

FY2024

Submarine Industrial Base Program Year In Review



OCTOBER 2024

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Introduction

As we reflect on the achievements of Fiscal Year (FY) 2024, building off a transformative year in FY23 and the efforts and investments coming into battery since FY18, this past year has been a pivotal one for our organization and the maritime manufacturing ecosystem. Together with our Submarine Industrial Base partners, we have made significant strides in growing productive capacity, increasing capability, expanding the maritime workforce, and scaling advanced technologies that are vital to ensuring our nation's future security, industrial growth, and economic prosperity.

Throughout FY24, the focus has remained on building one Columbia class and two Virginia class submarines, sustaining our existing submarine force, and meeting our international commitments under the AUKUS partnership. Supply chain capability and capacity, the defense industrial base workforce, and advanced manufacturing underpin our success in each of these areas.

As we look ahead, we still have work to do, but we are doing it from a much different place with an incredibly strong foundation of motivated and mission-driven partners across industry and academia.

We are grateful for the hard work, dedication, and collaboration of all those who have contributed to the uplift and innovation across the submarine and maritime enterprise over the last year, and we look forward to celebrating many milestones and success stories with you in FY25.

Thank you for your continued support of this no-fail mission.



Matthew Sermon
Executive Director,
Program Executive Office
Strategic Submarines



Whitney Jones
Director,
Program Executive Office
Strategic Submarines



Introduction

It's clear that FY24 has been a year of meaningful advancement in service of the Navy's 1+2 mission. Through the collective efforts of the Submarine Industrial Base (SIB) program, BlueForge Alliance, the shipbuilders, and other partners, we have worked together to strengthen America's submarine production capabilities, ensuring their continued growth in resilience and capacity. Our partnership has driven significant gains across a series of "must win" battle spaces that span from industrial footprint to machine operators to manufacturing technology of the future...all contributing to a more robust and resilient landscape for the Navy's undersea force.

Our success this year has been fueled by a shared focus on accelerating critical initiatives with speed and precision, increasing access to unconventional partners, and steadily expanding capacity across the industrial base. By fostering collaboration and removing barriers, we have laid the groundwork for greater scale, ensuring that the submarine industrial base is equipped to meet the evolving demands of the Navy's mission, now and in the future.

Looking ahead, the momentum we've built in FY24 serves as a catalyst for continued innovation and progress. Together, we will further strengthen the submarine industrial base, driving forward with a clear vision, collaborative spirit, and an unwavering commitment to meeting the needs of the Navy's undersea force for years to come.



Rob Gorham
CEO & Co-Founder,
BlueForge Alliance



Kiley Wren
CEO & Co-Founder,
BlueForge Alliance

About BFA

BlueForge Alliance (BFA) is a 501c3 that supports the U.S. Navy's industrial base initiatives and efforts to strengthen and sustain the maritime manufacturing sector. BFA's unique position allows it to act without bias, focusing solely on fortifying America's maritime industrial base and ensuring the team and its execution remain mission-focused, free from the influences of profit drivers or partisan interests.

BFA's approach is centered on furthering solutions that expand production capacity, streamline operations, and sustain the maritime manufacturing sector. Operating with a sense of urgency, the organization utilizes a consortium approach to partner with the shipbuilders and their suppliers to enable increased responsiveness to the Navy's evolving needs, unlocking critical pathways and creating access to vital resources. Whether it's connecting suppliers to advanced manufacturing technologies, or enabling workforce development, BFA fosters growth at every level of the supply chain, creating an alternate point of entry into the U.S. Navy in the communication of risks, challenges, and opportunities, and ensuring the industrial base is well-prepared to meet today's challenges and scale for the demands of tomorrow.



Key Accomplishments

To kick-off FY24 (October 2023), the Institution for Advanced Learning and Research – in partnership with the Department of Defense and the Navy – broke ground on a new regional training center for the Accelerated Training in Defense Manufacturing (ATDM) program. The new 100,000-square-foot training facility, located in Danville, VA, will enable 800 – 1,000 next generation workforce members to enroll in intensive, four-month training programs to train or upskill graduates for high-paying maritime manufacturing jobs. The Regional Training Center will be at full operational capability in early 2025 and we will graduate the first cohort in the spring.

