VENG

ACCESS TO SPACE

220126

YEAR 2026

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VENG

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

+380
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

OUR LOCATIONS

TEÓFILO TABANERA SPACE CENTER

Falda del Cañete, Córdoba

HEADQUARTERS

Buenos Aires City

AUXILIARY INSTALLATION

La Plata, Buenos Aires

GROUND STATION OF TIERRA DEL FUEGO

Tolhuin, Tierra del Fuego

PUNTA INDIO SPACE CENTER

Pipinas, Buenos Aires

MANUEL BELGRANO SPACE STATION CENTER

Bahía Blanca, Buenos Aires

Teófilo Tabanera Space Center

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

Manuel Belgrano Space Station Center

- Launching Base
- Engineering

Ground Station of Tierra del Fuego

- Operation of ground stations

Punta Indio Space Center

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

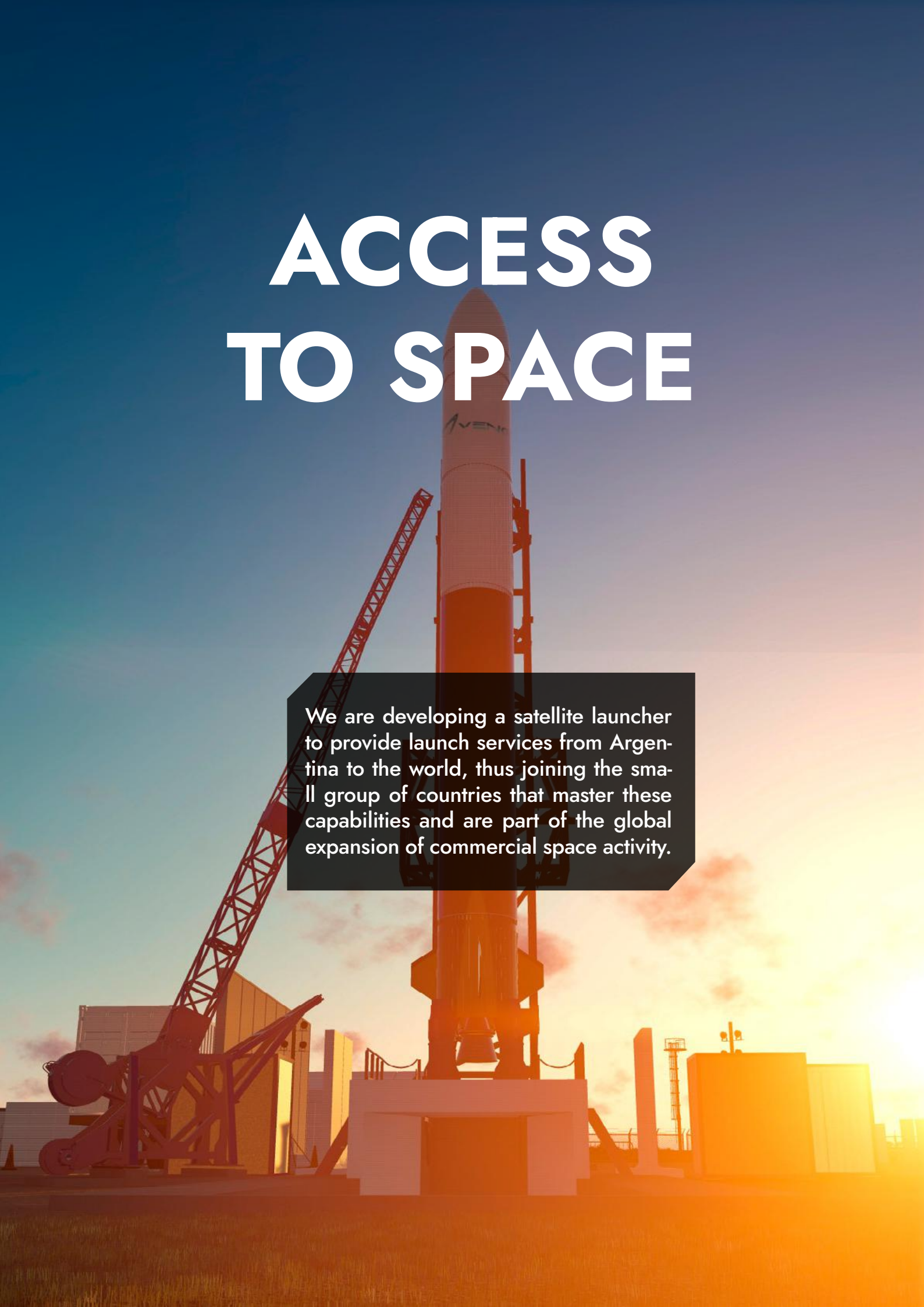
Villa Elisa Auxiliary Installation

- Electronic engineering specialized in RF
- Electronic Laboratory

Buenos Aires City Headquarters

- General Administration
- Engineering

ACCESS TO SPACE



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

ACCESS TO SPACE TRAJECTORY

2007

PROBE ROCKET VS-30

2008

TRONADOR 1B

2011

TRONADOR 4000

2014

VEX1A

VEX1B

2017

VEX5A

2023

RS-2 ENGINE

1ST FRICTION-WELDED TANK

2024

RS-3A ENGINE

LAUNCH SERVICES

At VENG we develop and operate reliable, accurate and affordable launch solutions. Our 2nd stage, liquid propulsion launch vehicle, with proprietary technology, allows efficient injection of payloads up to 150 kg into SSO orbits. With optimized infrastructure and competitive costs, we guarantee successful missions with high availability and accuracy.

