If you are looking for:
Over 35 years of experience in turbines design and production
A reliable partner
Concurrent design
A solutions provider
International team support
An experienced Additive Manufacturing partner
A great design specialist and manufacturer
Careful support for CRO and MRO activities

THEY’VE ALREADY CHosen US
General Electric
Rolls-Royce
Pratt&Whitney Canada
CFM International
Eurojet
Turbo Union
Snecma
Italian and Brazilian Air Forces

Design Sand Casting/Additive Manufacturing Manufacturing Assembly Testing Delivery MRO & CRO Your Technology Partner
TAKE A LOOK AT WHAT WE CAN DO

ALL AROUND DESIGN
- Extensive turbine database
- Multidisciplinary design approach
- Multi-objective parametric optimisation
- Validation by experimental tests
- Strong research network

- Parametric CAD generation
- Detailed components optimisation
- Components design and certification
- Advanced aeromechanics tools
- Module management

ALL AROUND TECHNOLOGY
- TiAl blades by EBM
- Innovative low noise technologies
- High aspect ratio airfoil mistuning
- Aggressive DUCT & Functional TRF
- 3D patented optimal profiles
- Tip timing for health monitoring
- Acoustic liners by ALM
- Net shape hipping

BEHIND THE PRODUCTION PROCESS
- Proven track record across different products
- Extensive product range
- Excellent in-service performance
- Solid functional integration
- Cross-sector knowhow, in design phase, testing and control
- Verticalisation of production
- Light alloy housing with integral cored lines
- Dedicated manufacturing cells

TESTS & MEASUREMENTS
- Cold flow in Turin (Italy) to characterise turbine aerodynamic & aero acoustic behaviour at design point & in off design conditions, using the fluid-dynamic similarity
  - 2.7 bar inlet pressure, 28 Kg/s max massflow, 0.85 bar minimum discharge pressure, 9000 rpm, 3200 kW max power
- Multipassage Cascade test rig: to characterise airfoils aerodynamic behaviour varying geometrical & aerodynamic parameters, using the fluid-dynamic similarity
- Soon a Cold flow facility in Zielonka (Poland):
  - 7.5 bar inlet pressure, 80 kg/s max massflow, 0.24 bar min discharge pressure, 5000 rpm (extendable to 15000 rpm with additioanle GBX and HS brake system), 13000 kW max power
  - also for SAS flow injection, acoustic measurements & analyses and provision for dual spool system
- Spin-rig in Torino for Synchronous and Asynchronous vibration. In-Vacuum Dynamic Characterisation of mech damping for tuned and mistuned bladed-disks
- Burner Rig in Brindisi
  - Mid/High temperature test (up to 2000K) on cooled airfoil cascade for cooling efficiency and thermal fatigue measurements
- Shaker for blades HCF investigation:
  - multiple characteristic vibration loading up to 2kHz, 35 kN max load
  - Laser holography system for component modeshapes identification

OUR TURBOMACHINERY

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- Modules Design Responsibility
- Submodules Design Responsibility
- Components Design Responsibility
- Manufacturing

DID YOU KNOW?

With over 35 years of experience, our expertise in design, manufacturing and testing is a winning element if you are looking for a reliable partner.

High-level competence in design, multi-technique manufacturing, such as with 3D printing, and testing allows us to deliver reliable, top-of-the-class products. Our engineers and highly specialized technicians offer full support and we guarantee the quality of all our products and customer care services.

CONNECT WITH US

turbomachinery@avioaero.com - www.avioaero.com

Our Turbomachinery plants are located in:

RIVALTA DI TORINO (ITALY)
167,000 Sqm specialised in Design and Machining

TURIN (ITALY)
12,000 Sqm specialised in Testing

POMIGLIANO D’ARCO (ITALY)
78,000 Sqm specialised in CRO

BRINDISI (ITALY)
50,900 Sqm specialised in MRO

BIELSKO-BIALA (POLAND)
78,000 Sqm specialised in Design and Machining