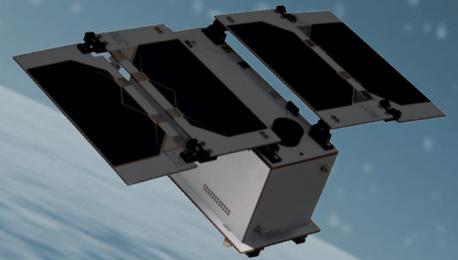
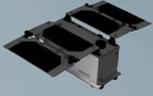
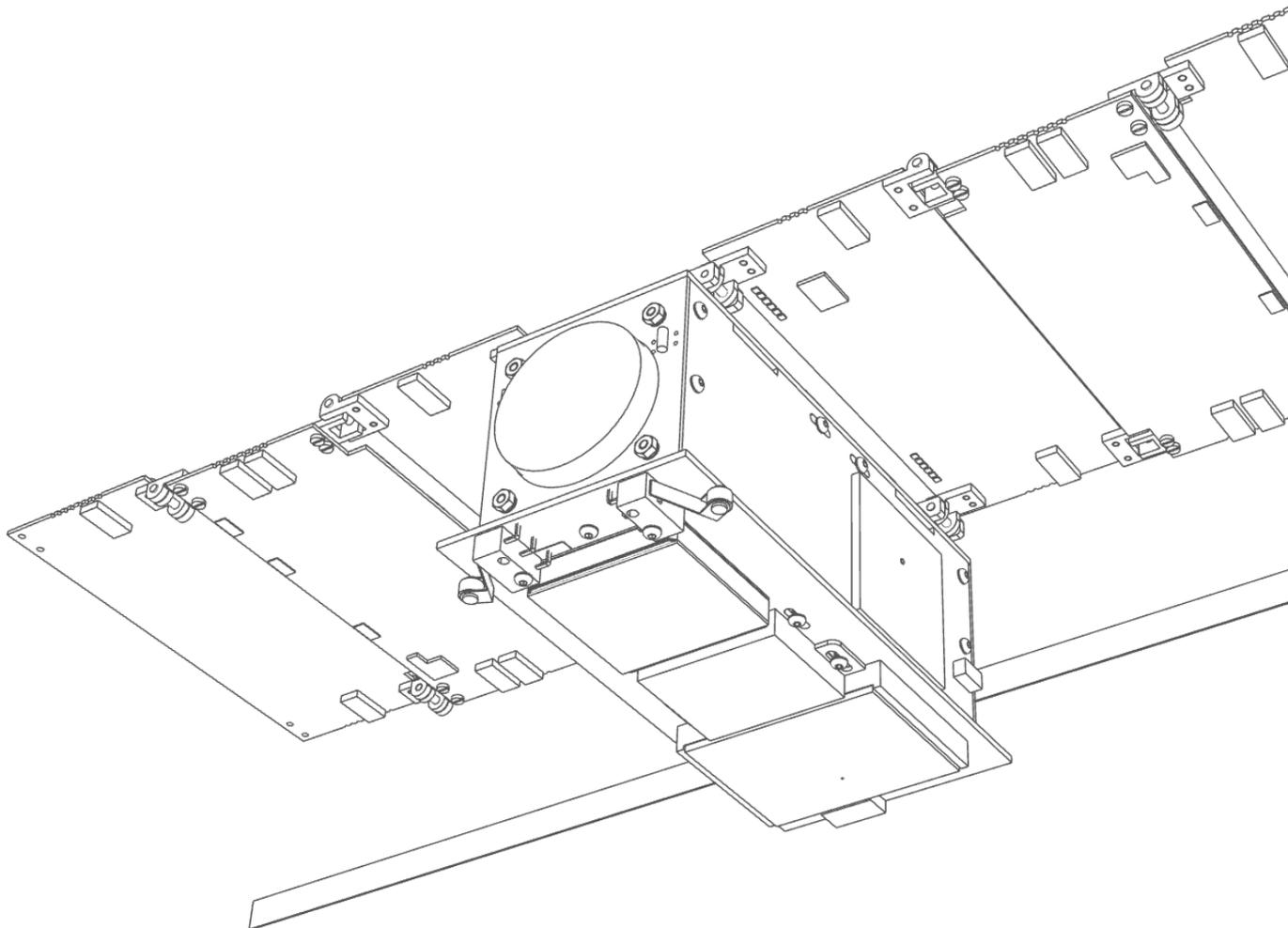
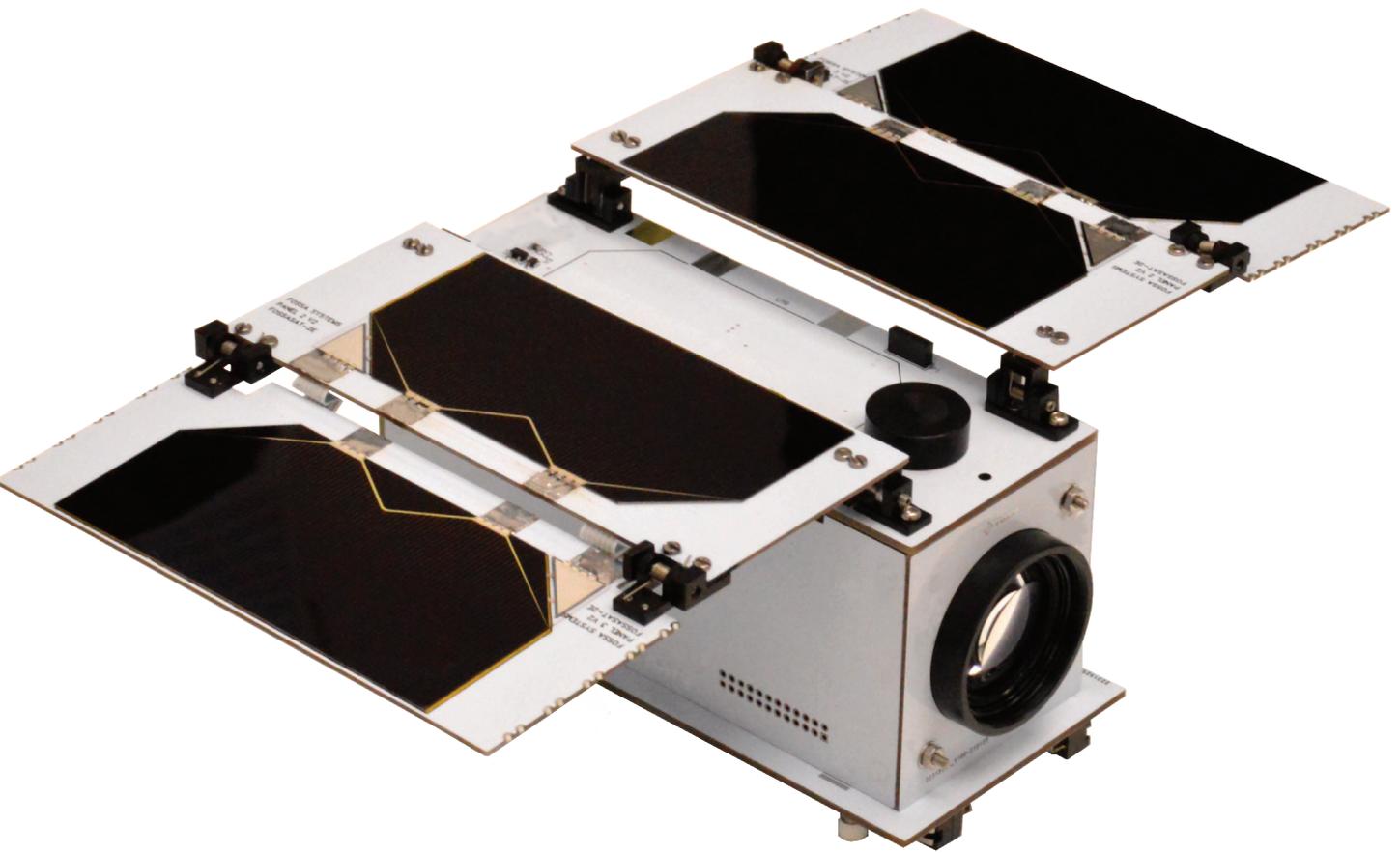


