

ALTEN IN AERONAUTICS

World leader in Engineering & IT Services



ALLEN

We are the ones who are building the world of tomorrow today.

As a world leader in Engineering & IT Services, ALTEN supports the growth strategy of its clients in innovation, R&D & IT systems.

€ 3,78 billion in revenue in 2022

54,100 employees & 47,500 of whom are engineers

6,500 clients worldwide

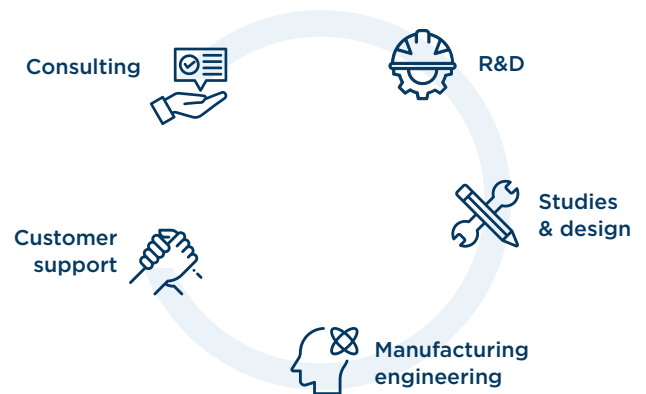
30+ countries

Our business sectors:



A KEY PARTNER

ALTEN is involved in all phases and areas of the product life cycle:



SERVICE OFFERING

Five levels of commitment to meet clients' needs:

Fixed-price project

Fixed-price project with a commitment to results

Commitment to results: Control, quality, time, delay, fixed price

Work units service contract

Service contract with a commitment to results and performance

Commitment to results: Deliverables industrialization & productivity gains

Service contract

Service contract with a commitment of providing resources and to achieve performance goals

Service level agreement: Service level commitment & delegation of project management

Globalization

Gathering on a single contract covering several consulting projects

Commitment of providing resources: Teams of consultants delivering a wide range of expertises, thanks to a unique contract

Consulting

Commitment of providing resources

Commitment of providing resources: Delivery of specific & flexible expertise

We are home to those committed to having a positive impact.

665 M€ in revenue in 2022
8,500+ engineers
22+ operating in 22+ countries worldwide

Our main clients

AIRBUS GROUP

ROLLS ROYCE

SAFRAN

LEONARDO

DASSAULT

GE AVIATION

LILIUM GMBH

LIERBHERR

BOMBARDIER

TRIUMPH

Our main subsidiaries

ATEXIS
AN ALTEN COMPANY

OSB
ENGINEERING & IT
AN ALTEN COMPANY

orion
engineering

LINCOLN
AN ALTEN COMPANY

MI-GSO | **PCUBED**
AN ALTEN COMPANY

As a world leader in Engineering & IT Services, ALTEN is involved in the complete **value chain** of the aeronautic sector. We support our clients as a catalyst for their **transformation** and participates in their incremental **innovation strategy** to support the development of new features & new systems.

ALTEN'S ADDED-VALUE



Workpackage know-how in project management by ALTEN's Technical department, project management process for CMMi level 3 evaluated projects



Global partner



Multi-specialists in R&D Engineering, Industrial methods, Integrated logistics support and Digital transformation



Competitiveness in X-Shore capacity of more than 2 000 high-level engineers

ALTEN'S EXPERTISE

— At ALTEN, we understand the unique **challenges** faced by our clients in the aerospace sector. Our expert solutions are tailored to help our clients address these challenges head-on, whether it's securing production variations and ramp-ups, integrating new technologies, optimizing maintenance performance, or streamlining digital services and processes.



Engineering

- **Systems design** | Avionics, Cabin, Cockpit, Elec., MBSE, Standard part
- **Design & stress** | Airframe, Propulsion, Cabin, Landing gear
- **Integration & installation** | Digital Mockup, Electrical, Mechanical
- **Embedded software** | Cyber
- **Product integrity** | Airworthiness, Operability, Safety, Cyber
- **Testing** | Avionics, Lavabatory, MAIT
- **Configuration mgt** | Change mgt, Programs, Conformity
- **Methods & tools**



Manufacturing Engineering

- **Work Preparation** | Routings, SOI, Digital Mockup Integ., Refurbishing, PPV
- **Industrial Process Design** | Architecture, IMBSE, Ground Test, Tolerancing
- **Jigs & Tools** | Technical Specif., Design & Stress, Qualif.
- **Shop-Floor Process** | STV, Line Balancing, TSFS, MTM
- **ME Business Methods** | Business Operation Support
- **Extended Enterprise** | External Indus., Continuous Improvement
- **Robotics Dev. & Integration**



Manufacturing Operation & Quality

- **Supply-Chain** | Supplier Mgt, NPI, Transfer Of Work, Supplier Dev., Audit
- **Quality** | Operations, Surveillance, Management System, Digitalization
- **Logistics** | Projects, Process, Monitoring & Continuous Improvement
- **Production Scheduling** | Production Activity Control, Production Scheduling
- **Operational Excellence** | KPI, LBIP+ & Agile Project, AOS



