

17th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4)
Innovative Concepts and Technologies (1)

Author: Dr. Henry Helvajian
The Aerospace Corporation, United States

HIVE: A NEW ARCHITECTURE FOR SPACE

Abstract

It is a foregone conclusion that in the near future both space architecture and the systems that inhabit it will change. The anticipated changes can be linked to the maturing of the aerospace industry, the increasing number of space-faring nations and agendas, the miniaturization of electronics, photonics and the trend toward integrated systems, the advancement of robotics, the precision scale of current manufacturing processes and its derived increase in reliability, the development of new materials with novel and multifunctional properties and in the expanding field of artificial intelligence.

Having been an active participant throughout the “space age era”, Aerospace assembled a team of technical experts and starting from a clean slate sought to develop a new space architecture concept and the systems that could reside therein. HIVE (not an acronym) is one such product. The presentation will provide a snapshot of the concept which is supported by engineering analysis. It describes some of the critical elements to standing up a space architecture that is adaptable, more resilient and continually upgradeable.”