



PREYSSSE



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ENGLISH

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THE COMPANY



AIRCRAFT MANUFACTURING



ONBOARD SYSTEMS



SPACE TECHNOLOGIES



ENGINEERING & CONSULTING



TECHNICAL CAPABILITIES

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THE COMPANY

From design to production!

Established since the beginning of 2025 at the Châteauneuf-sur-Cher aerodrome (LFFU), the company PREYSSE directly succeeds PREYSSE AVIATION, a small business founded in 2017. This transformation is the result of a methodical process and several years of R&D conducted behind the scenes by its founders.

Today, PREYSSE positions itself in several markets, with two main focuses: light & general aircraft design and manufacturing and, space technologies.

Specializing in the design and production of high-performance light aircraft in small and medium series, the company meets the demands of the light and ultralight aviation sector, a well-established aeronautical field.

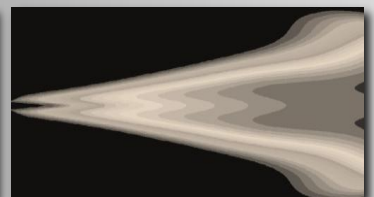
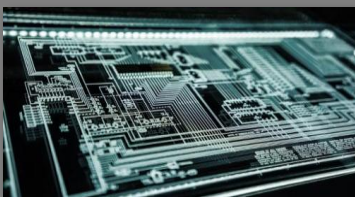
In the space technology sector, PREYSSE tackles high-level technological challenges and positions itself in rapidly growing markets by developing space technologies, particularly thrusters for small satellites and spacecraft.



In addition to its core areas of expertise, PREYSSE develops and manufactures various onboard systems, software, and embedded technologies. The company also leverages its expertise to support its partners by offering engineering and consulting services for the most complex technological projects.

PREYSSE stands out for its ability to manage the entire value chain, from the initial design phase to final manufacturing. This integrated approach, combined with a constant focus on quality, makes the company a preferred partner for the most ambitious projects.

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PREYSSE
aeronautics

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AIRCRAFT

DESIGN & MANUFACTURING

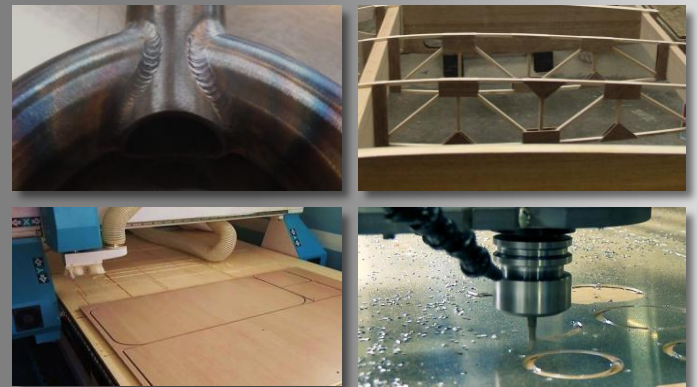
Setting Course for Manufacturing!

After several years dedicated to design, research, and preparation, PREYSSE is now entering the production phase of its first light aircraft.

We have opted for a methodical approach, progressing step by step in the development of this project, with a focus on tangible results. Our ambition is clear: to present a fully developed aircraft, ready to conquer the market, with performance that speaks for itself!

This two-seater travel aircraft, designed in accordance with the CS-23 standard, will also be available in ULM (ultralight) and light aircraft versions to meet the specific requirements of the French, European, and international markets.

Adopting high standards for design and development is a deliberate choice, aimed at establishing a solid foundation to tackle future challenges, particularly in terms of certification.



We place constant emphasis on improving aerodynamic efficiency and mass properties. As a result, we have chosen to design a fast, economical, and comfortable travel aircraft, capable of significantly standing out in the light aviation markets.

Our philosophy is based on eliminating unnecessary weight in favor of payload, while resisting the temptation of over-motorization. Equipped with innovative onboard systems developed in-house, this aircraft has been designed to simplify maintenance operations and ensure optimal longevity.

From the earliest stages of design, the possibility of electric propulsion was integrated into the specifications. This forward-thinking approach allows us to envision future evolutions of the model based on technological advancements in propulsion systems.

We are convinced that electrification could offer significant advantages, particularly for local flights and training flights, by reducing operating costs and eliminating direct pollutant emissions.



ONBOARD SYSTEMS

Our priorities: quality and reliability!

- Development of critical systems
- Design, manufacturing, and electronic assembly
- Computer coding and software development
- Test benches & metrology laboratory

We develop onboard systems for light and ultralight aviation. We have chosen to focus our research and development efforts on two key priorities: improving flight safety and protecting occupants.

Our approach is based on the integration of cutting-edge technologies and the strictest standards in design and manufacturing. Our onboard instruments are a testament to this: they are developed in Ada, a language specifically designed for critical systems where safety and reliability are paramount, such as in aeronautics, defense, or the medical sector.