With the Navy Submarine Industrial Base (SIB) program leading the way, in July 2024 the Navy announced a \$50 million investment into the Michigan Maritime Manufacturing Initiative (M3), a federal, state and local partnership to help rebuild the maritime industrial base workforce leveraging Michigan’s long-standing history as a manufacturing powerhouse. With a significant investment in career and technical education centers, and a strong focus on connecting K-12 programs to the maritime mission, M3 will establish programs and pipelines to meet the Navy’s need for thousands of new workers and jobs across the state and the broader Great Lakes region.

In September, the Navy team partnered with General Dynamics Electric Boat to invest in a purpose-built facility that enables Austal USA to fabricate and outfit submarine modules by the end of 2026. The new Modular Manufacturing Facility 3 (MMF3) will break ground in October 2024 and significantly add approximately 2-million production hours of needed capacity, incorporating the latest Industry 4.0 technologies including extended reality, cloud computing, autonomous robotics, horizontal and vertical integration, and simulation with a digital twin.

Also during September, the Navy announced a groundbreaking, collaborative co-investment between Navy, Austal USA, and private capital to further increase Gulf Coast submarine construction capacity. Critical to this effort, and paving a path for a new way of doing business, this effort incentivized private investment in a qualified opportunity zone fund (the United Submarine Alliance Fund) to acquire and develop the 355-acre Alabama Shipyard in Mobile, Alabama.

Finally, the Navy SIB program investments are making significant gains in maturing and operationalizing advanced manufacturing technology across the industrial base. The Navy-Industry team has made notable progress in maturing and scaling metallic Additive Manufacturing (AM) with more than 150 submarine parts printed to-date at the Additive Manufacturing Center of Excellence. To date, seven AM parts have been successfully installed on submarines and surface ships, cumulatively avoiding more than 1,000 days of delays driven by material readiness, lead times, and the existing supply system that would otherwise have had impacts on maintenance availabilities and/or operational availability.





SUPPLIER DEVELOPMENT



Overview

Our commitment to the submarine industrial base has centered on strengthening the supplier ecosystem, ensuring our critical suppliers — whether large or small—have the tools, resources, and support needed to succeed. We have suppliers in all 50 states, creating a truly nationwide impact that addresses the critical need for enhanced capability and capacity across the supply chain.

Our mission is simple: to serve the suppliers who make vital contributions to the U.S. Navy's production and sustainment goals. Through a combination of strategic initiatives, targeted investments, and ongoing collaboration, we have focused on removing barriers, facilitating growth, and enabling long-term success for thousands of suppliers.

From accelerating project execution to ensuring that suppliers are better equipped to meet the evolving demands of the Navy, our efforts have been driven by a shared vision of a resilient and robust supply chain—one that can meet the demands of today while building capacity for the future. This year has been a testament to what can be achieved through coordination, dedication, and a commitment to shared success.

KEY HIGHLIGHTS

- Management and oversight of more than 100 ongoing FY23 Supply Chain projects totaling more than \$250M.
- Executing 113 FY24 and FY24 Supplemental projects across more than 2 dozen states.
- Supplier Development and Strategic Outsourcing projects totaling \$1.48B across FY24 and FY24 Supplemental appropriations have been authorized for execution.
- Supply chain investments include 27 unique projects for sequence-critical material suppliers, 22 investments into single and sole-source suppliers, and projects targeting suppliers of 380 sequence-critical and 3,707 late parts/materials for Columbia and Virginia Class construction.
- SIB, via 3rd party non-profit integrator BlueForge Alliance, reduced procurement cycle time by 19% between FY23 and FY24, leveraging a continuous-improvement-oriented focus on administrative, requirements maturity and procurement processes.



Featured Projects

Our efforts in supplier development have delivered real, measurable results that strengthen the submarine industrial base and its capacity to meet increasing capability and capacity demands. The following success stories illustrate how our targeted initiatives have empowered suppliers, enhanced production capabilities, and fostered stronger collaboration across the supply chain.

Mayco

Project Description:

Mayco received funding to procure specialized equipment required to cast, machine, manipulate and accurately measure a specialized lead part for Columbia class large ballast weights. Without this specialized equipment, Mayco, as the only qualified source, would not have been able to provide these parts required for the Columbia program.

Impact:

All equipment was on site and operational by Q2FY24, allowing Mayco to begin production of the specialized lead sections for the Columbia class subs with a 100% new capability.



Specialty Piping Projects

Project Description:

Increase capacity and capability for forming Z-Stock Pipe Hangers in support of Virginia Class, Columbia Class, and CVN production.