# WISESat

Powered by FOSSA - Secured by WISeKey

*High-performance picosatellite platforms for  
IoT communications and Remote Sensing*





# A new access to Space

*We reinvent the design and manufacturing of satellites, reducing the cost of existing IoT solutions.*

The space industry has always been a monopolized market, reserved for defense, government organizations and telecommunications giants. The costs of its titanic platforms have been hundreds of millions and the duration of its projects several decades, which makes these projects ultimately obsolete.

The emergence of the so-called NewSpace paradigm, supported mainly by private companies developing smaller satellites based on COTS components, has made access to space less expensive and faster than ever. However, developing and operating a satellite is still out of the reach of most existing companies.

In 2019, in response to the market's need for quick and easy access to Space, WISeKey together with FOSSA Systems developed a standardized platform for picosatellites, combining miniaturization with mass production techniques.

Weighing 250 g, and measuring five centimeters on each side, was the first smallest picosatellite built and put into orbit in Spain, and the third in the world.

We are currently a key partner for those organizations and companies that want to have a private, dedicated and secure IoT communications network.

# Our Satellites

Your dedicated platforms and constellations for private and secure IoT communications

We develop platforms for picosatellites, satellites that weigh less than 1 kg and follow the PocketQube form factor (5x5x5cm). With them, we provide dedicated and secure IoT communications to companies and defense networks, with assets in remote locations where there is no mobile connectivity



## Reduced size and mass

The weight, less than 1 kg, and the small size of our platforms, allow us to reduce development and launch costs.



## Standardized platforms

We reduce integration and manufacturing times thanks to the homogeneous and standardized of our platforms



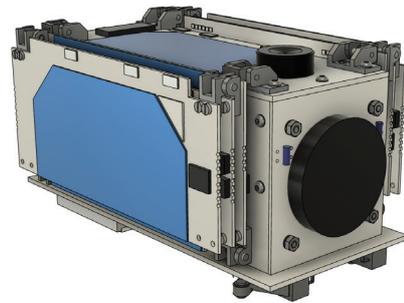
## COTS components

COTS (Commercial Off-The-Shelf) components increase performance and allow us to continually innovate.



## Security

FIPS 140.3 & CC EAL4+ security for devices, data & transmission



## Power & Processing

- Up to 9 W of solar power generation, with MPPT capabilities
- 5 V and 3.3 V, regulated buses
- Up to 10 Wh energy storage
- Linux capable dedicated payload controller

## Communications

- Up to 500,000 messages per day
- High datarate, 1Mbps
- Nominal 9'6kbps backup
- Dedicated antenna for uplink communications from low power ground devices

# Our Services

We offer vertically integrated turnkey solutions for satellite connectivity, providing robust and secure dedicated networks for IoT. Our picosatellites act as a reliable bus for your payload or connectivity application.

We lower the barrier to entry for your application, facilitating access to space.



## Design & Testing

We design, develop and carry out all the qualification for your platform.

## Licencing



We process all the licenses that your project requires.



## Launch

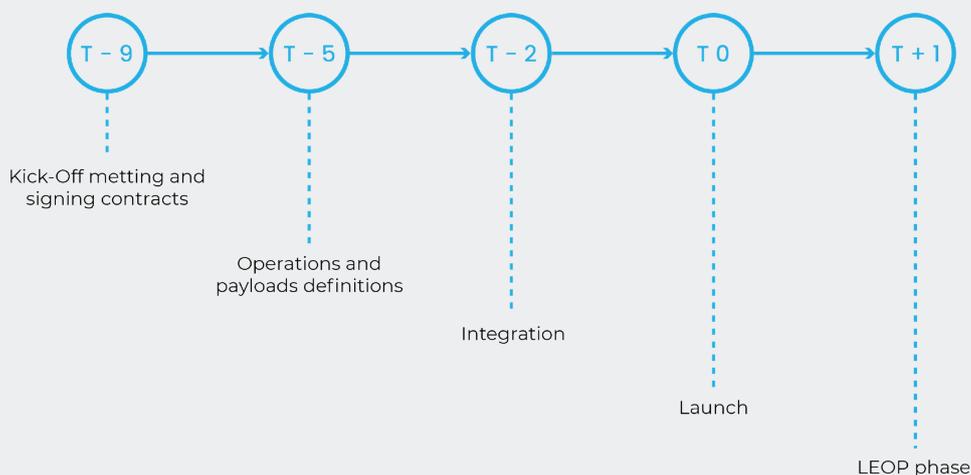
We deliver your platform in orbit, including constellation deployment and phasing.

## Operations



After launch, we ensure the full functionality of your platform and operations.

A guaranteed period of less than 9 months for delivery of your platform into orbit



# WISeSAT – XL Sensors Powered by FOSSA and Secured by WISeKey

Acts as an independent and autonomous industrial solution for sending and receiving messages from satellites of its onboard sensors, and also acts as a gateway for WISeSAT smaller nodes in concentrated networks.

## Direct satellite link

Low power LoRa™ connectivity to our LEO picosatellites. UHF uplink and downlink capabilities for telemetry and control.

## LoRa™ Gateway

Besides being an independent sensor, it can act as a gateway for smaller sensors.

