

In order for future engineering systems to function in increasingly complex environments in a robust and resilient fashion, they must be able to anticipate threats or opportunities, to discover their state and mode of operation in real time, and to autonomously reconfigure themselves to take advantage of the opportunities or react to impending threats. These requirements lead us towards engineering systems that are composed of many parts that can assemble themselves at the hardware, software, and logical levels into larger and more capable systems. In this paper we discuss an approach for achieving reconfigurable RF and antenna systems as part of a larger and more complex structure.