



Space Service Catalogue

Engineering support for launchers, ground segment and spaceport operations

A concentration of knowledge and expertise - More than 27 years alongside leading industrial customers

ALCADIA ENTREPRISES

Business services and consulting engineering company in high value-added sectors

www.alcadia.fr

Company profile

ALCADIA is an independent, 100% French engineering group supporting complex, high value-added and safety-critical sectors. Its space activities focus on launchers, ground segment, launch base infrastructure, operations support, technical documentation, safety, reliability, quality and project coordination.

+27

years of experience

+180

employees

+19 M€

turnover in 2025

24%

turnover in space

100%French independent
group

Operating footprint

Head office: Lyon**Offices:** Paris, Lyon, Tours, Dieppe and Milan**Team presence:** French Guiana and other client sites

ALCADIA combines proximity to operational sites with a network of experts and referents able to support multidisciplinary projects in technical assistance or workpackage mode.

Sectors and positioning

Core sectors: electro-nuclear and nuclear, space, and other industries.

The group brings a strong safety culture and methods from regulated environments to space systems, ground support equipment, launch operations and infrastructure projects.

Certifications, culture and differentiators

Certifications and evaluations: ISO 9001:2015, ISO 19443:2018, MASE Rhône-Alpes, CEFRI type E, EcoVadis Silver, and certified training process underway. The presentation also lists spheres of authorization for Defence (DGA), Space (CNES) and Nuclear (COSSEN).

Values: creativity, honesty, commitment, respect and excellence. ALCADIA highlights simplicity, agility, project configuration management, transformation into workpackages and a dedicated training effort.

Service offering across the project lifecycle

ALCADIA supports customers at every phase of a project: **conception, commissioning, exploitation, revamping and deconstruction**. The offer combines engineering studies, risk management, operation and maintenance engineering, project management, commissioning and performance improvement.

1 CONCEPTION

2 COMMISSION.

3 EXPLOITATION

4 REVAMPING

5 DECOM.

Systems Engineering

- Design studies: fluid, ventilation, electrical, mechanical and control-command systems
- Sizing and specifications of equipment and materials
- System requirements, periodic tests and in-service test criteria

Risk Management

- Potential risk assessment and control methods
- Deterministic and probabilistic safety studies
- Industrial risk, fire and explosion expertise

Operation & Maintenance

- Operating rules and procedures
- Operational documentation and maintenance guides
- Reliability studies, incident analysis and feedback integration

Project Management

- Cost, schedule and performance monitoring
- Project scoping and risk assessment
- Supplier contract follow-up and project owner assistance

Commissioning

- Test programmes, procedures and test sheets
- Coordination of disciplines during performance tests
- Normal and degraded regime support

Performance Improvement

- Strategic support and operational deployment
- Methods, indicators and continuous improvement
- Digital tools and project configuration follow-up

Delivery modes

Technical assistance, dedicated engineering workpackages, on-site operational support and off-site back-office support from ALCADIA offices. The group highlights the capability to transform activities into workpackages while managing configurations and evolutions.

Space service catalogue

ALCADIA has a double positioning on **launchers** and **ground segment**, supporting projects from early studies to exploitation and commissioning. The services below are based on ALCADIA's space engineering disciplines and references.

Control & Command

- Test plans and implementation specifications
- Technical qualification test support
- Anomaly analysis, test reports and post-launch revalidation
- EIA technical assistance, PDR/CDR support

Configuration & Requirements

- Functional analysis
- Technical requirements and interface specifications
- Product configuration management
- Requirements management and PBS consistency checks

Operational Safety & Reliability

- RAMS analysis
- Anomaly management
- Reliability reviews, CTA and CLM Ops reviews
- Supplier audits and risk analysis of operational procedures

Fluid Systems

- P&ID; production and digital models
- Conventional and cryogenic fluid system sizing
- Fluid and skid circuit design
- Integration guides and performance optimization

Quality & Supplier Follow-up

- Quality management plans
- Operational and supplier quality
- Negative timeline quality control
- KPIs, anomaly handling and audit support

Regulatory / LOS

- Space Operations Law compliance studies
- Gap analysis and supporting compliance documentation
- Repository updates and compliance checks
- LOS indicators and regulatory interface follow-up

Testing & Commissioning

- Operational procedures
- Combined trials coordination
- ADR monitoring and test campaign quality assessment
- Operational launch simulations and technical notes

Project / Contract Support

- Project quality plans and indicators
- Supplier contract monitoring
- Infrastructure and tertiary works management
- Trade-off notes, feedback and system architect support

Technical Documentation

- Operating procedures
- Qualification and test reports
- Modification requests and proposals
- EDM / technical fact tool administration and user support

Ground segment, launch base and operations

Focus: ALCADIA supports spaceport and launch base activities in French Guiana and on major launcher programmes. The scope includes construction and evolution of ground resources, launch operations, compliance controls, maintenance in operational condition and operational documentation.

