Alba CubeSat UniPD
We are a student team from the University of Padova.

Our objective is to launch into space for the first time in the history of our University a nano-satellite developed by students.

Federico Basana – Project Manager
We are participating to the European Space Agency (ESA) programme called Fly Your Satellite! – Design Booster

Our project offers students at the University to make a hands-on experience on a real space mission during academic studies.

Federico Basana – Project Manager
The goal of the Fly Your Satellite! program is to **support student teams** during the CubeSat development.

**ESA experts** review the project with team and organise **training week** to train students.

Only **six teams** were selected!

*Federico Basana – Project Manager*
So we are building a satellite...

Precisely, during our project a CubeSat 2U is developed, assembled and tested.

Federico Basana – Project Manager
A **CubeSat** is a satellite formed by one or more units complying with a precise **standard**.
Inside a CubeSat there are several **subsystems** that perform **specific functions**.

With **numerical analysis** and **testing** we must guarantee that the satellite will work properly to achieve the **mission goals**.

*Federico Basana – Project Manager*
**Mission Objectives**

- Study the micro-debris environment in orbit around the Earth
- Measure micro-vibrations on board the satellite
- Do precise orbit and attitude determination through laser ranging
- Investigate alternative systems for possible Satellite Quantum Communication applications on nanosatellites

Federico Basana – Project Manager
The design of a satellite is an **iterative process**

The project is **multidisciplinary**:
- Orbital study
- Telecommunications
- Structural analysis
- Thermal analysis
- Software development
- Circuit design

*Federico Basana – Project Manager*
Structural analysis

Thermal analysis

Impact sensor development

Federico Basana – Project Manager
Team work

Hands-on experience

International experience

Technical skills

Hands-on experience

Team work