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LUNARES MISSION CONTROL LESSONS LEARNED AFTER ICARES-2 CAMPAIGN, FOCUSING ON ACCESSIBILITY AND DISABILITY IN ANALOG RESEARCH.

Abstract

LunAres Research Station conducted a project called ICAres-2, planned for 2023-2024. The project included 4 analog missions with human factors studies on board. The project provided research opportunities for investigating aspects of disability in space - hyper-ability and accessibility in space. Each mission had unique crew characteristics - joined by a crew member with a selected type of disability.

ICAres-2 is extending its preliminary study (ICAres-1), including more types of disabilities, providing a bigger sample size regarding the crew members. It allows us to learn from the experience and problem-solving skills that many people with disabilities have fostered during their lives (or since they have acquired their disability).

This unique mission campaign allowed the LunAres Team to test, improve and redesign procedures and the infrastructure. The facility is implementing new features to ensure that the mission simulations experience as well as analog research are inclusive, resulting in more complex data and realistic scenarios of future missions. The potential of commercialised space missions, bringing more diverse crews, requires investigating the dynamics, performance and adaptability of various crew characteristics. Inclusive analog research can prepare the mission architecture design and protocols for any unexpected situation, accident or event.

The paper summarises the implementations and changes in mission organisation from the mission control perspective. The current possibilities as well as limitations will be analysed.