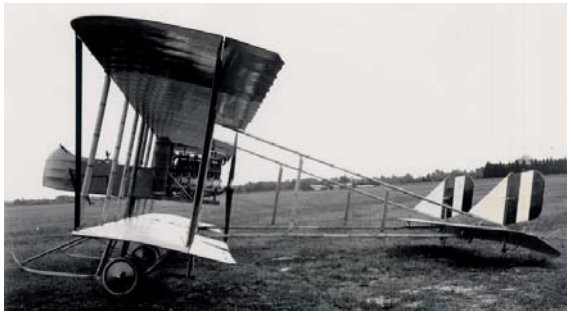
Avio is...

The Italian Group, leader worldwide

Founded in 1908, Avio has been a leading player in over a century of technological and entrepreneurial challenges. Over the years, the company has developed a technological and manufacturing leadership that is acknowledged worldwide, also participating as systems integrator in the most important international programmes in the aerospace field. Avio is present in the entire life cycle of the product, from the design and planning phase to that of production and services, always at the cutting edge of technology thanks to substantial investments in R&D and a solid collaboration network with the most prestigious Italian and international universities and research centres.



The Group in numbers

€ 6.1 billion orderbook at year-end 2009
€ 1.7 billion turnover in 2009 (92% exports)
€ 137 million of investments in R&D
5,200 employees (4,500 in Italy)
730 employees in R&D
24 universities and research centres

The offer

- Modules and components for propulsion systems for civil and military aircraft and helicopters. Avio is Italian champion in aeroengines and world leader in mechanical transmissions
- Aeroderivative gas turbines for marine and industrial applications, and for the production of electric energy
- Control & automation systems, and electrical systems destined for the aerospace, marine, energy and defence sectors
- MRO of civil and military aeroengines
- Motors for solid-propellant space propulsion and tactical propulsion systems. Avio is Prime Contractor of the new European launcher Vega

Partners

- EADS
- Eurocopter
- General Electric
- Honeywell
- ITP
- MTU
- Pratt & Whitney Canada
- Pratt & Whitney USA
- Rolls-Royce
- Safran
- Sikorsky
- Volvo Aero

The most important certifications

- AS 9100/EN 9100
- AER-Q-2110
- EASA Part 21 (section A, sub. J) Design Organisation Approval (DOA)
- EASA Part 21 (section A, sub. G) Production Organisation Approval (POA)
- EASA/FAR/CCAR/CAAS Part 145, Maintenance Organisation Approval (MOA)

Business sectors

Civil aviation

Avio is world leader in mechanical and power transmissions. It has an important role that is acknowledged in the sector of low-pressure turbines and combustors. Avio is present in the major applications of commercial air transport: from business jets to regional transport, from engines for large medium- and long-range commercial fleets to new-generation engines destined for the future long-range and high-capacity aircraft. The most recent engine programmes in which Avio is partner are the GEnx for the Boeing 787 and 747-8, the Trent 900 for the Airbus A380, and the SaM146 for the Russian Sukhoi aircraft.

Military aviation

Avio designs and develops engine subsystems for the major national, European and international military programmes. It is National champion in aeroengine propulsion in Italy, and is responsible for the assembly, testing, certification, delivery and integrated logistics support of the main turbojet, turboshaft and turboprop propulsion systems of the Italian Air Force. Important examples of the Avio programmes in the European area are the EJ200 for the Eurofighter-Typhoon fighter aircraft and the TP400-D6 turboprop for the A400M military transport aircraft. Avio collaborates with General Electric for the development and manufacture of the dual-use T700/CT7 engine family, both in the basic versions for the Blackhawk and Apache helicopters, and in the growth versions destined for the helicopters, AW101 (Agusta Westland), NH90 (NHI) and S92 (Sikorsky).

