# Shipbuilding CoBot Alliance

**National Shipbuilding Research Program**

**PPPF and Workforce Development Joint Meeting**

**October 20-21, 2026**




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# AGENDA

- Shipbuilding CoBot Alliance team introductions
- Review the need for an industry wide approach to CoBot implementation with:
  - Standardized training accepted by primes and their suppliers
  - Streamlined qualification process by working with Primes and governing agencies
  - More available training centers
  - SCA as a central marketing tool
- Overview of recent SIB grant award and what it entails
- Planned schedule and budgets for:
  - California start up including purchase of 5 systems
  - Continued training in Marinette and Norfolk with SCA funding for training grants and consumables
  - Start-up kits. Competitive grants will be available to cover roughly 80% of the cost of equipment, installation and training.
    - Budgets and requirements
  - Continued training support and new curriculum
    - » Standardized breakout of different training modules for intro to CoBots, welding intro, welding advanced, plasma cutting, plasma blast
    - » Push for more certifications and recognition
    - » Push for CoBotic welding certification for Navy work
- Forward look to Center of Excellence possibility
- Next immediate steps
- Questions

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# THE PROBLEM

The top shipbuilding manpower shortages are welders, metal fabricators, structural fitters, shipfitters, painters and blasters, with welders and metal-fabrication trades alone facing an annual U.S. shortfall of about 48,000 workers and shipyards needing roughly 250,000 additional skilled trades over the next decade.

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# THE COBOT SOLUTION

- U.S. shipbuilding faces a manpower crisis at a time when production needs to ramp up significantly.
- Bringing people into shipbuilding, especially for welding and other “dirty” jobs is a challenge for all shipbuilders and suppliers.
- Collaborative Robotics (CoBots) offer an automation solution that significantly increases the productivity and quality of workers across all skill levels.
- Implementing CoBots for U.S. Navy work is time consuming and difficult due to training and qualification requirements.
- The Shipbuilding CoBot Alliance was established to create a streamlined path to implementation.
- The DoW and Submarine Industrial Base program office are supercharging workforce development efforts. The CoBot Alliance will rapidly bring automation into the workforce and lead the way into Collaborative Manufacturing in shipbuilding.

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# UNIFIED INDUSTRY APPROACH

- Shipbuilding CoBot Alliance provides a focused industry approach for evaluation, training, purchase, implementation and assessment of CoBot technologies by achieving the following goals:
  - Standardized training accepted by primes and their suppliers
    - Phase 3 will formalize a training acceptance program and push for participation from more primes
  - Streamlined qualification process by working with Primes and governing agencies
    - SCA will continue to work with primes and governing agencies to clarify the qualification process while providing space for qualification training and testing without interfering with production
  - More available training centers
    - A third center in Chula Vista, CA is planned and talks are ongoing to secure funding for additional centers in submarine industrial base concentrated areas, including the gulf coast.
  - SCA as a central marketing tool
    - None of it matters if no one buys the equipment. SCA will function as a central marketing and training resource supporting all equipment providers and integrators

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# SCA ACCOMPLISHMENTS

- Navigated an extensive array of organizational and contractual hurdles
- Stood up training centers in Norfolk and Marinette
- Obtained cost shared systems from 5 vendors and installed in both locations
- Developed comprehensive 40 hour 1 week course that provides basic CoBot welding operations on 5 separate brands
- Conducted multiple training sessions with the curriculum development team and vendors to compress and refine the curriculum
- Held “guinea pig” training sessions with team members to critique and refine the curriculum
- Obtained Edison Welding Institute certification for 40 professional development hours in Cobotic welding for shipbuilding

