



DMSMS: Facing the Challenge of Obsolescence

In an October 2017 memo to DoD personnel, the Secretary of Defense, Jim Mattis, outlined three lines of effort for DoD to enable our armed forces to remain the world's preeminent fighting force in pursuit of global security and stability. Standardization plays a critical role in each of these three lines of effort:

- *Restoring military readiness as we build a more lethal force.* Standardization improves operational effectiveness and readiness by defining performance criteria and common processes.
- *Strengthening alliances and attracting new partners.* Standardization enables interoperability and operations with our partners.
- *Bringing business reforms to DoD.* Standardization reduces costs by increasing suppliers, and it can be used to enable openness and innovation.

In the last issue of the *DSP Journal*, we took a broad look at the role of standardization in supporting the warfighter. In this issue, we narrow our focus on the efforts to address the enduring challenge of obsolescence, a key factor in maintaining a lethal and ready fighting force.

There is an inherent mismatch between the long lives of DoD weapons systems and the rapid evolution of commercial technology, parts, and suppliers. In an attempt to conceive of the impact that the evolution of technology and its obsolescence can have over the lifetime of a defense system, consider the B-52 strategic bomber program, which began in June 1946 and is expected to continue service into the 2040s. The B-52 was conceived before transistors were even invented, when computers consisted of whole rooms filled with vacuum tubes. Perhaps the B-52 is an extreme example, so consider the F-35, which has a projected lifespan roughly half the B-52's. DMSMS programs



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and professionals are currently implementing proactive, risk-based DMSMS management programs during sustainment that provide engineering and logistical solutions that have saved hundreds of millions of dollars.

The design, engineering, and acquisition of the next aircraft, ship, submarine, or any system whose lifetime spans decades clearly presents a significant challenge—how does one design a system that is sustainable, innovative, and relevant well into the future? DoD has increasingly relied on the use of commercial off-the-shelf (COTS) technology to successfully reduce acquisition program costs and schedules. Unfortunately, while the use of COTS technology provides an initial cost savings, it has led to a growing obsolescence problem. As weapons systems increasingly incorporate and are supported by commercial systems, it becomes increasingly important to proactively manage DMSMS. Modular open systems approaches and the use of widely supported, consensus-based standards promise improved upgradeability and openness to innovative and emerging technology. When paired with proactive, risk-based DMSMS programs, these practices present an opportunity to further reduce total life-cycle costs and improve sustainability, by incorporating DMSMS management earlier in the engineering and acquisition process.

As we approach the annual DMSMS Conference in December, DMSMS management programs continue to work tirelessly to provide cost-effective mitigations to ensure the sustainment of defense systems. For more information on DMSMS practices, visit the Defense Acquisition University DMSMS Knowledge Sharing Portal at <https://www.dau.mil/cop/dmsms>.