

# Communication Subsystem

## Subsystem Description

ROSPIN-SAT-1 is a Romanian educational student-led project which aims to produce an Earth Observation nano satellite. We are looking for space enthusiasts to join our project and start getting hands-on experience with the development process of a CubeSat mission from the design phase to in-flight operation.

ROSPIN-SAT-1 aims to be a Romanian educational nano-satellite, offering space-enthusiasts the opportunity to join a team full of motivation, where they can encounter a hands-on experience of the development process of a CubeSat from mission definition phase all the way to the operational one.

The Communications Subsystem (COMMS) is a vital part of the satellite, being in charge of ensuring a reliable connection between the spacecraft and the ground station. The main objectives that the subsystem is concerned with are:

- to provide a reliable downlink connection for payload and housekeeping data;
- to provide a reliable uplink connection for telecommands;
- to analyse different operational modes and achieve an efficient link budget;
- to perform trade-off processes in order to select hardware components based on their technical performances and cost .

### Essentials:

- Student/Graduate in Telecommunications Engineering, Electrical Engineering or any other technical ( STEM ) related field
- A good team player, but equally comfortable working independently
- Able and willing to expand their knowledge through reading relevant materials and manuals
- Self-motivated and proactive
- A can-do attitude
- Availability to attend weekly meeting and work independently (minimum 2 hours per week )
- Good knowledge of Microsoft Office Pack/Google Workspace

### Nice to have:

- Background in space-related activities (internships, workshops, summer schools, etc.);
- Familiar with the functionalities of a communications system and its components (antenna(s), transmitter(s), receiver(s));
- English - intermediate level;
- Can produce good quality documentation.