

VENG

SATELLITE PROJECTS SERVICES



060325



YEAR 2025

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WE ARE VENG

VENG is an Argentine company of services and technological developments of high added value specialized in the space activity. We offer to the space industry and the industry in general, engineering and manufacturing services for the **resolution of complex R+D+i problems**.

We are developing a satellite launcher to provide **launch services from Argentina to the world**, and thus join the small group of countries that master these capabilities and are part of the global expansion of space activity for commercial purposes.

+17

years of
experience

+420

staff of collaborators

+15

years of
ground stations operations

**Operation of the ground
station in Córdoba**

2009 - - - - - TODAY

**Tierra del Fuego ground
station operation and
maintenance**

2018 - - - - - TODAY

SATELLITE MISSIONS TRAJECTORY

2009

ETC

Operation start

2011

SAC / AQUARIUS

Completed mission

LIE

Stage #2 complete

2015

MOC SAOCOM

2016

LIE

Stage #3 complete

2018

SAOCOM 1A

In orbit

2020

ETTdF

Operation start

SAOCOM 1B

In orbit

2023

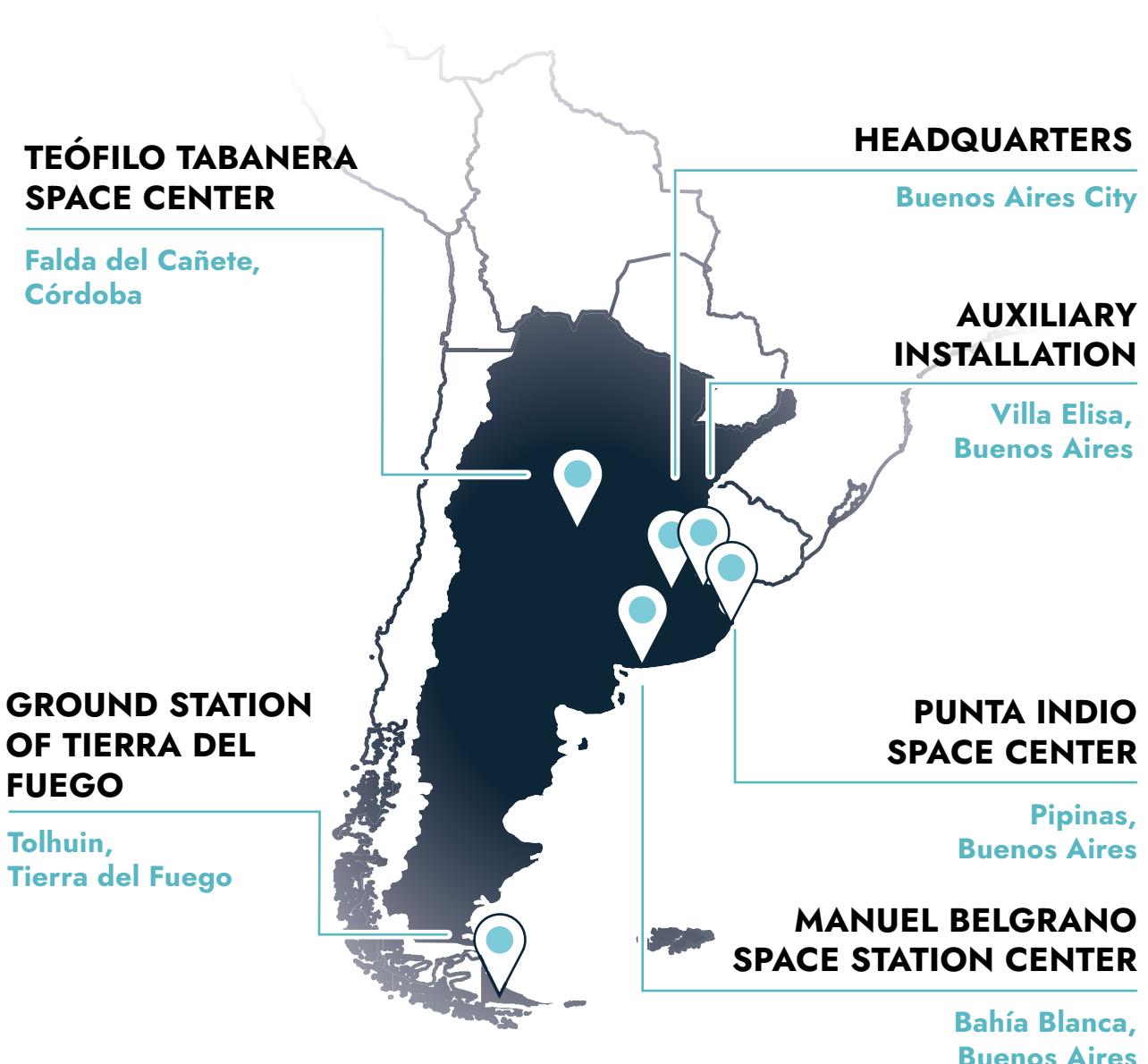
ON BOARD COMPUTER

2024

GENSAR

Stage A

OUR LOCATIONS



Teófilo Tabanera Space Center



- Satellite Mission Control Center
- Ground Station operation Córdoba
- Engineering
- Metal-mechanical fabrications
- Heat treatment
- Image Processing
- Manufacturing, Integration, and Testing

Punta Indio Space Center



- Engineering
- Production of aerospace vessels
- Metal-mechanical fabrications
- Engine Testing

Manuel Belgrano Space Station Center



- Launching Base
- Engineering

Ground Station of Tierra del Fuego



- Operation of ground stations

Villa Elisa Auxiliary Installation



- Electronic engineering specialized in RF
- Electronic Laboratory

Buenos Aires City Headquarters



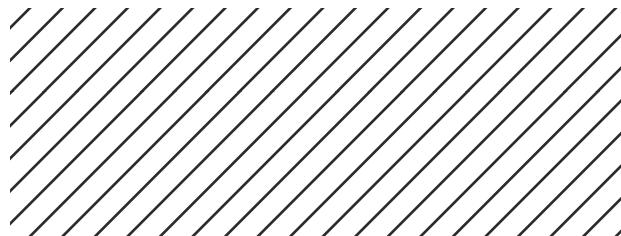
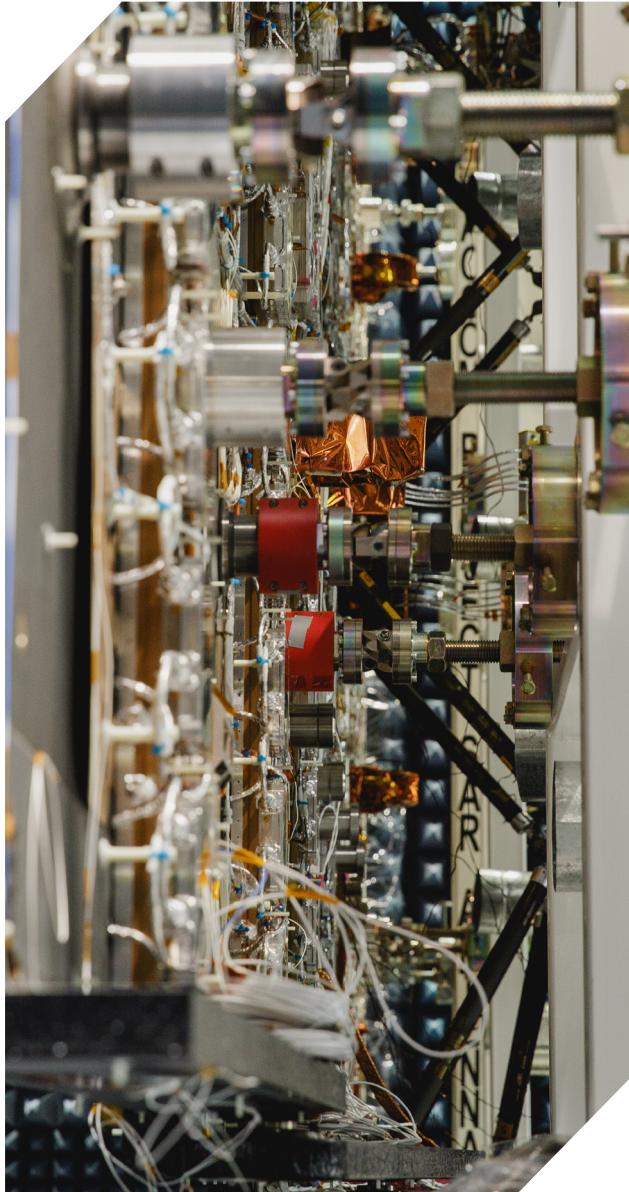
- General Administration
- Engineering