Marine propulsion and energy

Avio designs, installs and supports entire marine propulsion systems in-service for national and international programmes. Avio's marine propulsion systems are based on the LM2500 gas turbine, which comprises an electronic engine control system completely developed by Avio. The LM2500 gas turbines were chosen for the Italian Navy's aircraft carrier, the 'Cavour', and for the Italian-French Horizon Class Frigates. The LM2500+G4 turbine and the electronic control system were selected for the Italian-French FREMM programme. Besides participation in the LM2500, LM2500+G4 and LM6000 aeroderivative gas turbine programmes, Avio collaborates with General Electric on the design, development and production of over 20% of the new LMS100 gas turbine, the first turbine for industrial use based on aeroderivative technologies, which exceeds 100 MW, with the maximum efficiency in simple cycle.

Control & automation systems and electrical systems

Avio's control & automation systems are destined for the aerospace, defence, marine and energy sectors. Avio offers integrated platform control systems, automatic pilot and steering management systems for military and merchant navies, for which the submarine autopilot represents an application of particular excellence. In the area of aerospace systems, Avio develops guidance systems and weapons control systems, Automatic Ground Equipment (AGE), and engine health and in-service monitoring equipment. Avio assists its customers during the whole operating life of the systems. In the area of electric energy generation, Avio is focused on the design and development of electric machines with extremely innovative technologies. Avio's electric generators/motors are brushless machines with permanent magnets and direct-drive, and sensorless.

MRO and services

Avio offers MRO activities for civil and military aeroengines, and aeroderivative gas turbines. These activities are mainly concentrated in two certified Centres of Excellence: Brindisi for military engines and Pomigliano d'Arco (Naples) for civil propulsion systems. These industrial sites offer military customers and national and foreign civil airline companies, fleet management services of the highest level using modern dedicated IT systems. Moreover, Avio supports numerous airline engines, with exchange activities, and customer, engineering, logistics and training support. The main engine programmes for which Avio supplies MRO activities are PW100, PT6T, T700-701C/401C, T58, LM2500, EJ200, RB199, Spey MK 807, Pegasus, T700-T6E1, T700-T6A, AE2100-D3, T64-P4D, T62T and Argo.

Space

Avio is a perfect example of the excellence in the field of solid- and liquid-propellant propulsion systems. It produces 14% of Ariane 5 (the 2 lateral solid-propellant motors and the liquid oxygen turbopump) and contributes to the development of the growth versions of the launcher. Moreover, Avio is Prime Contractor for the new European Vega launcher. Vega, 30 m high, is a launch vehicle for satellites up 1,500 kg in low-earth orbit, and comprises three solid-propellant stages and a final liquid-propellant stage. Avio is also active in the field of tactical propulsion, participating in the main European programmes (Aster 30 and Aspide).

The centres of excellence

In Italy

Rivalta di Torino (Turin): high precision mechanical machining for aeronautical and space propulsion systems.

Turin: experimental test centre for aeroengines and new-generation aeroderivative gas turbines.

Beinasco - Borgaretto (Turin): production of aluminium and magnesium castings for the aerospace industry and high-speed trains through the subsidiary Getti Speciali.

San Pietro Mosezzo (Novara): production of high-tech components by additive manufacturing for the aerospace sector, the medical segment and motor racing through the subsidiary Avioprop.

Colleferro (Rome): solid- and liquid-propellant propulsion systems for Ariane 5, motors for the attitude control of satellites and space platforms; production and coordination of the European Vega launcher. Tactical propulsion.

Pomigliano d'Arco (Naples): MRO, technical assistance and testing of civil aeroengines. Production of combustors, afterburners and structural components. Production of airfoils for turbine engines.

Brindisi: assembly, maintenance and repairs of military aeroengines, and aeroderivative gas turbines for marine and industrial applications. Production of large-scale structural components.

Abroad

Kourou (French Guyana): loading of Ariane 5 boosters with solid propellant through the subsidiary Regulus.

Kourou (French Guyana): assembly of loaded segments of Ariane 5 boosters through the jointly controlled company Europropulsion.

Bielsko-Biala (Poland): design of aeroengine components, transmission systems and turbines; production of turbine airfoils through the subsidiary Avio Polska.

Eindhoven (The Netherlands): mechanical machining and heat treatment of complex components for the major aerospace constructors through the subsidiary DutchAero.

Avio
propulsione aerospaziale

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