

Industrie 4.0 technology for the building of a future Mars City: possibilities and limits of the application of a terrestrial technology for the human exploration of space

Antonio Del Mastro ¹, Mario Tambos¹, Federico Monaco¹

In the last years the development of Industry 4.0 has had a big impact on the advancing of some sectors of the terrestrial industry. This technology includes some key concepts which can be applied also in the future construction of human outposts on Moon and Mars.

We make here an analysis of the technologies of the Industry 4.0 and their possible use in the future human settlement of Mars and in the terrestrial Analogues. At same time we highlight the differences between the terrestrial technology and its possible use for the scope of the human exploration of Space.

The analysis wants to be an invitation to the terrestrial industry to consider what has already been developed on Earth as part of a wider process related to the human exploration of Space. As example of application of this analysis, some of the key concepts of the Mars City project are introduced.

Key words: industry 4.0, Mars City, IoT, MOCC, Space Economy