

FY27 NSRP SPC Panel Project Solicitation Pitch Meeting

June 2, 2026



Agenda

Title	Speaker
Nano Armor Tech Suite (NATS) of Corrosion Control Products	Asa Worcester, ECI Defense Group
Spray Painting Drone for Hull Painting	Jeff McCutcheon, Apellix
Evaluation of Non-Thermal Plasma Surface Preparation Use Cases	Michael Kibler, Elzly Technology
Evaluation of Current Thermal Spray Practices and In-Situ Replacement Solutions	Eric Shoyer, Elzly Technology
Spray Application of Thermal Insulative Coatings (TIC)	Eric Shoyer, Elzly Technology

Nano Armor Tech Suite (NATS) of Corrosion Control Products

Project Lead Organization: ECI Defense Group

Project Team Members:



Concept/Idea	Benefits/Justification
<p>Issue: Corrosion from salt and oxygen exposure degrades critical systems, driving costly rework, downtime, and reduced fleet readiness.</p> <p>Proposed Solution(s): Salt-Be-Gone removes 99.87% of chlorides in 5 minutes, prepping surfaces for NATS Corrosion Preventative Compounds that block salt and oxygen at a molecular level. OxyShield AC converts red rust to black rust and adds a durable topcoat—all together stopping corrosion “wicking” and reducing rework and busting rust.</p>	<p>Benefits of the Project: Prevents corrosion at the source, extends asset life, reduces maintenance and downtime, and improves mission readiness.</p>
Project Approach	Cost/Images/Relevant Information
<p>High Level Statement of Work: Deploy proactive, non-flammable corrosion control products using chloride removal, molecular-level protection (available with lubrication), and durable coatings across critical systems.</p> <p>Metric(s) of Success:</p> <ul style="list-style-type: none"> • 99.87% chloride removal in 5 minutes • Reduced corrosion-related maintenance • Extended service life of key components 	<p>Project Estimated Cost:</p> <ul style="list-style-type: none"> • Initial Procurement: <ul style="list-style-type: none"> • ~\$156 per 5-gallon pail (Salt-Be-Gone). • ~\$2000 per 5-gallon pail (Lektro Tech-S). • ~\$190 per 5-gallon pail (OxyShield AC) • Operational Efficiency: High-yield application drives scalable corrosion control with less labor, material, and downtime. • Scalability: Low-cost, scalable integration using existing washdown, spray, and coating equipment.

Spray Painting Drone for Hull Painting

Project Lead Organization: Apellix

Project Team Members:

Concept/Idea

Issue: Skilled painters are increasingly difficult to attract and retain. Moreover, hull painting is time-consuming, dangerous and expensive in terms of labor and equipment. Current shipbuilder's backlog is demanding a decrease in paint schedule duration.

Proposed Solution: Leverage the skills of existing painters by selectively introducing semi-autonomous spray-painting drones to specific initial use cases while also providing more productive tools to create a more attractive, safer future role for prospective painters.

Benefits/Justification

Use of UAVs to coat ships will decrease scheduling time, increase productivity, decrease risk to workers and decrease dedicated labor required for painting.

A dedicated pilot program will allow Apellix engineers to work closely with shipyard staff to ensure all aspects of regulation are met, and to design a process that best provides the shipyard with immediate benefits while fully vetting the technology for additional coating tasks

By piloting a painting program starting with the initial stripe coating of weld seams we provide a low risk, high value opportunity to evaluate the ease of use, ease of training and superiority of results.

Project Approach

In conjunction with a shipyard, implement a UAV-based painting program for the initial priming of hulls in compliance with NAVSEA 009-32 and OSHA & Shipyard Safety Requirements.

Metrics of Success: Apellix believes a successful pilot will achieve 10,000 lineal feet of stripe coating in less than 3 hours using a crew of 3 shipyard painters (one operating the UAV, one observer and one pump tender). The primer will be tested using a PA-2 type approach for dry film thickness in compliance with any contractual requirements or guidance.

We expect the overall productivity to be 20x improved from current practice while reducing risk to workers and improving overall quality of the coating.

Cost/Images/Relevant Information

Project Estimated Cost:


We project a total budget of \$200,000 will cover the direct and indirect cost of Apellix in engineering and testing the Apellix UAV, specific to the hull weld seam stripe coating task, in full compliance with all regulations and contractual requirements, and for training existing shipyard painters to operate the system and complete a trial of 10,000 lineal feet of stripe coating.

Upon completion of the trial, Apellix will work with the shipyard to create a robust implementation plan.