Impact:

Specialty Piping Products has achieved 70% of their capacity improvement ROI goal to date by increasing total product output from 1,000 units per day to 1,250 units per day. They are on track to achieve 1,500 units per day by the end of 2024 to support increased multi-program production demand.



AMTECH

Project Description:

AMTECH received Supplier Development Funding (SDF) to procure an HBM and 5-Axis Mill to replace old equipment that was leading to increases in downtime, lead-time and costs.

Accomplishment Description:

The 5-Axis Mill was on site and operational at AMTECH within 4 months of BFA executing the contract and the HBM was operational within 8 months.

Impact:

To date, on projects using the 2 machines, Amtech has reduced their labor hours by 14%, saving nearly \$14,000 and reducing lead times.



Federal Bronze

Project Description:

Increase capacity and efficiency with new 3D Sand Printing Technology.

Accomplishment Description:

3D Sand Printer was installed and operational in Q2 FY24 to enable the ability to produce parts without the need for pattern equipment.

Impact:

3D Sand printer has compressed lead times, improved first time quality, and is estimated to result in a coremaker labor savings of \$228,089.



Supplier Resiliency

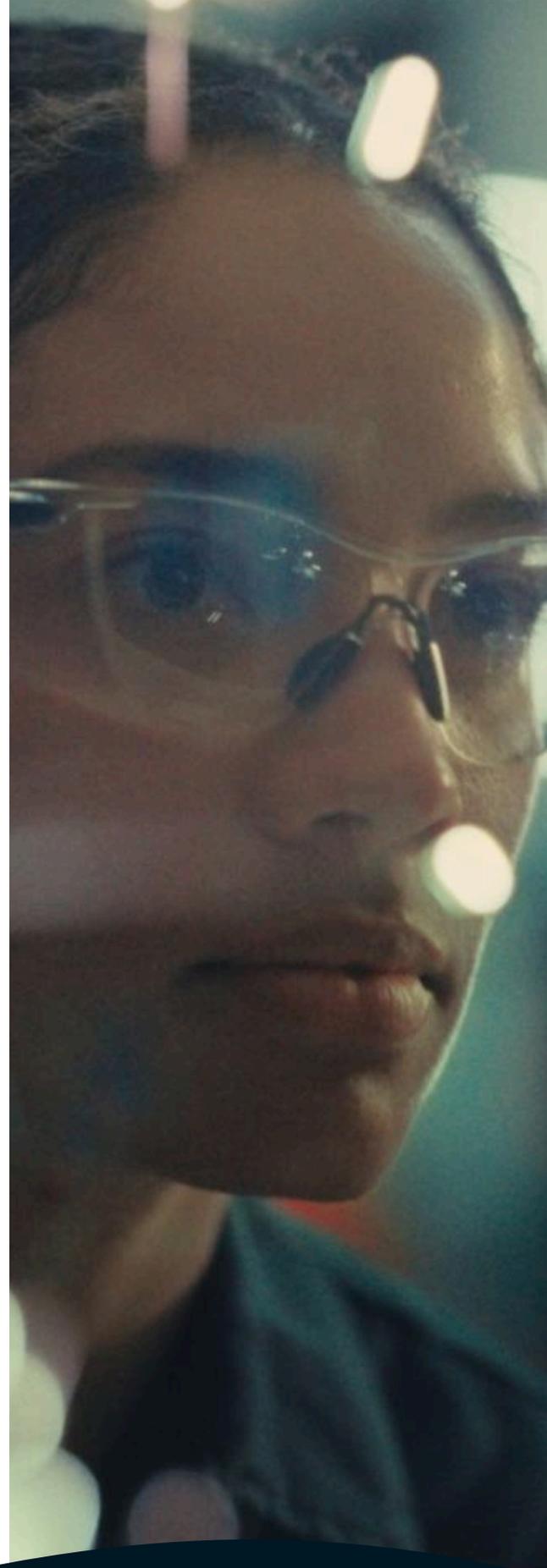
The ability to deliver critical components on time and within specifications directly impacts the operational readiness of the U.S. Navy's undersea warfare capabilities. Recognizing this, the SIB program's Undersea Warfare Systems Supplier Resiliency Team developed a pilot project aimed at building stronger, more resilient supply chains.

The team is spearheading a strategic 10-supplier pilot project designed to bolster supply chain resiliency within the defense industrial base, with a particular focus on torpedoes.

Our overarching goal is to deliver torpedoes and masts BETTER & FASTER.

