sub-assy: Blades, Vanes, Casing, Rings | Brackets, Links, Mounts | Composite Fans and Structures | Strainer Assemblies, Pressure Tubes, Mixer Ring Assemblies, De-Oiler Assemblies, Baffles, Heat Shields

• Rotating parts: Centrifugal Impellers, Integrally-bladed Rotor Parts, Disks/Rotors

Gearboxes components and sub-assy: Housing, High-precision Gears, Spur Gears, Double Helical (with ground profile), Ring Gears | Worm Shafts and Worm Gears, Couplings and Frontal Inserts | Gleason Straigth, Spiral and Zerol Bevel Gears | Splined Shafts (Internal - External), Freewheels, Cams | Multiplier and Transmission Units, Milled Racks, Ground Racks | Toothed Sectors, Frontal and Involute Toothing, Toothing with Swell and Profile Correction

- Bearing components
- Manifolds
- Pumps
- Shrouds (machining, fabrication and brazing)
- Sheet metal components
- Broaches
- Electrical parts, electrical harnesses and electrical systems integration
- Special Gauges
- Heat Protection Systems
- Instruments and services for quality check laboratories and R&D departments





#### **Our Offer**

- CAD (3D-2D)
- DESIGN FOR ADDITIVE
- CAE THERMO-MECHANICAL
- CAE THERMO-FLUID
- CAE ELECTRO-MAGNETIC
- MULTIBODY ANALYSES & NON-LINEAR ANALYSES

PRODUCT DESIGN



BLUE ENGINEERING SRSED SPI1966 SISTEL

- MASSIVE HEAT TREATMENTS
- SURFACE HEAT TREATMENTS
- THIN FILM COATINGS
- TECHNICAL PAINTING
- HEAT RESISTANT PAINTING
- HOT / WARM FORGING & ROLLING

NON FERROUS PROCESSOUS



GRUPPO T.T.N.
MASSUCCO INDUSTRIE
MORELLO
TEMI

- CAM
- CMM PROGRAMMING
- TOOLING DESIGN
- GAUGE MANUFACTURING
- TOOLING MANUFACTURING
- JIG MANUFACTURING
- ELECTRICAL HARNESSES
- ASSEMBLY IN CLEAN ROOM

MANUFACTURING ENGINEERING



SPI1966 LMB ROSFER ALLINOX SISTEL

- FORMING
- WELDING & BRAZING
- EDM
- HONING & GRINDING
- MACHINING
- SHEET METAL MANUF.
- MANUAL SURFACE FINISHING
- ELECTRICAL HARNESSES

MANUFACTURING



COMUTENSILI LICAT SMF ALLINOX TEMI SISTEL

- LIQUID PENETRANT TESTING
- MAGNETIC PARTICLES
   TESTING
- RADIOGRAPHIC TESTING
- ULTRASONIC TESTING
- 3 CT SCAN

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AERONDI LABORMET2



## **Our Process**

Cluster Customer commercial RFQ proposal BOARD Requirement PM definition analysis CLUSTER Involved Main Partner contractor definition definition

Customer PO







## Our Case Study - Aerospace application

Low Pressure Turbine for CleanSky



**-12%** lead time from the customer estimation



90% in-house skills



**150M€** costs compared to the standard supply chain management



## **CONTACT**

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## Thank you for your attention

