

ABSTRACTO FOSSASAT-1

INGLES:

Recent advancements in smartphone technology and orbital launch capabilities have finally allowed the miniaturization of satellite technology and hugely reduced to cost needed to launch a satellite into space. FossaSat-1 is a picosatellite developed by Fossa Systems, a non-profit juvenile association based in Madrid and led by Julián Fernández. FossaSat-1 is being developed using a completely open source mentality, in such a way that anyone can access all the information regarding the hardware or software of the satellite and can contribute to its development.

It will be Spain's first satellite launch by a non-government led organization or company. FossaSat-1 is the next advancement in picosatellite technology, sized at only 5x5x5cm and weighing only 250g, it will be one of the smallest satellites ever launch into space.

This new pocketcube formfactor allowed by the recent development in smartphone electronics will create a new satellite market never seen before, where satellites such as FossaSat-1 are being developed and launched into orbit for under EUR 30 000, truly democratizing access to space for individuals, educational institutes and companies worldwide.

FossaSat-1 will be used as a major test platform for experimenting with new miniaturized technologies and student developed code in orbit, it will be the world's smallest satellite with deployable solar panels. Additionally, FossaSat-1 will test out a new transmission protocol based on the popular LoRa spread spectrum modulation. This will allow FossaSat-1 to create the world's first global free & open source internet of things network. Users will be able to communicate with the satellite using inexpensive DIY kits and monopole antennas.

Set to launch in Q3 of 2019 aboard a Rocket Labs Electron, FossaSat-1 will inspire a new generation of young engineers and scientist my expanding access to in orbit satellite technology, developing low-cost picosatellite technology in order to reduce launch and development costs.

Español:

FossaSat-1 es un picosatélite desarrollado por la asociación sin ánimo de lucro Fossa Systems con sede en Madrid. Es uno de los satélites más pequeños del mundo con un tamaño de 5x5x5cm o 1 pocketcube, debido a esto el coste de lanzamiento se reduce a menos de 25000€, realmente democratizando el acceso espacial para estudiantes e individuos globalmente. Su misión principal es la experimentación de la modulación LoRa para uso en dispositivos IoT y la comunicación de radioaficionados, permitiendo el acceso de telecomunicaciones globales a millones con transceptores caseros de <5€. FossaSat-1 es un satélite completamente open source y sin ánimo de lucro, su fecha estimada de lanzamiento es Q3 de 2019 a bordo de un cohete Electron de Rocket Labs.