ACCOMPLISHMENTS

- Launched Feb. 27, the goal is developing a new supplier diagnostic and improvement process, significantly improving upon the prior Wave Assessment approach, and incorporating cross-industry best practices.
- Diagnostics have been completed for the first five suppliers. The new diagnostic process brings together diverse expertise to evaluate supplier health, utilizes industry and Lean Six Sigma best practices, and collaboratively identifies custom improvement projects that would improve the supplier's performance. This approach improves upon historical assessments by focusing on manufacturing best practices and root cause analysis.
- Identifying 81 corrective actions to address major quality and cycle time issues, forecasted to close the current production gap by ~90% on average.



ADVANCED MANUFACTURING



Overview

Significant declines in the United States' traditional manufacturing industrial base necessitate investment in Advanced Manufacturing. Since the Cold War, U.S. capacity for castings and forgings has decreased by approximately 70%, and the manufacturing workforce has decreased about 40%. Furthermore, with the 140K+ tradespeople that must be hired over the next decade, technology must be used to drive efficiencies in the worker and the operations, and to de-risk the number of people actually needed.

Automation, robotics, advanced non-destructive testing techniques, additive manufacturing, artificial intelligence, digital plant, and generative scheduling are all existing technology opportunities to maximize the productivity of the existing workforce, which can bring non-traditional (advanced) manufacturing companies and opportunities into the Submarine Industrial Base. Advancing and scaling manufacturing technology is essential to meeting the Navy's construction and sustainment demands.

Over the past year, the Advanced Manufacturing team has made significant investments to mature and operationalize critical manufacturing technologies such as additive manufacturing, automation, robotics, and Industry 4.0 technologies across the submarine industrial base. These initiatives have realized the potential for strong returns on investment to date and are building a foundation that will enable implementation at scale in the coming years.

By enhancing capabilities in these areas, the team is unlocking the potential for shorter lead times, greater production throughput, and improved quality across the supply chain while buying down risk in fragile sectors of the industrial base.

ACCOMPLISHMENTS

- Significant advancement on 9 material and build process combinations (MPCs) to develop additive manufacturing process specifications targeting material equivalency to legacy production techniques that will target greater than 75% of troubled material availability components.
 - 7 of 9 MPCs will complete the Research and Development (R&D) phase of their test plans by end of FY24. All 9 MPCs are into their Test and Evaluation (T&E) phase due to aggressive overlapping test plans for the MPCs.
- 11 Industry 4.0 pilot projects with technology transitions to vendor base underway.
- 15 metal AM components installed onboard ships and submarines in FY24, bringing cumulative total of metal AM parts installed onboard ships and submarines to 19 since tracking began in FY20. Anticipating an additional 200+ metal AM components to be installed onboard ships and submarines in FY25, representing exponential growth in metal AM solving existing material availability challenges.
- 1,000+ Cumulative reduction in parts delivery and maintenance delays saved through additive manufacturing, advancements in non-destructive testing, and use of robotics for automation.
- 70 Active Automation and robotics initiatives underway, with an expected 10X increase in operator throughput in these project areas—250% more than in FY23.
 - Deploying robotic welding capability at HII-Newport News Shipbuilding and sub-tier vendor Pegasus to increase first-time quality and reduce re-work. The final product will be a 'Playbook' for any supplier to adopt.
- 200 printed parts produced by the Additive Manufacturing Center of Excellence, represent significant increases over FY23 production (28 printed parts and 28 Technical Data Packages). 200 printed parts include:
 - 155 printed parts, comprising 60 parts intended to support future fleet needs, OEM parts, developmental parts, higher education support parts, material maturity specimens, and 95 AM Data Files (AMDFs) representing ready-to-transfer processing files for industrial base transfer for future production runs.
 - 39 qualification prints, required for machine qualification to NAVSEA Technical Publications for both Laser Powder Bed Fusion (LPBF) and Directed Energy Deposition (DED).
 - 6 heat treat prints, used to help derive heat treat processing parameters for critical alloys.

Additive Manufacturing

The Navy SIB-led Additive Manufacturing Center of Excellence (AM CoE) in Danville, VA, is leading the Navy's drive to mature, scale, and operationalize additive manufacturing across the submarine industrial base, developing test-articles, transitioning Technical Data Packages, and qualifying vendors to enable AM capacity required to support the parts/component demand signal.