Construction of launch assemblies

- Ground resources: civil engineering, VRD, metal structures, energy and automation
- Conventional and cryogenic fluid infrastructure
- Participation in technical and combined tests
- Development and maintenance of existing ground assets in operational condition
- References include Ariane 5, Ariane 6, Vega C, Soyuz, BEAP/P120, Callisto, ELM and Diamant test sites

Compliance control of space operations

- Decision support on the acceptability of risks
- Identification of residual risks for feared events
- Collection of additional information from launch operators
- Operations checks on Vega C, Ariane 5 and Ariane 6 launchers
- Compliance checks on fluid, mechanical-pyrotechnic and avionic launcher operations

Participation in launch operations

- Organization and qualification of ground resources
- Mechanical and fluid technical support
- Process interfaces, test measurements and campaign assistance
- Exploitation of test data and monitoring of construction sites
- Support to Ariane 6 operational procedures and anomaly treatment commissions

Operational continuity and telemetry support

- Preparation and configuration of telemetry systems
- Support to RTM (Telemetry Manager) teams
- Technical fact/anomaly management
- Operational qualification and launch campaign support
- Documentation, transport/equipment rotations, modification requests and proposals

Digital engineering, data and innovation

ALCADIA complements its engineering expertise with data, industrial IT and digital tool activities. This enables reliable information processing, traceable calculations, tool administration and decision support for complex operational systems.

Information processing

- Update, audit and redesign of critical business tools
- Data processing, analysis and valuation for monitoring, maintenance and acquisition systems
- Exploratory analysis, feature engineering and leading indicators
- Optimization, diagnostic and prediction algorithms
- Readable, traceable and long-term adaptable tools

Industrial IT

- Industrial acquisition systems: sensors, automation, RFID, CTM
- Technical database administration and network integration
- Structuring of data flows from field acquisition to processing centers
- Development of industrial application and supervision tools (.NET, C#, LabView, Siemens/Schneider automation)

Innovative project - automation of pressure drop calculations

ALCADIA is developing internal digital engineering tools to streamline recurring calculations and improve traceability. One initiative is the automation of **pressure drop calculations** for fluid systems. The objective is to standardize calculation rules, reduce manual processing time, limit errors and support engineers in the preliminary sizing and verification of piping and fluid networks, including conventional and cryogenic fluid applications.

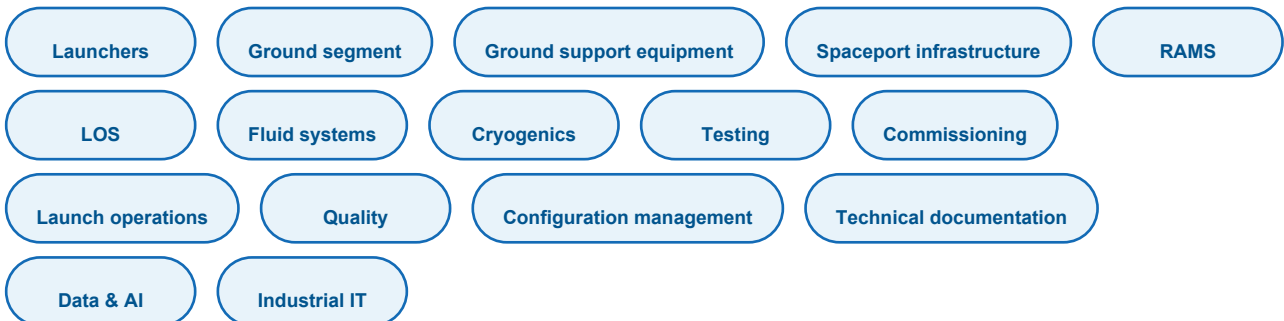
- Engineering support for launcher, ground segment and spaceport activities
- Specialist expertise for fluid systems, RAMS, operational safety, LOS, quality, testing and commissioning
- Technical assistance or workpackage delivery, on-site or off-site
- Access to a multidisciplinary network of experts and referents with a strong safety culture

Selected space references and keywords

The references below illustrate ALCADIA's contribution to European space programmes and spaceport activities. They can be used as searchable keywords on the Industry Space Days platform.

Domain	Selected references / experience
Control & command	CALLISTO ground equipment technical specification; Ariane 6 FM1 test plans; CNES CSG micro-launcher future base; CADENCE technical qualification tests
Configuration management	MAIA SPACE consistency analysis and PBS verification; THEMIS T1H/T3 configuration management support
Safety & reliability	Quality and dependability framework contract in French Guiana; RAMS studies on Space Rider and Vega programmes
Fluid systems	Cryogenic fluid modelling and conventional fluid circuits for Space Dreams; Pangea engine test bench; Oxygen and Nitrogen network modifications for Ground MAIA
Launch base	Ariane 5, Ariane 6, Vega C and Soyuz launch pads; BEAP test bench qualification for P120; Callisto, ELM and Diamant test sites
Launch operations	Ariane 6 operational procedures; anomaly treatment commissions; ground process interfaces; telemetry preparation and RTM support
Regulatory / LOS	CNES regulatory interfaces; preliminary compliance certificates; regulatory technical procedures; DTS/LOS indicators

Keywords



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