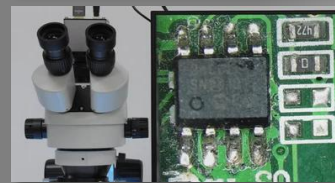
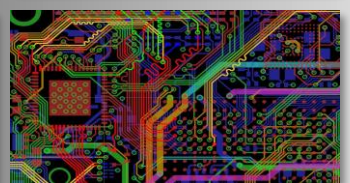
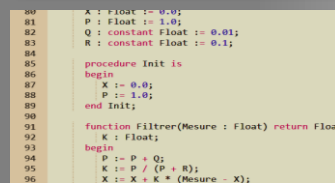
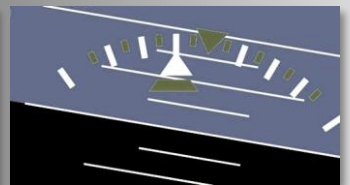
Thanks to its strict typing and rigorous checks during the compilation phase, Ada significantly reduces the risk of critical errors. Compliant with demanding standards such as DO-178C, it ensures predictable and deterministic management of complex calculations. Its architecture, optimized for real-time software, enables our instruments to respond instantly to environmental variations during flight.

In aviation, where the slightest failure can have serious consequences, this robustness is essential, whether in the field of certified or non-certified aviation.

All our products are designed, developed, and manufactured in our workshops, allowing us to fully control the process from design to production, with maximum traceability.

The devices and instruments developed in-house are integrated as standard, at no additional cost, into the aircraft we design and manufacture. We have chosen this approach to ensure optimal integration and consistency across all systems.

These instruments are also available for sale in the light and ultralight aviation market, thereby contributing to improving the safety of occupants and flights.



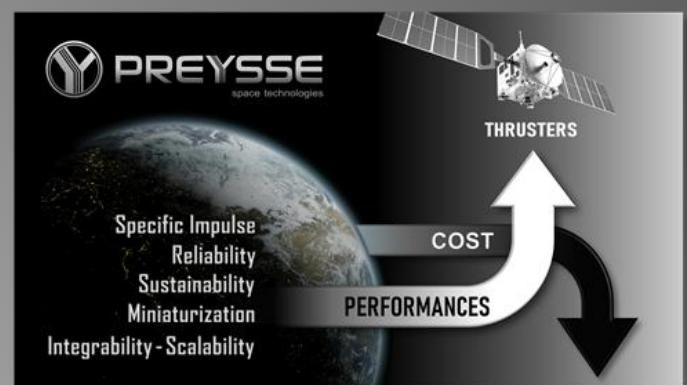
SPACE TECHNOLOGIES

Our ambition: to support the sustainable rise of the space sector!

We design and develop technologies for the space industry, driven by a clear ambition: to contribute to the reduction of space debris in low Earth orbits and to minimize environmental impact, particularly during atmospheric reentry phases.

Our efforts primarily focus on the design and manufacture of reliable, high-performance, and non-polluting propulsion systems intended for attitude and orbit control systems (AOCS) in the orbital domain and for satellites (transfer stages, in-orbit services, atmospheric reentry), as well as for roll attitude control systems (RACS) in launch vehicles. Our strategy relies on miniaturization, hybridization, and the improvement of the overall performance of these systems, while integrating advanced control solutions to optimize their efficiency and reliability.

In a complementary manner, we are working more broadly on active deorbiting technologies to ensure a controlled end-of-life for satellites. This approach includes the development of orbital trajectory optimization algorithms with real-time analysis capabilities, to guarantee atmospheric reentries that are more efficient, secure, and respectful of the space environment.



Development of propulsion systems with a thrust range of 0.5 to 20 N, designed to be more efficient, easier to integrate, miniaturizable, and cost-competitive through the integration of innovative technologies and the development of hybrid solutions.

Performance Enhancement

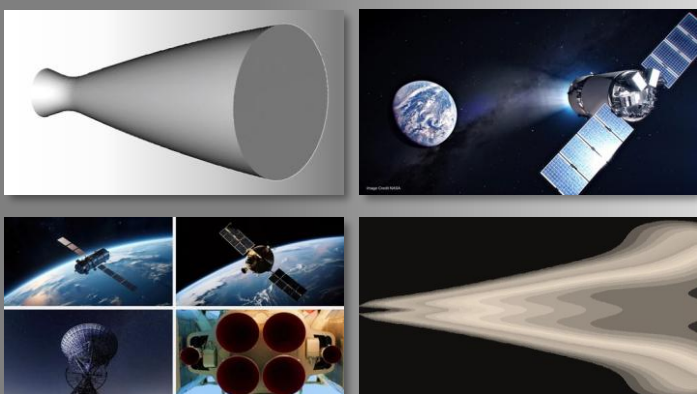
- Specific Impulse (Isp)
- Minimum Specific Impulse
- Thrust-to-Weight Ratio
- Endurance

Integration Capability Improvements

- Miniaturization
- Scalability

Operational Improvements

- Stability and Lifespan
- Handling and Implementation Safety
- Reduction in Toxicity and Environmental Impact





ENGINEERING & CONSULTING

Specialist in Complex Projects!

We offer specialized engineering and technical consulting services to a diverse clientele, ranging from small and medium-sized enterprises (SMEs) to large industrial groups, both in France and internationally. Our activities focus on managing complex projects, technological development, and production, covering all stages comprehensively: needs analysis, specifications, design, prototyping, experimental validation, and preparation for industrial implementation.

