

**AEROSPACE
& DEFENSE**

MODEL-BASED ACQUISITION FOR DEFENSE PROGRAMS



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INTRODUCTION

EVOLVING BATTLESPACE

During the days of revolution, war was largely a numbers game based on how many troops each side had. Wars were predominantly won by whoever had greater munitions. Today, the battlespace has evolved and it's all about how quickly you can respond to the rapidly-changing landscape. It's about intelligence and cybersecurity. The numbers game on the modern battlefield today is all about ones and zeros.

"Delivery a more lethal force requires the ability to evolve faster and be more adaptable than our adversaries."

**– Dr. Kathleen H. Hicks,
Deputy Secretary of Defense,
February 4, 2022**

This message from the Deputy Secretary of Defense, Dr. Hicks, succinctly defines why the defense industry can no longer do business the same way. The keyword here is evolve. Our defense landscape continuously evolves, facing increasing threats from adversaries to cybersecurity attacks and vulnerabilities to ever-changing policies required to keep up with inevitable technological changes. Accordingly, changing our mindset is the key to a successful Digital Transformation.

Responding to evolving threats and the increasing complexity of defense systems requires a transformation in the acquisition process, with new and collaborative ways of working between defense agencies and their suppliers. Additionally, the defense industry constantly struggles with the overall affordability of programs, which leads to cost and schedule overruns far into the acquisition lifecycle. When leadership can make informed decisions early in the acquisition process, costs and schedules can be more predictable and optimized.



ADAPTIVE ACQUISITION FRAMEWORK

According to the Department of Defense (DoD) Instruction 5000.02, "the Defense Acquisition System (DAS) supports the National Defense Strategy through the development of a lethal and effective force based on U.S. technological innovation and a culture of performance that yields decisive and sustained U.S. military advantage. To achieve that objective, the DoD will employ an Adaptive Acquisition Framework (AAF)."

The purpose of the AAF is that it "supports the DAS with the objective of delivering effective, suitable, survivable, sustainable, and affordable solutions to the end user in a timely manner." The AAF recognizes the benefits of models and simulation as an integral part of a successful defense acquisition, particularly with a Major Capability Acquisition (MCA), such as 5th Gen fighters, Future Vertical Lift, and other vehicles or weapons systems. As such, adopting a Model-Based Acquisition approach is in the best interest of the DoD, Program Executive Offices (PEOs), and the entire Defense Industrial Base of contractors.