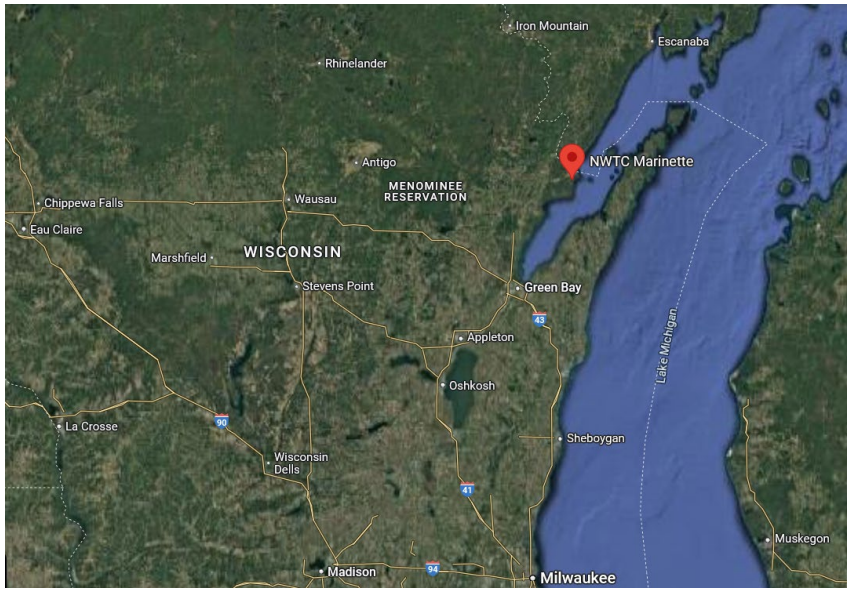
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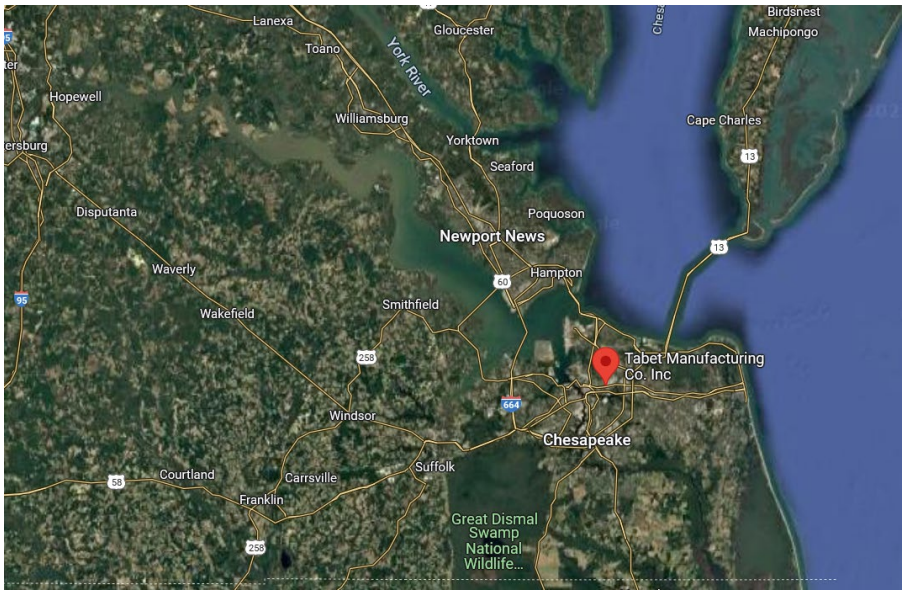
# SCA ACCOMPLISHMENTS

- Conducted over 16 training sessions for 77 people and 27 organizations including:
  - Shipyards - NNS, FMM, PSI, Master Boats
  - Both TRFs
  - Supply base manufacturers
- Refined curriculum to provide a 2 day introductory course
- Obtained a HAMMER (Hampton Roads Advanced Manufacturing Modernization with Emerging Robotics) grant to offer training sessions at the Norfolk center
- Held open houses at both centers that were well attended
- Coordinated with NAVSEA and shipyards to move closer to a smoother path to qualification
- Negotiated a $2.66M SIB grant through Blue Forge Alliance for sustainment for another year

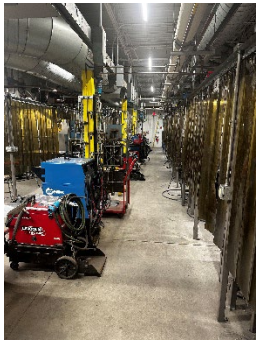
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# Initial Locations



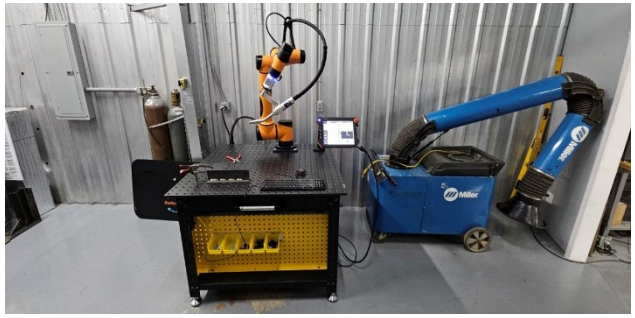




## NWTC, Marinette, WI





## Tabet Manufacturing, Norfolk, VA



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# Installed Systems




Lincoln Electric Company Cooper™ GoFa-10 A/C WB Welding CoBot Cart (GEN II)