SATELLITE PROJECTS



We are a company committed to high technology that focuses on space activity and the technology industry in general. We provide high added value in both hardware and software for our customers, getting involved from the design, conceptual and detail engineering, including manufacturing, assembly, integration and testing of our products. Among our products we can highlight the development of systems, subsystems and special parts for satellites.

We are specialists in remote sensing through SAR radar instruments. We have the capability to develop, integrate, test and qualify complex satellite subsystems and systems within the most demanding space industry standards. When it comes to satellite missions we can work autonomously with satellites up to 250kg mass, and together with our network of partners we can push the limits of our capabilities.



OUR HISTORY IN DEVELOPMENT, INTEGRATION AND TESTING FOR THE SATELLITE INDUSTRY

- Technological Demonstrated "TDP" SAC-D Mission, under INVAP and NASA requirements
- D-OBC satellite payload computer
- Ad-hoc antennas for SAOCOM and SABIA-Mar satellite missions
- Various flight and ground electronics subsystems for SAOCOM, SABIA-Mar and other earth observation and communications satellite missions
- Development, integration, testing and in-flight engineering support of SAR radar antenna of the SAOCOM constellation; state-of-the-art L-Band SAR instrument worldwide. Comprising the complete instrument from harness, control and transmit-receive modules, structure and radiating elements

FOCUS

HIGH-RES INSAR IMAGERY AT LOW COST



VENG

XSAM

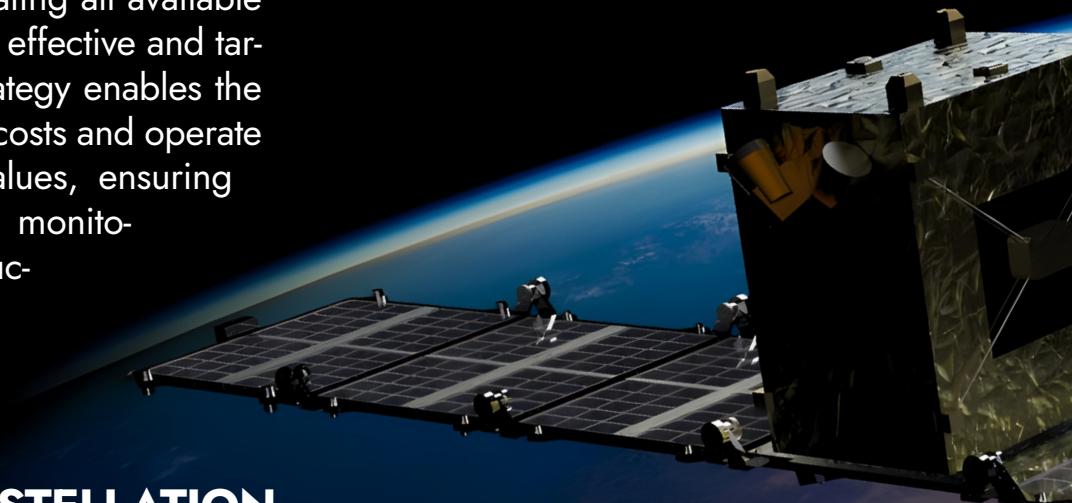


UNSAM

We develop **FOCUS**, an **advanced X-Band SAR satellite constellation** designed for interferometric analysis. **FOCUS** redefines infrastructure monitoring with a **scalable satellite system, millimetric precision, and AI-powered analytics**—ensuring **proactive decision-making** at **disruptive pricing**.