Customer Services

- **Engineering Support** | A/L Tech Request, Repair, Fleet Efficiency, Upgrade, Maintenance
- **Airlines Supply & Logistic** | FHS, Pit/Satair, Retrofit Management
- **Consulting Services** | MRO, Airline, Airport & OEM
- **Technical Data** | Authoring, Illustrations, Data Migrations
- **Training Flight Ops & Field** | Pilot Training, Simulators & Material, Field Representative



Transversal



Information Management

- **Application & Digital Solution IT Project** | Mgt, Development, Maintenance & Support
- **Big Data & Cloud** | Architecture, Apps Dev, IA, Algorithmes & BI, Data Gouvernance
- **Infrastructure** | Infrastructure Support, Finops, Maintenance & Support
- **Extended Enterprise** | IT Project Mgt, Deployment & Enablement, Support
- **Digital Transfo.** | Agile/SAFe, ITIL



Program & Corporate Services

- **Project Management Officer** | Project Management Business Partner
- **Human Resources** | Training & Coaching
- **Health, Safety & Environment** | Environment Health & Safety, Mgt System, Regulations, Sustainability
- **Hazardous Materials** | Substance Management
- **Costing & Finances** | RC & NRC Cost Analysis
- **Building & Facilities** | Facility Mgt

ALTEN'S MAIN PROJECTS

Engineering System

— With a **multi-specialist approach**, covering all systems, ALTEN supports manufacturers in building the **aircraft of the future**: more economical, quieter, less polluting and connected. Our large experience in that field associated to a wide customer range put us at the core of new **multi partners programs**. We are investing ourselves in decarbonation through projects such as:

Green Aircraft

- Reducing consumption
- Optimize Flight & Ground Operations
- Manage new energies & hybridization (hydrogen & electric)

Cockpit of the future

ALTEN has developed its own platform for creating immersive environments, based on Virtual Reality technology.

Manufacturing Engineering

— Aircraft manufacturers and subcontractors must increase production rates to meet the growth in air traffic and the modernization of existing fleets. ALTEN offers **Ramp-up methods** and the deployment of **new technologies** (Big Data, IoT, augmented reality, etc.) at factory and supply-chain level.

Work Preparation

Industrial Process Design

Jigs & Tools & Machine Automation

ME Business Method

Robotics Dvpt Integration Shop-floor Execution & Optimisation

Extended Enterprise

We are also innovating in our labs to meet **Industry 4.0** challenges by testing new technologies in its Smartfactory. **Our 9 projects conducted in the Smart Factory program:**

Real time predictive maintenance

Process digital twin

Energy consumption optimization

Logistics digital twin

AGV distributed intelligence

Robotics: universal gripper

Digital continuity to additive manufacturing

Predictive work accident

Merging production network & company management system

Airworthiness

— ALTEN's involvement in the continued airworthiness and initial certification activities since 2013 allows us to be fully autonomous in **coaching** newcomers and **ensuring the quality** of deliverables. ALTEN provides value throughout the airworthiness cycle:

Initial Certification (the EASA certification, the foreign validations, ...)

Continued Airworthiness

Product Data Management

Quality & Design Management System

ALTEN is delivering a complete offer through:

Modification management

Certification obtention

Approval maturity assessment

Approval obtention support and follow up

Customer Services

— ALTEN is an actor of the complete Customer Services environment, deploying its **know-how** in engineering maintenance, supportability, service bulletin, technical data or training. On top, we are developing new authoring and publishing solutions bringing information to operators all around the world.

We are also focusing to improve fleet performance and airlines satisfaction by:

Optimize in-service support activities

Develop new profitable airlines services

Thanks to ALTEN aeronautical expertise, aircraft operation understanding and our BI & data-science center of competences, ALTEN provides **high-value services** to enhance connected aircraft exploitation.

Aircraft Data management

Spares optimisation

Preventive & predictive maintenance

Fleet performance analysis and A/L recommendations

Digital platform & services development

Embedded Software

— ALTEN has **built up expertise** in embedded software with three main areas of focus:

HMI partitions

Software specifications, software development (corrections / evolutions), verification & validation, certification

Research on HMI innovative

Software architecture, innovative graphic development, simulation, test partitions

Military fire control development

Porting, encapsulation

Our DO 178 and DO 330 expertise is allowing us to support all **new development** and **future product** of our customers.

ALTEN is supporting Airbus Canada in the management of the critical IM-A220 transformation program which aims at securing the separation between Airbus Bombardier Information Systems.

Project Management support for the Vertical streams

(ERP / PLM / MES / HR / Customer Services)

Technical support for the Horizontal enablers, Architecture & Enterprise tools.

- Supporting the 'To Be' Functional & Technical architecture
- Data migration strategy & execution
- Collaboration tools migration

TO LEARN MORE ABOUT OUR
VISION, COMMITMENT, OPPORTUNITIES,
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alten.com



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