THE LAUNCHER

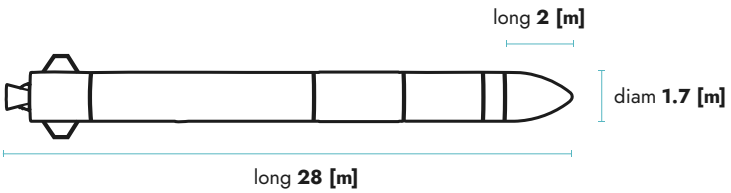
2nd stage LOX-KER propulsion

Friction Stir Welded aluminum core-stage

CFRP upper stage

Proprietary propulsion systems

- **150kg payload @ 550km SSO - Direct injection**
- **High injection and deployment accuracy**
  - Inclination < +/- 0.15°
  - Apogee < 15Km
  - Attitude < 5°
- **High availability**
  - Launcher manufacturing and operations
  - Proprietary spaceports
- **Competitive price:** Target **15.000 $/kg**
- **Competitive capacities**
  - Ground tracking withproprietary fixed antennas
  - Strategically locatedspaceports for efficient operations to SSO



SPACEPORT SERVICES

We have the Manuel Belgrano Spaceport, strategically located to guarantee safe and efficient launch operations. Our infrastructure allows direct access to SSO orbits, optimized ground tracking and a low-risk launch environment. We provide integral solutions for space missions with high standards of reliability and performance.

Efficient and low-risk operations

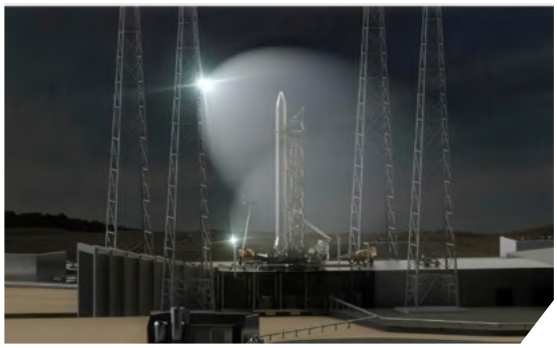
- Direct launch to SSO
- No dogleg
- Sub-orbital flight over Argentinian sea
- Polygon security

Nearby seaport, airport & services

High availability

- Proprietary launch pad and support facilities

Low-barriers-to-entry launch operations



Manuel Belgrano Spaceport
Bahía Blanca, Buenos Aires, Argentina

PROPULSION SERVICES

Since our beginnings, one of our main areas of technological development has been the area of liquid propulsion, mainly oriented to the development of propellants for launch vehicles and also small propellants for attitude control of launchers and potential use in the satellite industry.

Regarding small thrusters, we have the heritage of having participated in the development of prototypes of the order of 1, 5 N thrust, monopropellant, at laboratory level, having verified the development capacity of this type of thrusters, being able to adapt to the needs of satellite customers and the space industry in general.

The characteristics of the prototype developed in R+D+i mode are shown below.

IN QUALIFICATION

MT-B ENGINE 2ND STAGE

The MT-B is a bipropellant liquid rocket engine with a single regeneratively cooled thrust chamber, powered by an open-cycle gas generator. It was developed as the propulsion system for the second stage of the Tronador TII-250 vehicle. The thrust chamber was manufactured using a combination of additive manufacturing and electroforming technologies.

Use	2nd stage (optimal) or 1st stage cluster
Vacuum Thrust	4280 Kgf
Propellants	LOX/KER
Specific vacuum thrust	330 s
Feed system	Gas generator cycle

LAUNCH VEHICLE ENGINES

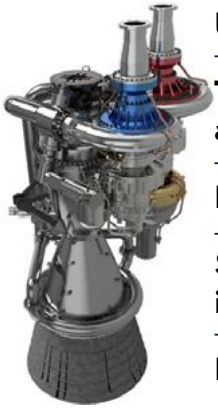
Regarding higher thrust liquid propellants, we have an extensive experience of more than a decade in the development of Hydrazine/Nitric Acid and LOx/Kerosene engines for launcher prototypes, having as main milestones the design, manufacturing, testing and integration in the TI, T4000, VEx 1A, Vex1B and VEx5A launcher prototypes.

As a reference, the VEx5A first stage engine is shown, the largest propellant developed to date.

