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Abstract

Dealing with every risk that space debris poses to the astronauts habitat (on another planetary surface or en route), EMU (Extravehicular Mobility Unit), and satellites with self healing materials is a proven solution, now with many more introduced materials potential candidates containing 4D printed qualities. Several innovators have decided to not reinvent the wheel, and have been inspired by biomimicry in creating these self healing materials that respond to external stimuli, which can be implemented into several different types of structures and fabrics with varying self healing functionality, serving the same purpose for different applications. When considering the ultimate holistic way to deal with all the components of space debris, we should also recognize the potential solutions found in utilizing space debris by using it , and see if there\'s any feasibility to that. The smart self healing materials are in place for unplanned encounters with space debris, but is there a future in seeing if this same space debris can start to serve a somewhat useful function as being the inputs of a 3D printer?

A short bio

MMAARS Executive Board Member.