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“SPIN-ON” TECHNOLOGIES IN BIOMEDICAL SUPPORT OF HUMAN SPACEFLIGHT

Abstract

In our everyday life activities everyone uses technologies that were initially developed for aerospace application and only over time were adopted for the use under the civil settings. A list of examples of such spin-off technologies in aerospace biomedical support goes far beyond artificial limbs, infrared ear thermometers, light-emitting diodes in medical therapies and ventricular assist device. Over the past century we witness the best practices of aerospace industry move into the civil infrastructure. Nevertheless, time-consuming development process of the product for an aerospace application became a disadvantage. On the other hand, nowadays we face that ground based innovative products have much more dynamic pace of development cycle compare to the ones from conservative aerospace industry. In this paper we investigate the advanced innovative technologies in healthcare domain that could be beneficial for human spaceflight exploration. This paper introduces the new term of “spin-on” technologies. “Spin on” technologies are the solutions that were originally developed for ground based civil purposes and then were adopted for space exploration. In order to benefit the most from emerging innovative solutions from ground-based research it is also required to update procedures for technology adoption into aerospace application.