



Aeronautics/Space/Defense

'Aerospace Valley' – A world competitiveness cluster for the aeronautical, space and embedded systems industries

- 460 officially recognised R&D projects.
- Creation of a new Aquitaine Cluster for 'drone systems' (AETOS).
- Launch of Sysdrones, in partnership with the Provence Alpes Côte d'Azur region, an association for the Drones & Drone Systems industry.
- Major international companies: Airbus, Arianespace, Boeing, Bombardier, Galiléo, NASA...
- 3rd region in France for the arms industry: 16,000 employees in the arms industry (10% of the total French workforce in this sector).
- 600 establishments working in aeronautic and space construction, including 240 industrial subcontractors.
- Almost 40,000 jobs in the sector with an annual turnover of 4 billion euros.
- 1st exporting sector and 2nd biggest importing sector in Aquitaine.
- World's largest manufacturer of helicopter rotor blades (Turboméca), landing gear (Messier Dowty), luxury business aircraft (Falcon 7X Dassault) and aircraft batteries (Saft).
- European leader for propulsion and launch technology (Herakles), high performance composite materials (EADS Astrium/ Snecma), military aircraft (Dassault), radars and airborne systems (Thalès), cockpit systems (Thalès), flight testing.
- Bordeaux Aeroparc: a technology park dedicated to aeronautics, including a drone development area – located next to the airport.

Cutting edge

- Energy, propulsion and engines: gas turbines, turboreactors, solid-propellant rocket engines, propulsion systems, propulsive load, specialist batteries, drones...
- Mechanics and materials: tailpipes and heat shields in thermo-structural composite materials, atmospheric re-entry and heat protection systems, high-performance composite components, energy materials, pyrotechnics, component structures for civilian and military aircraft...
- Electronics, modeling and simulation: cockpit systems, display screens, surveillance systems, radars, imbedded programs...
- Maintenance: turbines, turboreactors, engineering, repairs, re-fitting of civilian and military aircraft.
- Testing: atmospheric re-entry simulation, extreme condition testing, propulsion tests, zero-gravity tests, world's first zero-gravity surgery experiment, drone testing area...



Training

- 90 doctoral students trained every year in R&D for the aeronautical industry
- Creation of France Aerotech network of engineering schools
- Specialized masters in 'Aeronautics and Space Engineering' » shared between Bordeaux's Grandes Ecoles
- Bordeaux Polytechnics Institute (IPB): 5 engineering schools
- National school for Arts and Crafts– ENSAM (includes the Aeronautic, Space and Defense Technology Division)
- Aeronautical Maintenance Institute
- A new training centre for aeronautical maintenance: Aerocampus Aquitaine

Research

- More than 1000 researchers, lecturers and engineers, 26 public research laboratories including the **MIB Carnot Institute** (Bordeaux Materials and Systems Institute) and its 9 research labs.
- INRIA Bordeaux Sud-Ouest: the center of excellence specialized in the implementation of ICT solutions for aeronautics, space vessels and embedded systems.
- The Aeronautics and Advanced Technologies (ATA) Platform, with an educational mission.
- The Albatros Scientific Interest Group (Alliance Bordeaux universities And Thales on Research in aviOnicS)

Industry associations / Transfer

- Aerospace Valley (governing body of the Cluster)
- Innovalis Aquitaine
- BAAS: Bordeaux Aquitaine Aéronautique et Spatial
- TOPOS: association of companies (European Galileo Program)-Geolocation systems
- Bordeaux-Technowest (certified EBIC: European Business and Innovation Centre)

Main companies

EADS Astrium SAS – Herarkles (merger of SME and SPS) – Dassault Aviation – Thalès Avionics – Thalès Systèmes Aéroportés – EADS Sogerma – EADS Composites Aquitaine – Sabena Technics – Catherineau – Serta – Centre d'essais en vol (CEV) – Centre d'essais des Landes (CEL) – AIA (Atelier Industriel de l'Aéronautique) – CEA – CAEPE – Turbomeca (Groupe SAFRAN) – SAFT – Roxel Propulsion- APAVE- SIMMAD- ALTEP- AIRBUS...