## Processing & Power

WISeSAT – XL Sensors Powered by FOSSA and Secured by WISeKey can process its own data to improve decision making and collects data from its on-board GPS, temperature, humidity and light sensor.

## Autonomous power and operation

Solar power generation guarantees continuous operations in the harshest environments and remote areas (5W panel, Li-Ion battery).

## Application specific sensors

Select the most suitable sensor for your application such us soil composition, weather, CO2 and emissions data (RS485, I<sup>2</sup>C interface).



Application: an industrial sensor requires two-way communication to the satellite from remote locations and long endurance without maintenance. This solution can be independent or serve as a gateway for WISeSAT smaller devices that cannot directly reach satellites. Its a gateway for a mass deployment of animals, agricultural sensors, infrastructure monitoring or energy sector.

# Other satellite services



## Nodes & Ground Stations

We manufacture standardized ground stations as low cost turnkey solution, designed to communicate with our satellites in Low Earth Orbit (LEO) operating in amateur or commercial frequency bands. WISeSAT operated a shared network or can provide dedicated stations



## Launch Brokerage

If you only need to launch your PocketQube platform into orbit, we will take care of everything including testing.

Thanks to our partnerships with specialized launch companies, we have global and short-term coverage of LEO launches.



## Space consultancy

Do you need help in a stage of your satellite or IoT project?

Do you need a feasibility study?

We have a consulting team that will work in a dedicated way on your project to cover what you need.

# Our applications

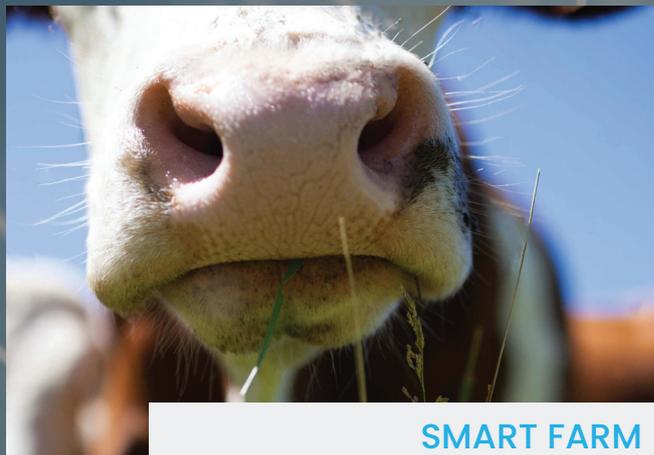
We are experiencing an exponential growth of connected objects & data acquisition, but our networks are not always capable of supporting us in all parts of the planet.

Thanks to picosatellites, IoT (Internet of Things) connectivity can be provided in critical areas without coverage or mobile networks, allowing monitoring and deployment of sensors. We are specialized in providing sensors tailored to each industrial application, featuring autonomous power and logic.



## INTELLIGENT AGRICULTURE

Improve your agricultural productivity knowing at all times the state of the variables that affect your crop: humidity, soil quality, time of harvest, diseases due to infections or pests...



## SMART FARM

Take control of the health of the animals, their environmental conditions or their physical conditions during their transport and their geolocation in real time, to improve their control, management and production.



## IIoT

The Industrial Internet of Things (IIoT) allows us to collect data, perform analysis and optimize the production of industries and infrastructures located in remote areas, where there is limited connectivity.



## MONITORED ENERGY

The IoT allows us to collect a large volume of data about our infrastructures, in order to make the best decisions and achieve greater efficiency and sustainability in the energy supply.



## CONNECTED LOGISTICS

With our picosatellites, we will be able to know the exact location of our merchandise, the temperature it has at every moment, if it has suffered blows or breakage... any information that improves our services.



## FISH FARMS 4.0

IoT helps us to have a constant control of the marine ecosystems: the temperature and quality of the water, diseases or harvest dates... and thus get the maximum profitability from our fish farms.

# Sustainable

The Sustainable Development Goals (SDGs) is the most ambitious program in history to address the major social and environmental problems facing humanity.

With connectivity as its base, the Internet of Things (IoT) is a fundamental axis to be able to achieve many of the goals set; it improves people's quality of life, facilitates equitable growth and helps to take care of the planet.

It is the partner that WISeKey and FOSSA Systems uses to help build a better world.

Our commitment to the transformation and innovation of space is materialized in several of the objectives set by the UN for 2030.



# SDGs Objectives

WISeKey and FOSSA Systems are aligned with the SDG targets

**9** Industry, Innovation and Infrastructure



We innovate the spatial offer, in terms of technology and cutting-edge solutions for our clients and for society.