Evaluation of Non-Thermal Plasma Surface Preparation Use Cases

Project Lead Organization: Elzly Technology


Project Team Members: HII-NNS

Concept/Idea	Benefits/Justification
<p>Issue: Scuff sanding for overcoating work is a slow process that can result in poor adhesion of new coating. Poor adhesion can also occur when overcoating or adhesively bonding to some coatings (e.g., some polysiloxane products). Plasma treatments are used in for promoting adhesion in other industries, but not shipbuilding or ship repair.</p> <p>Proposed Solution(s):</p> <p>Evaluate the viability of plasmas for shipyard use by comparing them to SSPC-SP 2 and 3 procedures. Test the production rate and effectiveness of commercially available plasma equipment to determine their ability to prepare a surface for coating application.</p>	<p>Benefits of the Project:</p> <ul style="list-style-type: none">• Generation of shipyard focused data and guidance for plasma surface treatment use.• Identification of beneficial plasma blast applications.• Potential for improved adhesion of overcoating and adhesive bonding.• Potential reduction of waste streams (used abrasive material).
Project Approach	Cost/Images/Relevant Information
<p>High Level Statement of Work:</p> <ul style="list-style-type: none">• Evaluate the effectiveness and production rate of plasma treatments and evaluate best use cases. <p>Metric(s) of Success:</p> <ul style="list-style-type: none">• Data and guidance of the level of cleanliness expected to be achievable by plasma blasting (production rate, overcoat adhesion, and coating performance).• Comparisons of plasma treatments to hand tool and power tool surface preparation	<p>Project Estimated Cost:</p> <p>Duration: 12 Months</p> <p>Program Funds: \$200,000</p>  A photograph showing a plasma torch being used on a metal surface. The torch is white and has a red tip. The metal surface is dark and appears to be undergoing a plasma treatment process. The background is a plain, light-colored wall.

Evaluation of Current Thermal Spray Practices and In-Situ Replacement Solutions

Project Lead Organization: Elzly Technology


Project Team Members: HII-NNS

<h2 style="text-align: center;">Concept/Idea</h2>	<h2 style="text-align: center;">Benefits/Justification</h2>
<p>Issue: When service conditions require, thermal spray can provide effective corrosion protection. Unfortunately, the use cases are dwindling to the point where it has become difficult to maintain qualified personnel and the AMPP QP-6 Contractor Certification is only held by 13 companies in the CONUS, all located east of the Mississippi.</p> <p>Proposed Solution(s): Generate a database to better understand the areas in which thermal spray is required within shipbuilding and determine where replacement can be accomplished with liquid coatings.</p>	<p>Benefits of the Project:</p> <ul style="list-style-type: none"> • Identification of Navy-approved alternative systems • Reduced costs and turn-around time by using well exercised liquid coatings skills and processes • Generation of shipyard focused data and guidance for thermal spray areas • Potential safety and environmental benefits
<h2 style="text-align: center;">Project Approach</h2>	<h2 style="text-align: center;">Cost/Images/Relevant Information</h2>
<p>High Level Statement of Work:</p> <ul style="list-style-type: none"> • Evaluate the designated thermal spray areas in ship building for effectiveness and production compared to viable Navy-proposed alternatives. <p>Metric(s) of Success:</p> <ul style="list-style-type: none"> • Data and guidance of thermal sprays. • Cost savings on switching to alternative systems. 	<p>Project Estimated Cost:</p> <p><u>Duration:</u> 12 Months</p> <p><u>Program Funds:</u> \$200,000.00</p> 

Spray Application of Thermal Insulative Coatings (TIC)

Project Lead Organization: Elzly Technology

Project Team Members: Sherwin Williams, HII-NNS, Electric Boat, Righter Group, NanoTech

Concept/Idea	Benefits/Justification
<p>Issue: Thermal Insulative Coatings are being evaluated to save schedule and cost during shipbuilding new construction. There is a need to demonstrate the benefit of spray application of TIC with supplemental brush/roll/trowel properties for repair.</p> <p>Proposed Solution(s): Shipboard demonstration to evaluate performance capabilities of TIC for multiple locations for new construction. Locations such as sweating bulkheads and ventilation ducting will be chosen due to the unique application demands each area requires. Work to include both spray and trowel installs of TIC base, along with spray, brush, and roll of topcoat.</p>	<p>Benefits of the Project:</p> <ul style="list-style-type: none">• Application, cure, and handling requirements for vents, bulkheads, and complex geometries• MIL-Spec and ASTM F718 criteria• Workforce training, lessons learned• Aesthetics <p>Justification</p> <ul style="list-style-type: none">• Successful testing and evaluation of TIC with NNS as per ManTech project S2944.
Project Approach	Cost/Images/Relevant Information
<p>High Level Statement of Work:</p> <ul style="list-style-type: none">• Demonstration and Evaluation of TICs for multiple locations for new construction within shipyards. Compare spray TICs vs traditional insulation. <p>Metric(s) of Success:</p> <ul style="list-style-type: none">• Coating Performance• Labor and material cost comparison• Health/safety benefits: application and in-service	<p>Project Estimated Cost:</p> <p>Duration: 12 Months</p> <p>Program Funds: \$200,000</p> 

Next Project Pitch Opportunity

- We will have another opportunity to pitch quad charts at our July 28-29 meeting in Brunswick, ME
- If you have an idea, send them to:
 - Hillary Hawkins (hillary.hawkins@ati.org)
 - Conlan Hsu (conlan.hsu@hii-nns.com)
- Reminder: the Panel Project solicitation requires a whitepaper proposal submitted by August 26