Today we are leading as prime contractor in the design of the thrusters for the Tronador II launcher series, taking care of the complete propulsion value cycle: from the definition of requirements, through design, simulation, manufacturing, testing, qualification and integration in the final vehicle.

This experience allows us to adapt to any propulsion solution required by the customer, both for launchers, satellites and spacecraft in general.

MCA3 ENGINE 1ST STAGE IN DEVELOPMENT

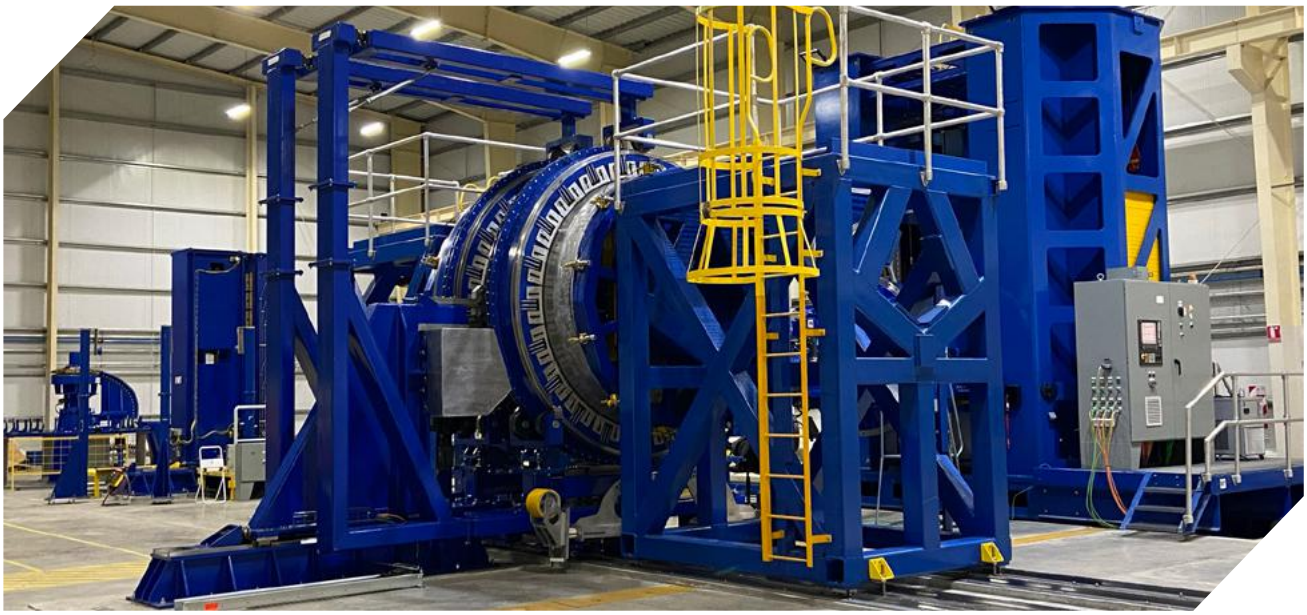


Use	E1 of TII-250 (x3)
Thrust to adapted nozzle	35750 Kgf
Propellants	LOX/RP1
Specific impulse at SL	262 S
Feed system	Gas generator cycle

MES3K ENGINE 2ND STAGE

Use	E1 of VEX1 (x1)E2 of VEX5A (x1)E2 of TII-250 (x1)
Thrust at SL	2975 Kgf
Propellants	MMH/NTO
Specific impulse at SL	317 S
Feed system	Pressurized

FRICTION STIR WELDED TANKS



We have the capability to develop pressurized and non-pressurized structures through the **Friction Stir Wielding** (FSW) manufacturing technique. As a last experience, we carried out the design, fabrication and integration of a prototype **first stage tank of the Tronador II-250 launcher**. It is 3.5 meters long, 2.5 meters in diameter and 3.2 millimeters thick and was welded by the **friction-stir welding method** under international standards of the American Welding Society, a technology of unprecedented use in the country. All its components are made of 2219 aluminum for space use. These tanks will simultaneously serve as **fuselage and propellant storage tanks**.

MANUFACTURER	Nova Tech Engineering Inc.
GEOMETRY	Longitudinal, Orbital,dome weldings
WELDING JOINTS	Butt, Lap
MATERIALS	Aluminum Alloys, others..
THICKNESS	2,4 – 13 mm (Aluminum Alloy)
WELDING LENGTH	2600 mm (max)
TOOL RPM	5 rpm – 2000 rpm
MAXIMUM FORCE	53400 N
MAXIMUM TORQUE	450 Nm

Cap
Tank closure element

Tank Flap
Extension of the shell that allows attachment to other primary structures

Wrap
Cylindrical tank section

Interface

Circumferential Flange
Dome Welding

Meridional Welding Segments

Circumferential Weld
Cap/Wrap

Longitudinal weld
Beams/Wrapping

Circumferential Weld
Wrap/Wrap

Longitudinal Weld
Wrapped/Wrapped

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