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Author: Mr. Aurthur Vimalachandran Thomas Jayachandran
Samara National Research University (Samara University), Russian Federation, aurthur01@gmail.com

Mrs. Funmilola Adebisi Oluwafemi
National Space Research and Development Agency (NASRDA), Abuja, Nigeria,
oluwafemifunmilola@gmail.com
Ms. kimia seyedmadani
University of Colorado Boulder, United States, kimia.seyedmadani@colorado.edu

THE NEW MOON - COLONIZATION BY 2030

Abstract

The Moon has been known since prehistoric times. It is the second brightest object in the sky after the Sun and orbits around the Earth once per month. The moon is also our nearest celestial neighbor. Current interest in planetary and long duration space exploration requires further understanding and researches on self-sustaining societies. Moon is a possible platform for such studies. This project is a study of how moon is vital for the future human space exploration for all deep space human missions. The major focus is to keep humans alive, happy and healthy on the surface. Identifying, designing and predicting technology requirements for Environmental Control and Life Support System (ECLSS) for colonizing the moon is the first task need to be performed to keep them alive.

The project is feasibility report on the precursor mission of creating permanent base on the surface of the moon. The main assumption of this base is, 7 crew sets foot on the surface of the moon by 2026 for a period of two years. Every year additional 7 members along with resupply would be provided. There is also emphasis on the importance and goals of such mission along with future technological requirements.

This work's view was in the systematic design and combination of the mission operation for developing a colonization on the moon, including a functional ECLSS system. The technology used for analyzing the subsystems level were either existing systems or underdevelopment and above Technical Readiness Level (TRL) of 4. Based on our possible design and systematic review, it is possible to colonize moon by 2030.