WHY FOCUS?

The system is named FOCUS to reflect its philosophy of concentrating all available resources on deliver an effective and targeted solution. This strategy enables the constellation to reduce costs and operate at disruptive market values, ensuring precise and accessible monitoring of critical infrastructures worldwide.



SCALABLE CONSTELLATION

The constellation's size will adjust according to global image demand, enabling efficient scaling and resource optimization to meet market needs.



SUBSCRIPTION PLAN

The FOCUS system operates on a subscription model, ensuring predictable costs, scalability, and control. This approach enables users to access critical data with minimal entry barriers and complete transparency.

PRICING

Disruptive market pricing through optimization across all key areas.

Leveraging low-cost, COTS (commercial off-the-shelf components), **agile engineering practices, and onboard pre-processing**.

Streamlining operations to significantly reduce production and operational costs while delivering **high-quality solutions** at a fraction of traditional prices.

TECHNICAL FEATURES

Application infrastructure

- Designed for critical infrastructure monitoring.
- Enables early detection of even the smallest changes.
- Supports automated, continuous predictive maintenance.
- Reduces economic, human, environmental, and cultural heritage losses.
- Provides precise data for insurance evaluation and risk mitigation.

Intuitive and accessible interfaces

The FOCUS system features a user-friendly interface that enables any user—even without technical expertise—to effortlessly access accurate data, interpret alerts, and generate reports, enhancing agile decision-making and proactive risk management.

Onboard processing

- Optimizes resource usage and reduces costs
- Filters and processes data before transmission
- Minimizes the load on ground systems
- Ensures efficient information management

Satellite weight	150kg
X-Band (9.65 GHz)	
Orbit altitude	526 km
Spotlight mode	
Incidence angle	25–36°
Slant range resolution	0.5–1 m
Slant azimuth resolution	<1 m
Ground range resolution	0.8–1.3m
Optimized capture	5 x 5 km

X-Band Sar Interferometry Millimetric resolution

- Global coverage for early detection of tectonic shifts, infrastructure degradation, and landslides.
- Reliable under adverse weather.
- Maximum resolution.
- Detects changes at the millimetric level through phase comparison.
- Corrects systematic errors and atmospheric disturbances.
- Optimized for structural and tectonic monitoring.

Artificial intelligence

- Optimizes constellation scheduling and global target surveys.
- Enhances radar data processing.
- Accelerates data analysis and report generation.
- Improves real-time decision-making while reducing costs.

BACKING

XSAM and **VENG** form a strategic alliance, blending technical and commercial expertise for a scalable New Space solution.

Endorsed by **Universidad de San Martín**'s P-ranked incubation program (SCIImago).

Incubated at **54LAB**, an innovation hub **backed by the Buenos Aires City Government**.

ON BOARD COMPUTER

The On Board Computer (OBC), developed jointly by CONAE and VENG, is a complex electronic unit, developed to manage satellite mission instruments, with data transfer rates up to 100 Mbps, in addition to providing general interfaces bi-level RS -422, analog channels for voltages and temperatures acquisition (internal and external housekeeping information) and capacity to command up to 24 heaters, through opto-coupled outputs.



It has a power module, a Single Board Computer module based on the UT699 LEON3-FT 32-bit processor and 6 additional functional modules, all linked through the cPCI 2.2 standard through the use of a Backplane. It also has an additional slot, designed to adapt to the needs of different missions/projects.