KEY HIGHLIGHTS

- The AM CoE has printed more than 155 submarine parts, supported printing of 8 AM submarine and surface ship parts to date, saving 920+ days of delay vs. traditional procurement.

Install examples:

- SIB program implemented an AM solution to produce a damaged part (an air-throttling valve) for a submarine in availability. Securing the replacement part via traditional procurement practices would have taken over 18 months and missed the "in-yard need date" by 16 months. The Navy's AM approach, alternatively, produced, tested, and delivered the replacement part from a 3D scan in less than 22 days total production time.
- AM CoE produced a stainless-steel Helo Hanger Door bracket to support an immediate material need for USS Spruance's (DDG-111) deployment. From initial request to installation took 13 days (AM CoE record) over the 4th of July holiday compared with a 40-week vendor quote for a conventionally manufactured part.
- The AM CoE developed and transitioned 95 Technical Data Packages, exceeding the FY24 goal. These packages provide the processes and parameters to transfer production to the industrial base to unlock serial production of parts at scale. Similarly, the AM CoE made significant strides in digital infrastructure and enterprise Product Lifecycle Management (ePLM) integration, paving the way for seamless transition of additively manufactured components into the Navy's supply chain.

Key Achievements

- Created technical data packages for critical components installed on submarines USS Kentucky, USS Nevada, and USS Pennsylvania, with provisioning of these parts now in process.
- Initiated Defense Logistics Agency (DLA) Small Business Innovation Research projects to transition traditionally manufactured valves and components.
- Established partnerships with NAVSEA 07L, NAVSUP, DLA, and Additive Manufacturing Logistics Integration Team (AMLIT) to develop efficient processes for inducting AM parts into the stock system.
- A SIB activation team consisting of AM CoE, Electric Boat, Newport News Shipbuilding, NAVSUP, and NAVSEA 05 qualified three (3) AM partners to the NAVSEA AM Technical Publications; a fourth is anticipated before the completion of the calendar year 2024.



Material Maturity & AM Moonshots

The SIB team made significant progress in efforts to validate AM material and process combinations (MPCs) as suitable replacements for castings and forgings. SIB partnered with stakeholders across NAVSEA, Naval Research Laboratory, Naval Surface Warfare Centers, Naval Undersea Warfare Centers, Department of Energy, and multiple industry partners to develop and implement test plans and procedures that confirmed MPCs are capable replacements for castings and forgings. The progress made in FY24 continued to build momentum for broad-scale adoption of AM as a viable production approach to source critical components and thereby reduce risk in fragile market sectors like castings, fittings, and forgings.

Together with the Shipbuilders, SIB completed an AM Demand Study, which identified 600 parts driving new-construction production delays, and evaluated the suitability of AM as a vehicle to help address risk. The assessment helped to inform a baseline demand signal that these 600 part numbers would result in nearly 10,000 parts with direct schedule improvements to 1+2.33 (Columbia Class +Virginia Class+AUKUS).

The SIB Technology team made strides in “Moonshot” efforts to additively manufacture SUBSAFE components, rapidly advancing Technology Readiness Levels (TRL) and Manufacturing Readiness Levels (MRL) for critical submarine parts manufactured via AM. These multidisciplinary initiatives, involving collaboration across industry, national laboratories, shipbuilders, and Navy entities, are pushing the boundaries of additive manufacturing for safety-critical applications in the submarine program.

- Destructive test articles are being produced across all three material Moonshot projects with an on-schedule delivery of January 2025: hull inserts, valve components, and brackets have all been developed and produced, leveraging expertise from multiple industry and Navy partners.
- Worked closely with submarine shipbuilder to generate procurement documentation and material specifications for all three moonshot projects to document the standards for additive manufacturing procurement in submarine construction.
- Demonstrated performance of additively manufactured plate using a high performance, low-alloy steel (targeting interchangeability to current production alloys) through shock and destructive crack testing. The US Army’s Hawthorne Army Depot, Puget Sound Naval Shipyard, and NSWC Carderock Division provided crucial support for this.
- Created comprehensive Qualification and Certification Plans for Moonshot projects, paving the way for fully integrating additively manufactured SUBSAFE components in future submarine designs.



AM Support to In-Service Fleet

The SIB team and its partners have leveraged additive solutions to support the in-service fleet. The Advanced Manufacturing community is targeting installation of 25 metal AM components by the end of CY2024, and has made notable progress against that objective, with AM installations on submarines and ships to date saving nearly 1,000 days of delay vs. traditional procurement approaches.