THG Automation L.L.C., URW-2PA System



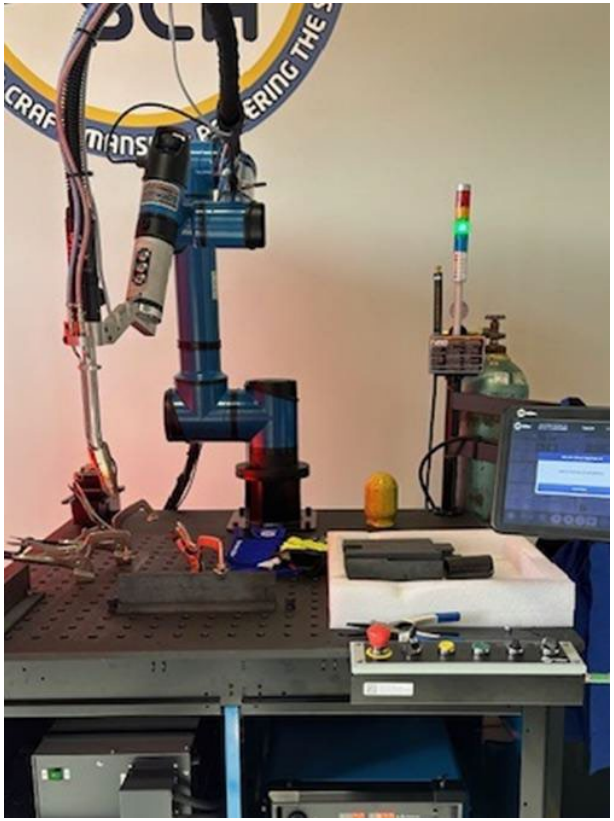

ESAB Smoot CoBot 500I x Power source, U8 Robust Feeder, URIO TT Arm

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# Installed Systems (cont)




Robotic Technologies of
Tennessee i10 SwitchWeld system



Miller CoPilot Table System, includes Water-Cooled, Seam Tracking,
Auto Deltaweld 500, and 400 VAC input

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# PHASE III PLAN

- The Phase III funding grant from Blue Forge Alliance was signed September 9, 2026. The $2.65M grant funds the sustainment of Shipbuilding CoBot Alliance with the following major lines of effort:
  - Program management including establishing a training portal website that will interconnect all training centers
  - Southwestern Community College start up in Chula Vista, CA including purchase of 5 systems
  - Continued training in Marinette and Norfolk with SCA funding for training grants and consumables
  - Start-up kits. Competitive grants will be awarded to cover roughly 80% of the cost of equipment, installation and training for a planned 5 systems.
  - Continued training refinement and new curriculum
- CoBot suppliers continue to support the effort with a Field Trial model

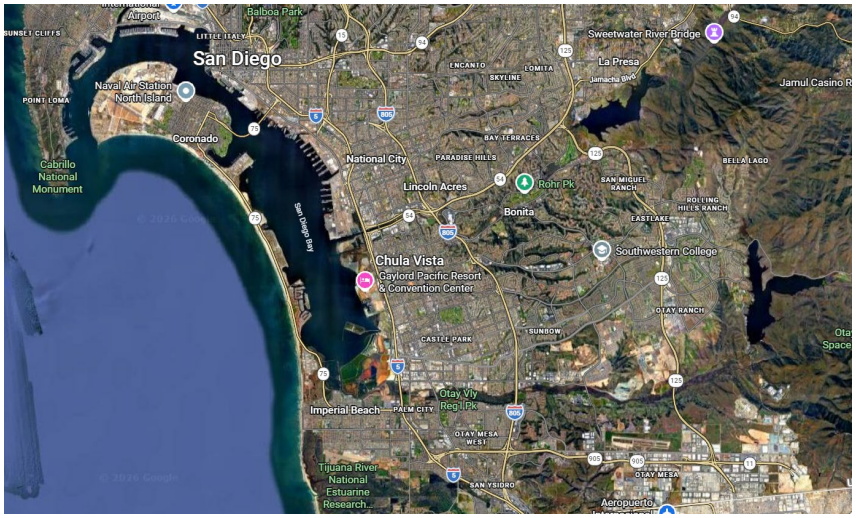
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# CALIFORNIA CENTER

