

2018

# Defense Standardization Program Awards

These awards honor personnel and organizations of the military departments and defense agencies for outstanding performance in the implementation of the Defense Standardization Program. The recipients have made singular improvements in technical performance, greatly enhanced safety for DoD personnel, and avoided billions of dollars in costs.

## Distinguished Award Winner

### RADIO FREQUENCY CONNECTOR AND CABLE SPECIFICATIONS AND INTERNATIONAL ADOPTION EFFORTS

With radio frequency (RF) connector technology critical to the operation of an ever-expanding variety of systems, from drones to ships and missiles, industry and military customers push the limits of RF devices beyond manufacturing requirements. Since specifications were not keeping up with current usage trends, non-standard connectors and counterfeit products entered the supply chain to meet the demand. Non-standard parts are typically more expensive, harder to procure, not as reliable, and become obsolete and out of production sooner than standard military parts. Many counterfeit parts originate in foreign countries and contain significant errors in construction and quality documentation. By leading the way in standardization, the U.S. can effectively fight counterfeit items on a global level and enforce our standards and quality requirements.

Through extensive collaboration with industry partners and other government entities, Jeremy Funk, Defense Logistics Agency, took the rough outline of needed changes created during meetings and formulated the full military specifications to enhance and enforce rigorous requirements. He also worked with participating country representatives from Japan, Germany, France, Italy, Finland, and the U.S. to detect international sources of counterfeit material and initiated the processes to limit and stop the material from entering the DoD supply chain. The revised connector specifications will furnish the military, NASA, and industry with high-quality, interchangeable connectors that are hardened against counterfeiting. This presents a gold standard to international committees and government users to affect adoption at a global level and prevent other entities from adopting their own less-restrictive specifications.



# Achievement Award Winners

## MILITARY SPECIFICATIONS FOR ELIMINATION OF HAZARDOUS HEXAVALENT CHROME (CR6+)

**Team Members:** John Kelley II, Thomas Braswell, William Lum, and Brian Placzankis.

DoD spends between \$10–\$20 billion annually on corrosion prevention and mitigation. Proper surface preparation is critical for ensuring maximum adhesion and minimizing vulnerability to system degradation of function, nonavailability, accumulation of corrosion damage, and the accompanying loss of productivity due to costly repairs. To promote better corrosion resistance, DoD-P-15328 specified a wash primer containing hexavalent chrome (Cr6+) as the sole means to surface pretreat systems. While no other compound had been effective for prevention of corrosion across multi-metal systems, Cr6+ is a known carcinogen with elevated levels of volatile organic compounds and hazardous air pollutants.

To create a safer workplace for civilians and warfighters as well as lessen risk to the environment, the nominees led an Army Research Laboratory effort to transition to alternatives without loss of corrosion prevention effectiveness. In testing, three Cr6+-free pretreatments performed equivalently to the DoD-P-15328 wash primer in militarily relevant environments. However, because MIL-DTL-13924D, TT-C-490F, and DoD-P-15328 required the wash primer, a review, revision, or cancelation of these specifications was necessary to enable use of the alternatives. New guidance encourages Cr6+-free technologies and economical green methods for pretreating metals. Revisions to these specifications were pivotal to the Army's goal of reducing impediments to readiness from environmental, safety, and occupational health risks. Through completing ongoing laboratory and outdoor exposure validations on Cr6+-free rinses related to MIL-DTL-16232G, further elimination of Cr6+ may be possible.



## STANDARD PRACTICE FOR HUMAN SYSTEMS INTEGRATION

**Team Members:** Jeffrey Markiewicz, Owen Seely, Chelsey Lawson, and Susan Orr.

Human Systems Integration (HSI) is a comprehensive management and technical strategy applied to systems integration to ensure total (hardware, software, and human) system performance is optimized, increasing efficiencies and minimizing systems cost. Human performance enhancements correlate directly to enhanced mission and operational readiness. The major value of HSI is the integration of seven domains (manpower; personnel; training; human factors engineering; personnel survivability; habitability; and environment, safety, and occupational health) to reduce or limit total ownership cost. Studies have shown that implementation of a successful HSI program can furnish lifecycle savings of up to 40 times the amount invested in HSI early in a program's lifecycle. HSI ensures people are fully and continuously considered during the design development and acquisition of all systems, facilitating acquisitions that meet total system performance requirements.

While a number of standards exist that are relevant to HSI, they apply to particular types of systems, are intended for specific HSI domains, or do not cover HSI in its entirety. Mixing and matching from disparate standards is inefficient and leads to omission of important considerations. The nominees coordinated among DoD, the Joint HSI Working Group, and SAE to create a comprehensive standard for HSI management, SAE 6906, which includes collaboration among HSI domains and coordination between HSI and other disciplines to optimize total system and human performance and minimize personnel-driven risks and customer ownership costs. In addition, SAE is creating DoD-wide standard practices for four HSI domains that lacked these practices.



# LANDING CRAFT, UTILITY (LCU) 1700 INTERNATIONAL ADOPTION EFFORTS

Team Members: Kimberly Bagford, Kathleen Minnich, Mike Russell, Johnna Sachse, and Linda Squires.

The Landing Craft, Utility (LCU) is a key element in the Navy–Marine Corps fleet of amphibious craft. In regular use in peacetime and wartime, the LCU is valued for its large lift capacity, excellent operational availability, ability to operate both independently and in sustained environments, and operational flexibility. Designed for a service life of 25 years, the fleet of LCUs was decades overdue for replacement, leading to a complete lack of standardization, system and parts obsolescence, chronic maintenance issues, and suboptimal habitability. Though their innovative acquisition strategy and contracting approach, the nominees

- took advantage of the cost benefits of a robust competitive environment,
- harnessed the capabilities and efficiencies of a small shipyard,
- positioned the government to recapitalize a critical capability at the lowest possible procurement and sustainment cost,
- created the potential for continued substantial cost avoidance and cost savings, and
- ensured the continued availability of LCU.

The replacement program employs lessons learned and industry best practices to address the cost and technical risk of product obsolescence, incorporate open systems into the design, and improve craft quality, reliability, readiness, and capability. The final detail design standard will result in a fleet that is materially identical, leading to ownership cost reductions from the enhanced commonality of components in the LCU 1700 craft (and for some systems with other platforms), one design configuration for maintenance, and one training curriculum for the crew.

## THE DEFENSE STANDARDIZATION PROGRAM

### PURPOSE

We champion standardization throughout the Department of Defense to reduce costs and improve operational effectiveness.

### MISSION

We identify, influence, develop, manage, and provide access to standardization processes, products, and services for warfighters, the acquisition community, engineering community, and the logistics community to promote interoperability, reduce total ownership costs, and sustain readiness.

### VISION

The Defense Standardization Program is a comprehensive, integrated standardization program linking Department of Defense acquisition, operational, sustainment, and related military and civil communities. It is universally recognized for advancing the Department of Defense's joint interoperability, acquisition, and sustainment goals.

