SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND DEVELOPMENT (D3)
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SPURRING INNOVATION IN SPACE-BASED ORGANIZATIONS – A MANAGEMENT PERSPECTIVE ON PAST SUCCESSES AND FUTURE ENDEAVORS

Abstract

At its very simplest, the ability of an organization to flourish can be attributed to the ability of an organization to innovate. In the current global economic malaise, this is arguably more salient than ever. Organizations that do not adapt quickly enough will not emerge unscathed, if they emerge at all. Oftentimes, organizations are too burdened with the urgency of the immediate crises and do not take time to infuse strategic initiatives into their overscheduled routines; this can be disastrous.

But how can organizations, particularly larger enterprises, stimulate a culture of innovation? In this paper, we will answer that question by taking a deeper look into a management perspective on how this has been successfully accomplished at The Johns Hopkins University Applied Physics Laboratory. We will focus on the Space Sector within the Laboratory and the accompanying Space Technologies developed within it. In particular, we will provide tangible examples of mission-enabling innovations on historical and current Space programs, focusing primarily on NASA Civilian Space missions. This will be an insightful look at novel technologies that were critical to the overall formulation and success of space programs. We will also discuss the environment within the Laboratory that enabled these innovations to occur within the organization, including the role of management throughout these endeavors. In order to be successful, there must be intentional effort by management to promote a culture of innovation. The management of an organization can foster an environment where thought leaders are encouraged, incentivized, and rewarded; however, management can also inhibit innovation and must avoid pitfalls that would stifle a culture of innovation.

Finally, we will discuss on-going efforts to stimulate innovation within the Laboratory. This will cover aspects such as the emerging role of social media for technology innovation and leveraging technologies intended for one use into other uses (i.e., cross-cutting technologies). Also covered will be the role of Internal Research and Development (IRAD) in helping to support new and disruptive space technologies. We feel this paper will be beneficial to all Space-based organizations that desire to spur innovation as they formulate their future plans.