

A GREEN TECH EASY BUTTON

Utilizing the DOD Sustainable Technology Evaluation and Demonstration program to reduce burden and clear obstacles for identifying, validating and acquiring sustainable technologies.

by David J. Asiello

As we learn more about the negative health, safety and environmental impacts or general inefficiencies of legacy technologies, the acquisition, logistics and technology community is under increasing pressure to transition to more sustainable alternatives. Acquisition and workplace safety laws, environmental regulations, requirements to maximize budget resources and the critical need to protect the health and safety of personnel all provide impetus and are imperative for this change. Additionally, the necessity to ensure a resilient force and logistics infrastructure necessitates a more sustainable footprint. Consequently, acquisition personnel are directed to purchase more sustainable products, logistics personnel are directed to supply such products, and technology personnel are directed to identify and validate such products.

While the benefits of transitioning to sustainable technologies are clear (e.g., improved performance, reduced toxicity and hazards, less waste, lower liabilities and costs, resource efficiencies, reduced supply chain disruptions), navigating the path from need to resolution can be long and complicated. Even when a sustainable technology need is known, identifying products that meet end-user requirements necessitates market research, industry coordination and technology evaluation that are beyond the available staffing, expertise or budget of many organizations.

The DOD Sustainable Technology Evaluation and Demonstration (STED) program provides a ready and agile solution that addresses needed actions in all three areas:

acquisition, logistics and technology. Led by the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment, the STED program works with DOD components and other federal agencies to reduce the burden and obstacles preventing the validation and transition to more sustainable commercially available technologies.

ASSISTING TECHNOLOGY

The STED program supports all DOD components to identify sustainable technology need areas and validate sustainable technology performance and cost effectiveness of alternatives. The program works with components to determine appropriate demonstration sites and performance requirements, identifies commercially available candidate technologies to demonstrate in DOD operations and coordinates with component headquarters, program and installation offices and regulatory agencies to secure all necessary approvals prior to demonstration. Technologies are supplied by the STED program during

the demonstration period at no cost to the participants. Users are asked to utilize the products in their daily operations and provide feedback on the technologies' performance compared with the currently used product. The program analyzes the performance and return on investment data, then generates a summary report made available to all DOD personnel via the DENIX website (<https://www.denix.osd.mil/spc>).

ASSISTING LOGISTICS AND ACQUISITION

Once technologies are successfully validated, they must be readily available to DOD personnel via the government supply system. The process of getting items onto a federal schedule or contract and assigning or creating National Stock Numbers can be lengthy and complex. To facilitate the process, DOD and the General Services Administration (GSA) signed a memorandum of understanding under which the GSA will use the STED program product performance and pricing information

to streamline the acquisition process. This can make proven sustainable technologies more readily available to DOD and other federal agencies.

The STED program also supports a secure supply chain and material availability by including domestically sourced and manufactured products in the demonstrations. Beyond product availability, the STED program demonstrations assist supply functions by validating technologies that reduce the logistics tail by lessening required quantities, load weights and associated warehouse management requirements (i.e., storage needs based on flashpoint and chemical characteristics). In addition to supply functions, the program demonstrations benefit maintenance operations by validating sustainable technologies—such as biobased functional fluids and sorbents (materials that absorb liquids or gases)—that improve operational performance and reduce maintenance time while improving worker health and safety.

Once a sustainable technology is validated and available for purchase, there may still be additional barriers to acquisition. These may include pre-existing standards,



TAKE AIM

A sniper rifle atop a recycled textile sorbent mat during a demonstration of the DOD STED program at Fort Moore, Georgia. (Photo by George Handy, Noblis)

DEMONSTRATION SCOPE

The DOD STED program can facilitate the demonstration of a broad range of commercially available technologies that offer a performance and sustainability benefit to DOD. These can include technologies that offer safer, more resource efficient or more durable alternatives or otherwise generate less negative health and environmental impacts than currently utilized technologies.

To date, the DOD STED program demonstrations have ranged from biobased weapons lubricants, functional fluids, sorbents, tires and dust suppressants to energy-efficient door systems and access controls, PFAS-free disposable food ware, light-emitting diode (LED) alternatives to chemlights, and Safer Choice-certified sidewalk deicers. The program is not limited to these categories and is actively seeking to expand into new warfighter and installation need areas.

organization or locality. As an Office of the Secretary of Defense-level program, STED can coordinate with necessary parties once an acquisition barrier is identified to resolve the issue and facilitate the transition to more sustainable technology alternatives.

A REPRESENTATIVE EXAMPLE

A recent example of how the STED program can benefit the transition to sustainable technologies within the acquisition, logistics and technology community can be seen in the latest U.S. Army Armaments Center revision of the MIL-PRF-63460 specification for weapons cleaner, lubricant and preservative (CLP) products. For decades, petroleum-based CLP products were standard and it was unknown whether a less hazardous biobased alternative could meet the demanding performance requirements in the military specification for a single product (i.e., cleaning, lubricating and preserving). As biobased options began entering the market, the DOD Environmental Security Technology Certification Program initiated a project with the Armaments Center to evaluate commercially available biobased CLP products. The Armaments Center continued to work with manufacturers to qualify products to the specification, creating the new product designations of Type A (traditional nonbiobased products) and Type B (biobased products).

The STED program conducted demonstrations of the newly qualified Type B CLP products at several Army, Air Force, Marine Corps and Navy installations. User feedback uniformly noted significant performance improvements in carbon removal, lubrication and weapon reliability, while reducing the amounts of product and cleaning time required, noxious odor, waste and smoke generated during weapon use—thereby offering several cost, safety, labor and performance benefits. Following the demonstrations, the Armaments Center issued Revision G to the specification. The revision removes the traditional nonbiobased Type A products and requires all qualified CLP products to contain a minimum 33% biobased content. This milestone validates the high-performance capabilities of biobased products to meet a combat tactical specification and provides enhanced lethality with a more sustainable technology.

CONCLUSION

The STED program supports department-wide transition to sustainable technology alternatives to help support operational readiness and improve mission capabilities, while improving the health of personnel and the environment. By validating performance and cost effectiveness of these technologies during DOD operations, ensuring availability in government supply and addressing barriers to acquisition, the program supports DOD component requirements and lowers the obstacles to commercial technology transition.

For more information, go to <https://www.denix.osd.mil/spc> or email osd.mc-alex.ousd-a-s.mesg.dod-sted-program-mbx@mail.mil.

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