



### SwissCube-Mission objectives

The motivation for the overall SwissCube project development is primarily to educate students in space technologies and space system engineering.

This motivation has several impacts:

1. The project involves undergraduate and postgraduate students and young engineers through its whole life cycle;
2. The project cost is relatively low, in accordance with a university type of development;
3. Compared to an industry type space project, decisions are taken to simplify the design or design for low-cost and thus might not comply with the usual standards. Keeping these aspects in mind, the mission and science objectives for the project are summarized in the following requirements. These requirements are the basis for the design provided in the rest of this document.

#### Mission Objective 1

The project shall design, build, and test a satellite. The success criterion is: deliver a fully tested satellite to the launch site. This objective assumes the development of both a ground and space system.

#### Mission Objective 2

The project shall launch the satellite and communicate with it using the ground and space systems. The success criterion is: establish a radio connection with the developed ground system and download telemetry.

#### Mission Objective 3

The project shall operate a scientific or technology demonstration payload. The success criterion is: receive data from the payload and confirm operations. The approach taken in regard to the nature of the scientific and/or technology demonstration payload is described in the next section. Note that the science requirements were defined to fit a system that is primarily designed for success of telecommunication (Mission Objective 2) and therefore represent a fine balance between the science desires and the capability of the space system.

Contact:

We welcome your e-mails  
at the following addresses:  
[muriel.noca@epfl.ch](mailto:muriel.noca@epfl.ch)  
[renato.krpoun@epfl.ch](mailto:renato.krpoun@epfl.ch)