**13** Climate action



With picosatellites, we can observe the Earth and extract critical information from what happens on it (deforestation, fires, rises or falls in sea level...).

**14** Life below water



IoT connectivity provided by our picosatellites allows us to parameterize and control the state of marine systems, increasing the productivity of fish farms and controlling aquatic species.

**12** Responsible consumption & production

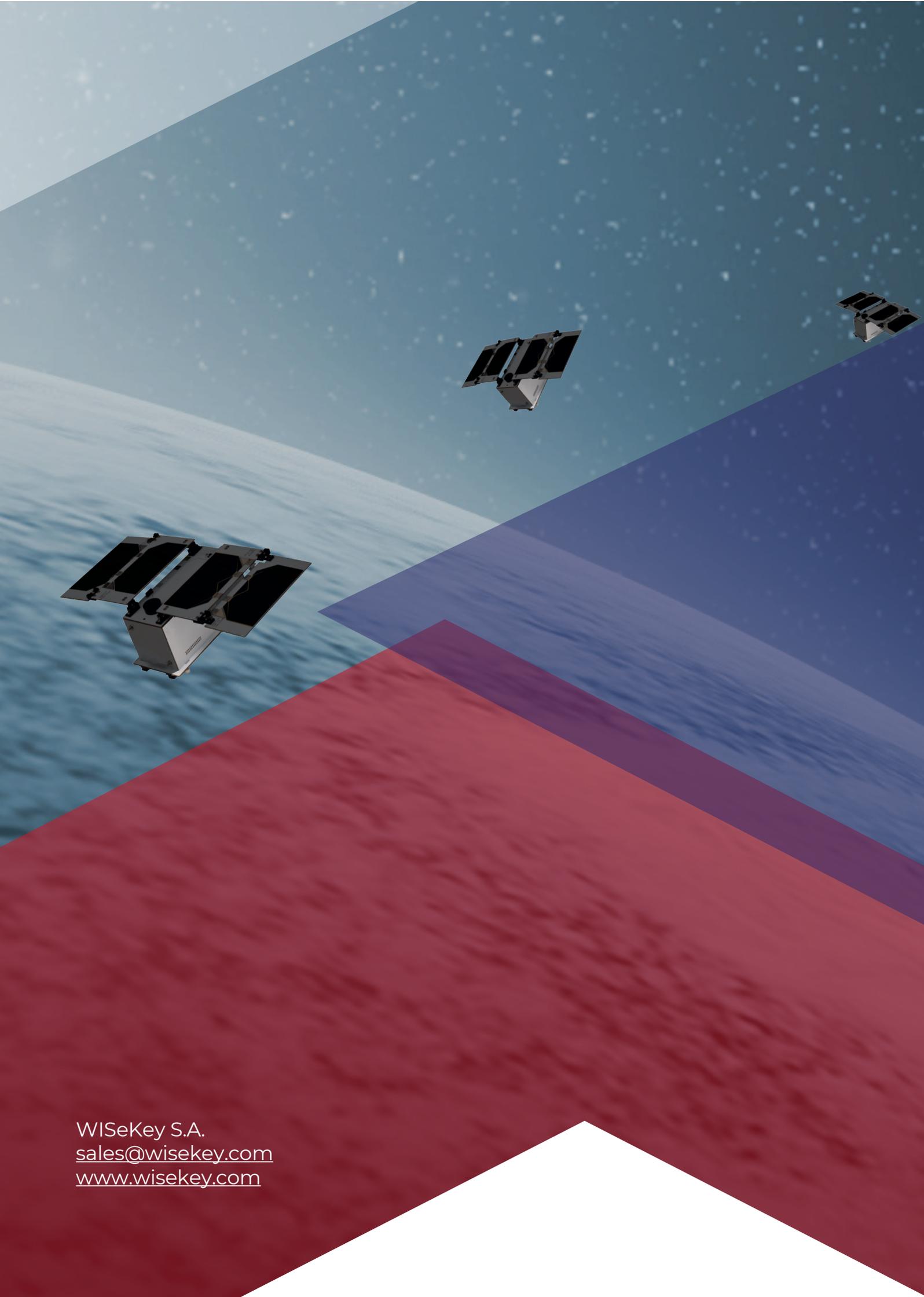


The small size of our platform allows us to consume few resources for their manufacture. In addition, we do not generate space debris, since, at the end of its useful life, it enters the atmosphere and disintegrates.

**15** Life on land



Thanks to our platforms and nodes, we can parameterize various aspects of the Earth, to control the state and health of all the assets we want.



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