

Lunar Exploration (3)
Lunar Missions planned (2A)

Author: Mr. Adheesh Boratkar
Team Indus, Axiom Research Labs Pvt. Ltd., India, adheesh.boratkar@teamindus.in

Mr. Rakshith Ramesh
Team Indus, Axiom Research Labs Pvt. Ltd., India, rkshthrmsh@gmail.com

DESIGN OF COMMUNICATIONS AND SYSTEM MANAGEMENT MODULE FOR AUTONOMOUS
LUNAR LANDING MISSIONS

Abstract

This paper introduces a modular Communications and System Management Module (CoSMMo) designed to service a wide variety of interplanetary missions. Such a CoSMMo is capable of interfacing with the the transceivers on board a spacecraft, for receiving tele-commands and transmitting telemetry; configuring other spacecraft modules, for instance the Power Control and Distribution Module; and monitoring critical spacecraft health parameters. Further, the CoSMMo is capable of implementing the CCSDS telecommand and telemetry layers.

The paper highlights the modularity of the CoSMMo design by discussing the specific implementation for TeamIndus' Google Lunar X Prize Mission.