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Author: Dr. SANDhYA RAO
India, sandya.rao@notionrobotics.com

TTHE BIONIC CONCEPT OF NEXT GENERATION SPACECRAFGT AND ITS KEY ROLE IN SUSTAINABLE DEVELOPMENTS OF FUTURE TECHNOLOGIES WITH NEW REDEFINED ELECTRICAL AND COMMUNICATION TECHNOLOGY

Abstract

The sustainable space travel in 2050 and beyond that looks beyond aircraft design to how the spacecraft is operated in order to meet the expected growth in air travel with innovative design in sustainable way. The multidimensional integration of functional electronics and mechanical elements with viable e biological systems could allow for the creation of bionic systems and devices possessing unique and advanced capabilities. It enables to solve number of scientific problems and technical solutions. Based on the classification of bionics as well as application goals, the present paper attempts to address existing bio composite materials and bionic structure sin aircraft design through incorporating bionic or biomimetics thinking. Meanwhile, it provides some new ideas into innovative design and future generation spacecraft structures and systems. The concept for future aircraft design enables the bionic inspired advanced airframes to the aircraft.The potential role of bionic systems, advanced materials concept and 3D printing technology in future space technologies are discussed.

Keywords: Bionics, spacecraft design, 3D printing, Technology, Innovative design, Sustainable,Laser Additive Manufacturing.