- Third training center at Southwestern College in Chula Vista, CA
  - Close to the San Diego shipbuilders and supply base
  - Room for expansion and coordination with other welding schools
  - In conjunction with a separate grant to start a welding school
- 5 systems will be purchased by SCA for installation at Southwestern
  - SCA will maintain ownership of equipment
  - Opens the door for continued application development projects with the CoBot systems
- Aggressive plan to:
  - Complete facility upgrades by the end of the year
  - Complete equipment installations and train the trainer sessions by end of January
  - Offer courses through a coordinated marketing campaign
  - Conduct 4 one week and 4 two day courses by September 23, 2026
  - Conduct additional training in accordance with demand

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# Southwestern Community College














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# CONTINUED TRAINING SUPPORT

- Continued training in Marinette and Norfolk
  - 4 machines from the Charter Member suppliers will remain in place at both centers, plan in place to keep 5 minimum
  - SCA will negotiate field trial agreements with the suppliers and operating agreements with the centers
  - Each center will hold a minimum of 4 one-week courses with additional two-day courses and specialized courses in cutting and surface preparation
- Funding for reimbursement of consumables and testing costs
- Centers will operate on their own funding models within the constraints of SCA requirements
- Training grants will be available from SCA for companies to pay for their training. The grant application process will ensure that companies achieve the maximum benefit from the training

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# START-UP KITS

- Competitive grants will be awarded to cover roughly 80% of the cost of equipment, installation and training for a planned 5 systems.
- Awardees must meet strict requirements and follow a process to guarantee success
  - Attend the 2-day course to become familiar with the systems or have already completed the 40-hour course
  - Have a well-defined application(s) with qualified WPS if augmenting a manual process
  - Have a plan for qualification if there is not a WPS
  - Work with SCA to perform an on-site industrial engineering analysis
  - Have qualified welder attend the 40-hour course and generate weld samples to qualify man and machine
  - Align with prime contractor for first article tests
  - Install and operate equipment
  - Allow a post installation assessment
  - Provide data needed for the good of the industry
- Invitations and application guidelines planned for early November, first kits awarded by Christmas and installed by February

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# CURRICULUM EXPANSION AND REFINEMENT

- Funding to refine and expand the training
  - Separate the core training from the machine specifics using appendices for machine specifics
  - Tablet based delivery that will allow cobot suppliers to add or link to their own material for advanced features and increase lab vs classroom times
  - Additional modules to include plasma blast and plasma cutting on multiple machines
  - Funding for 1-2 additional new modules based on industry input
- Incorporate supplier days into the training to have a deep dive into each machine
- Create additional multi-day formats based on industry input
- Actively seek additional certifications with plans to engage directly with AWS and ABS in addition to NAVSEA

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# JOIN THE ALLIANCE

- CoBot suppliers and integrators
  - Place your machines in one or more centers and contribute to the training material
  - Be in the mix for starter kit grants
  - Use the facility outside of class time for advanced customer training
  - Expand your regional marketing and training offerings with our facilities
  - Work with us to secure funding to purchase systems along the California model
- Prime contractors, shipyards and suppliers
  - Work with SCA to approve a single industry standard for CoBot training
  - Primes provide guidelines for subcontractors to qualify CoBot use
  - Train personnel and qualify equipment for production use
  - Schedule private training time to qualify additional operators without losing production time on installed CoBots
  - Use SCA grants for training and compete for a starter kit
  - Evaluate before you buy.  Bring your own material and try multiple systems.
- Other equipment suppliers
  - Opportunity to introduce CoBot related equipment and processes into the training curriculum
  - Exposure with a direct sales opportunity
- Workforce development organizations
  - Opportunity for future expansion with a single organization (SCA) coordinating the curriculum, the equipment and the customers

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# ALLIANCE SUSTAINMENT

**The Shipbuilding CoBot Alliance has 1 year of funding from Blue Forge Alliance. If the next year is successful and industry responds as we hope they will there must be a continuation plan.**

**The model for the future of the SCA is taking place in CA during Phase 3. A community workforce development center, teamed with SCA to provide equipment and training. The center provides opportunities for R&D and private qualification training.**

- Additional grant from the Submarine Industrial Base program office
  - Early success is the key.
- Workforce development and industrial development grants
  - SCA will work closely with the 3 centers to identify sustainment funding streams
  - SCA invites additional organizations to work with us to define a funding path to open additional centers
- Sponsorships
  - Funding for SCA operations can be provided by sponsorships which are tax deductible due to our status as a non-profit focused on education and training
- Membership and sponsorship details will be ready early November

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# Shipbuilding CoBot Alliance

## Questions?

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