

PORT HUENEME, CALIFORNIA, UNITED STATES

08.25.2022

Video by Marco Hinahon and Eric Osborne

Naval Surface Warfare Center, Port Hueneme Division

REPTX 8.24.2022

Battle Damage Repair, Paint and Coatings Removal, Inspection Robots and Object Identification Demonstrations

During the third day of the Navy's first-ever Repair Technology Exercise, or REPTX, government, industry and academia continue testing potential battle damage and repair products and services aboard Naval Surface Warfare Center, Port Hueneme Division's Self Defense Test Ship (SDTS).

The Sapien 6M Robotic Arm from Sarcos Technology uses an attached tool from Atmospheric Plasma Solutions to remove peeling paint on the SDTS using a special form of atmospheric pressure air plasma to oxidize organic components in paints and other coatings.

Navy reservists are joined by a member of the United Kingdom Royal Navy in battle damage simulation where water is coming in through a hatch and also through simulated "holes" in the hull. The team uses high-powered magnets from Maglogix, straps, pieces of wood and other "found" materials around the ship to patch the holes.

Employees of Atmospheric Plasma Solutions get an assist from McNally Industries' portable winch, known as the Electrical Capstan Tool, to lower their Plasma Blast 7000 coating removal system two floors down a vertical shaft aboard the SDTS.

A crew retrieves The Pennsylvania State University Applied Research Lab's autonomous underwater vehicle after an inspection demonstration below the SDTS.

Boston Dynamics displays its Spot inspection robot at NSWC PHD, as 2-year-old Jack Bickford, son of Jason Bickford, NSWC PHD's research manager, watches.

The MARS robot designed and built by members of The Pennsylvania State University Applied Research Lab tackles corrosion on the SDTS deck plate.

American Laser Enterprises' laser ablation tool is used to remove corrosion between the rafters in the fantail of the SDTS. The HH-100-200 Transportable Laser Machine Tool was integrated with Gecko Robotics magnetic crawler robot to demonstrate automating corrosion and coating removal while warfighters could be doing other tasks.

Gecko Robotics Inc. team members deploy the Toka 4 inspection robot on the starboard side of the SDTS to search for foreign objects — specifically, magnets that U.S. Navy Surge Maintenance Sailors had attached earlier — on the SDTS hull.

REPTX runs from Aug. 22 – Sept. 2.

Naval Sea Systems Command's (NAVSEA) Naval Systems Engineering and Logistics Directorate Technology Office (NAVSEA 05T) is sponsoring REPTX 2022 and selected 65 technologies to participate.