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Models for Successfully Applying Space Technology Beyond Its Original Intent (2)

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EXOHAB1 DEVELOPMENT: SPIN-IN/OUT FROM SPACE HABITAT TO DISASTER MANAGEMENT FACILITY

Abstract

The Exohab1 project aims at providing a bench technology for testing the technology/knowledge spin-in and spin-off from entities that work for space and other extreme environment outside the space sector like for disaster management. The habitat should be quickly set up immediately after a disaster as a safe location from where to operate in autonomy from, for example, contaminated area. The technologies applied in Exohab1 aim to increase habitat autonomy in terms of resources, communication, and safety. Water, energy, and communications are the main areas of focus. The habitat system is supposed to be as regenerative as possible to reach maximum autonomy. This technology will refer to the improvement of the ISS's space habitat system. Not only the technology will be tested and transferred from and to space, but also the knowledge and the research done by the human factors, ergonomics, design, psychology as well as architecture disciplines.

In particular are here presented the results achieved with the design, building and testing of the functional mock up. The goal of this phase will be the finalisation and optimisation of the habitat (minimum space, time and costs). On the next step an operational habitat will be used to test procedures and technologies for living and working in extreme environments. The Exohab1 project targets then the capability to address large organisations, such as aid agencies that need to work in disaster environments as well to be apply for testing spin-in of technologies and new know-how in the space sector.