Our teams consist of specialists in various fields, including mechanics, aerodynamics, thermodynamics, electronics, software development, and project management. We rely on cutting-edge industry tools and formalized processes to meet technical and regulatory requirements. We operate in diverse sectors, such as aeronautics, the design of critical parts and assemblies, complex systems, and R&D projects, consistently adapting our methods to the specific constraints of each client (size, industry, location).

Our goal is to deliver precise and concrete solutions, validated by quantifiable data, while minimizing approximations through our internal expertise and technical resource

Design - Machining - R&D

- Mechanics: 3D CAD, assembly modeling, FEM calculations (stress, deformation, fatigue).
- Simulations: CFD (laminar/turbulent flows, heat transfer), physicochemical analyses (catalysis).
- Prototyping: machining, test bench design, protocol definition (repeatability, uncertainties).
- Deliverables: analysis reports, technical recommendations (materials, geometries).

Electronics & Embedded Systems

- PCB: multilayer design, high-speed routing (controlled impedance), thermal management (vias, heatsinks), etc.
- Embedded technologies: microcontrollers, microprocessors, ARM, RTOS (FreeRTOS), protocols (UART, SPI, CAN, etc.), etc.
- Algorithms: digital filtering (FIR, IIR), PID control, neural networks, etc.
- IoT: sensors (accelerometers, thermistors), connectivity (MQTT, LoRaWAN), range testing, etc.
- Validation: prototypes (oscilloscope tests, logic analyzer), measurement reports, EMC compliance, CE, DO-254/178.

Software Development

- Architecture: UML specifications (use cases, diagrams), interface definition (API REST, JSON), etc.
- Coding: C, C++, Ada, Python languages, algorithms (sorting, compression), MISRA compliance, DO-178, etc.
- Tools: code generators (Python scripts), roundtripping (model-code synchronization), static checkers, etc.
- Web: CMS, portals (SSO authentication), UX/UI interfaces, etc.
- Automation: API (XML, SOAP), CI/CD pipelines, Bash scripts, etc.

Project Management & Consulting

- PMO: schedule development, milestone tracking, risk management, progress reports.
- Methodologies: PRINCE2 (stage-based management), Agile (Scrum: sprints, backlog; Kanban: flow), Lean (waste reduction).
- Organizational Audit: process mapping, KPI analysis (deadlines, costs), bottleneck identification.
- Digital Transformation: CMMI assessment (levels 1-5), IT diagnostics (servers, ERP), roadmap definition (phases, deliverables).
- Studies: literature reviews, benchmarks (quantitative comparison), ROI calculations, technical reports.





TECHNICAL CAPABILITIES

Mastering the entire creation process!

We oversee the entire production process, from prototyping to small and medium-scale manufacturing. This approach allows us to respond with flexibility and responsiveness to the specific requirements of each project, while ensuring the highest standards of quality and complete traceability.

Our ability to develop sophisticated projects and turn them into tangible prototypes stems from a strategic commitment to mastering the entire creation process.

Our expertise spans multiple technological fields. In electronics, we go far beyond designing complex printed circuit boards. We develop sophisticated algorithms and cutting-edge integrated systems.

When it comes to software development, we specialize in building cutting-edge applications, including custom interfaces and code designed for automation or embedded systems.

Our proficiency covers a broad spectrum of groundbreaking technologies, allowing us to effectively address the needs of intricate, high-tech projects. In addition to our skills and expertise, our company is fully equipped with advanced tools, enabling us to independently perform thorough testing and evaluations.

- Custom-designed and developed test benches
- Mechanical metrology instruments and tools
- Electrical and electronic analyses
- Spectrum analysis, oscilloscope, stroboscope, etc.
- Metallurgical microscopy, photomicrography, endoscopy
- Physicochemical analyses, etc.

PRODUCTION CAPABILITIES

WORKSPACES

- Compressed air distribution network
- Specialized workspaces (booths)
- Monitored storage and work atmosphere (temperature, humidity, dust, and fine particles)

WOODWORKING

- CNC milling: cutting and engraving wood and soft metals (work area: 2500 x 1300 x 300 mm)
- Planing, jointing, sanding
- Sawing, drilling of large sections
- Laser engraving

METALWORKING

- Milling, cutting, and engraving
- Turning of steels and aluminum
- Welding of steels, stainless steels, aluminum (MIG-Argon, MAG-Argon, CO₂, TIG-Argon, MMA)
- Plasma cutting
- Anodizing & electroplating

ELECTRONICS & ELECTRICITY

- PCB etching
- Infrared reflow soldering
- Hot air soldering
- Electronic assembly
- Electrical wiring

COMPOSITE MATERIALS & PAINTING

- Design and manufacturing of masters
- Mold making
- Infusion molding
- Lamination
- LVLP and HVLP painting

MECHANICS

- General and aeronautical mechanical workshop
- Installation of propulsion systems

METROLOGY & QC

- Metrology and quality control laboratory
- Endoscopy, metallographic microscopy, etc.



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