

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
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ROCKOON LEEM PROJECT

Abstract

Reach the space has been always a goal in aerospace engineers. But the budget to do it is only affordable for few space agencies. An economic method is to launch the rocket from a balloon to avoid flight the densest part of the atmosphere. The concept is the same of Pegasus rocket. But no university association has done it before and few attempts have been made.

An interdisciplinary team of engineers specialized in the technical fields of aerospace, electronics, telecommunications and robotics from the leading Spanish universities has been set up. In order to reach the main objective of the mission the team has been divided in different specific subteams according to expertise and interest.

The simulations show a significant improvement launching from a balloon, but in past experiments there wasn't ignition. A campaign of launches has planned for the next semester, in order to check every subsystem on flight. After these test, the final launch is scheduled at beginning of summer, when the rocket will be able to achieve the 100km space frontier.

This paper will review the results of the launch. This vehicle is equipped with a bunch of sensors: temperature, humidity, GPS position, pressure and several high definition cameras. It will also describe the development achieved to design the rocket and solve the problems at these environments.