

Game Changers: *Changing the Maintenance and Sustainment Paradigm*

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The Cooperative Agreement that NCMS offers through its CTMA Program is a unique contracting vehicle for industry, academia, and the DoD's sustainment community to work in collaboration to find, develop, and invent new and innovative technologies that enhance readiness at best cost.

CTMA is an efficient program that does a lot of the heavy lifting for our government partners within the DoD maintenance and sustainment communities. While CTMA projects save time and funds and increase productivity, the overarching goal is always to assist warfighter readiness. That's a lofty assignment but one that CTMA has fulfilled over 400 times in the last 20 years, saving the DoD billions of dollars. Collaborating with all the services, CTMA listens to their unmet needs and finds commercially available technologies that can accomplish the goals.

"All of our projects are important, but in my opinion, we work with some that are true game changers. The example below could revolutionize the way that work is done for our country's maintainers. With the Stand-up Abrading Machine, we are taking maintainers off their hands and knees as they manually remove the non-skid surface coating that takes hundreds of hours and giving them an ergonomically friendly piece of equipment that does the job in less time and with significantly less wear and tear to their bodies." says Debbie Lilu, CTMA Program Director for NCMS.

Temple Allen’s SAM™ Scaling Tool

Temple Allen already had a wide range of surface preparation equipment popular within the commercial and military communities. But a chance meeting between Temple Allen General Manager Cele Bryan and Debbie Lilu at a composite show at FRCSW changed the course of Temple Allen’s thinking.

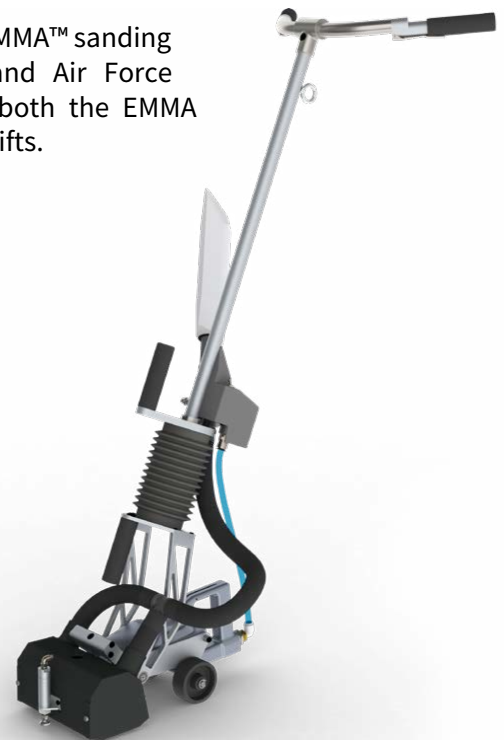
“Debbie was impressed with our technology and invited us to the Technology Showcase at the shipyard at Yokosuka, Japan,” says Bryan. “While we were there a lieutenant introduced Temple Allen to the Aurand scaling tool commonly used on non-skid deck surfaces and told us that if we could give it a really good handle so maintainers could use it standing up to save the wear and tear on their backs and knees, it would be revolutionary.”

The engineers at Temple Allen were able to design a new member of the SAM™ (Stand-up Abrasion Machine) family—the SAM Scaling Tool—incorporating the original Aurand device maintainers have been using for years, but integrating it with a vibration damper, resting pegs, shaft, and control handle. When that same lieutenant saw the redesign, he was amazed and very excited to try it out with his maintenance artisans.

The SAM family of tools offers an ergonomic alternative for abrading the tops of aircraft wings, the decks of ships or oil platforms, wind turbine blade molds, and any other large horizontal surface that currently requires artisans to position a tool on the ground, typically by working on their hands and knees. In addition to protecting them from the vibration typical of the hand tools used in the industry, the SAM also prevents the knee and back injuries associated with these awkward positions and high grip forces. The SAM has many benefits but most fall into four categories: Health & Safety, Ergonomics, Productivity, and Finish Quality.

The SAM family, and Temple Allen’s larger semi-automated EMMA™ sanding equipment, has now been demonstrated at Naval shipyards and Air Force bases, earning high praise. One Air Force reservist is considering both the EMMA belly sander and the rail-mounted EMMA system for placement on lifts.

“Through the Technology Showcases, CTMA has provided the opportunity for innovative technologies to be brought directly to the maintainers” says Susan Simms, Implementation Manager with NAVSEA. “Temple Allen did a great job of taking feedback from the Technology Showcase at the Naval shipyard in Yokosuka, Japan and creating a product that will be useful to the shipyard maintainers. Currently, mechanics and sailors wield the heavy Aurand deck scaler on their hands and knees to chip away the surface coating when it needs to be replaced. The SAM Scaling Tool could radically improve that physically-demanding task. This could be a significant game changer for those maintainers!”



(Above) Temple Allen Scaling Tool for removal of non-skid material. Image courtesy of Temple Allen Industries.