

Project Scope:

The goal of this project is to design a system that transfers a sample from the surrounding environment onto a rover, reorients the sample for it to be analyzed using onboard scientific instruments and then stores it.

The key goals for this project are to collect potential samples, orient them for scientific examination, and securely store notable samples.

The assumptions for this project are that the device will be provided power by the rover, the samples desired for study will be located by other instrumentation on the rover, and the rover will be stationary during collection and orientation of the samples. It is also assumed that the rover will have the ability to have the device attached to the stern of the vehicle.

The primary stakeholder for this project is NASA. This device has the potential to be used on future NASA missions involving robot sample collection. Dr. McConomy, as our professor, and Dr. Ordóñez, as our advisor, are also stakeholders in the project due to their time and effort spent guiding our team. The success of this project reflects upon the college's image which results in the FAMU-FSU College of Engineering being a stakeholder. Outside stakeholders include Dr. Moore, the Optimal Robotics Lab, and the STRIDe Lab.

The primary market for this project is going to be the sponsor, NASA's Marshall Space Flight Center. One possible secondary market will be other space agencies around the world, such as the European Space Agency. Additional secondary markets are NASA contractors such as SpaceX, Northrop Grumman, and Boeing.