MECHANICAL AND OPERATIONAL FEATURES

	OBC WITHOUT REDUNDANCY (7 FUNCTIONAL MODULES)	OBC WITH REDUNDANCY COLD STANDBY (14 FUNCTIONAL MODULES)
DIMENSION	21x27x27 [cm]	39x27x27 [cm]
MASS	7,5 [Kg]	21 [Kg]
VOLTAGE	21-36 [V]	21-36 [V]
CONSUMPTION	Rated consumption: 30[W] Maximum consumption: 40[W]	Rated consumption: 30[W] Max.consumption: 40[W]
OPERATION TEMPERATURE	-10 °C to +40°C	-10 °C to +40°C
LIFE TIME	5 years	5 years

COMPONENTS

POWERBOX

Consists of 2 DC-DC converters that provide 4 regulated secondary voltages (+3.3, +5, +12 and -12V) that the equipment needs from an unregulated primary input supply (redundant or not) that it can vary between 21 and 36 V. It also implements configurable capabilities according to the needs of the specific application:

- Isolation of secondary-primary returns
- Limitation of the in-rush current
- Delay so that not all secondary voltages appear simultaneously
- Configuration as essential load (always powered regardless of which of the primary power lines is active) or not

INSTRUMENT ACQUISITION

Has the capacity to acquire data generated by up to 4 instruments simultaneously through dedicated LVDS interfaces. The total acquisition speed for the 4 channels simultaneously is up to 200 Mbps.

CCSDS Packets “time-tagging” capability, with an uncertainty of less than 20 [μs]. In addition, this module has 3 Spacewire interfaces for transfer of acquired data at 100 Mbps. This transfer is carried out following the ECSS-E-ST-70-41-C (CCSDS Space Packet Protocol) standard.

COMMUNICATION

Has 1 MIL-STD-1553 Interface as a Remote Unit (designed for the exchange of telemetry and telecommand), with 1 MIL-STD-1553 Interface as Bus Controller (designed to command other equipment or instruments) and 9 full-duplex UART/RS-422 serial interface ports.

GENERAL PURPOSE INPUT/OUTPUT

This module has 30 bi-level RS-422 input lines, 22 bi-level RS-422 output lines and 10 open-collector output lines.

TEMPERATURE CONTROL

Has the capacity to command up to 24 action channels of 1[A] heaters. Each of these outputs is opto-coupled to maintain separation between the primary and secondary return.

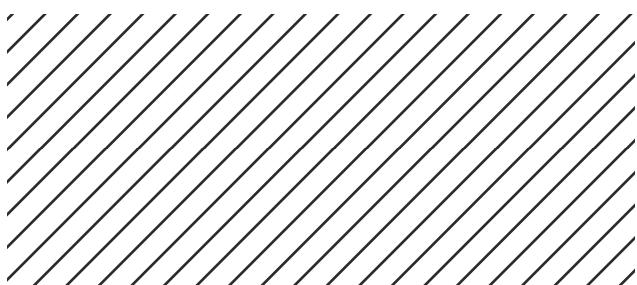
SINGLE BOARD COMPUTER

Is the main module where processing, management and control activities are carried out. This module has the following blocks:

- UT699 LEON3-FT 32-bit processor
- RTEMS 4.10
- 2 redundant bootloader EEPROM memory banks
- 3 redundant banks of Program Flash Memory
- FGPA for the implementation of the interface via cPCI with the other 6 modules
- 3 Spacewire Interfaces
- 2 UART/RS-422 interfaces
- 2 RS-422 inputs for receiving synchronization pulses (PPS-in)
- 6 RS-422 outputs for synchronization pulse distribution (PPS-out)
- Watchdog provided by the capabilities of the UT699

TEMPERATURE ACQUISITION

Can acquire up to 96 temperature channels with a resolution of 12 bits grouped into 72 external and 24 internal temperature channels (3 channels for the OBC, 7 for calibration and 14 reserved for the expansion slot).







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