EXAMPLES INCLUDE

- The Navy SIB program implemented an AM solution to produce a damaged part (an air-throttling valve) for a submarine in an availability. The part was produced from a 3D scan and installed in 22 days compared to 18+ months with traditional processes.
- AM CoE produced a stainless-steel Helo Hanger Door bracket to support an immediate material need for USS Spruance's (DDG 111) deployment. From initial request to installation took 13 days (AM CoE record), compared with a 40-week vendor quote for a conventionally manufactured part.
- Installed Helo Hanger Door Pneumatic Valve Subplates for three-way and four-way valves on USS Shoup (DDG 86). This solution will be used to support future availabilities for 33 additional DDG 51 class ships (DDG 79 – DDG 112).
- Developed and implemented plan to install as many as 33 AM parts on USS Michigan (SSGN 727) as part of an FY25 pilot which will support future Ohio-class sustainment efforts. Several of these metal AM parts are also used on new-construction Columbia and Virginia Class submarines.
- SIB partnered with NNS and PEO CVN on a pilot to print 150 low-risk pipe fittings at NNS and an additional 210 low-risk fittings printed by the industrial base partners to be installed on USS John C Stennis (CVN 74) in a demonstration of AM capability to support rapid parts production.





AM for New Construction Submarines

The SIB team's efforts to deliver parts and material to in-service submarines help to advance the capability, maturity, and trust in AM. The team is also working directly with the shipbuilders, the AM CoE, industry, and other stakeholders to scale AM directly in support of new construction programs.

Efforts with Electric Boat and Newport News Shipbuilding are moving forward with part-by-part transition for AM material. These discussions motivated Material Maturity pivots toward interchangeability of additive material with castings. Both shipbuilders have made great strides toward adoption of additive manufacturing as seen in the details below.

KEY HIGHLIGHTS

- A Deck Drain assembly, produced of corrosion resistant alloy, received at NNS ready for installation on the USS John F Kennedy printed by Ammcon
- Low-risk Pipe fitting installation planned on CVN 79/80/81
- Titanium Gate Valve installation planned for USS Doris Miller 3D printed at Solvus Global
- EB and NNS generated list of 600 schedule-critical parts. SIB resourced both organizations to develop plans to print and machine additive spares from this list. Lincoln Electric Additive Solutions (LEAS) and AM CoE are currently manufacturing valve bodies and tailpieces for testing and installation in FY25
- 54 AM parts assembled into 9 Jet Blast Deflector toggle mechanisms are being manufactured for installation on USS John F. Kennedy



Industry 4.0 (I4.0) and Non-Destructive Testing (NDT)

The SIB program team ramped up efforts across advanced manufacturing technology market spaces such as robotics, automation and advanced non-destructive testing technology to increase manufacturing productivity and reduce processes burdens that hinder throughput.

SIB has more than 70 projects underway to advance automation, robotics, and other manufacturing technologies across the submarine industrial base by developing requirements, initiating pilot programs, and translating successful pilots into adoption across the industrial base at scale. Strategic technology projects are categorized by process automation, intelligent systems, infrastructure technology and non-destructive testing (NDT).

KEY WINS AND PARTNERSHIPS INCLUDE:

- In collaboration with Newport News Shipbuilding and a sub-vendor, the program was able to help Pegasus Steel qualify and deploy a robotic welding cell on a collaborative robot. Collaborative robots (cobots) are commercially available technology not widely used in the defense industrial base and are good fits for the high-mix, low-volume production environment of shipbuilding. Cobots increase welding efficiency, and first-time qualify by 45%.
- Deployed robotic inspection equipment on the USS North Dakota to validate equipment for the next submarine availability opportunity. Robotic NDT can augment the critical workforce gap, which caused a 12-week delay to this crucial maintenance availability from lack of available, trained, and qualified personnel. This demonstrates technology adoption and integration (including planning, pilots, qualification, certification and deployment) of new technology in lieu of traditional techniques in months versus years.
- Partnering with Penn State University to provide Cold Spray repair as a service to MIB. Cold Spray repair on Watertight Door Locking Ring Lugs reduced repair time from 100 labor days to 4 days.
- Deployed commercially available NDT technology and computed radiography, deployed at Norfolk Naval Shipyard and American Tank and Fabrication for submarine manufacturing, expecting to reduce part inspection time by 20%. In addition, updated top-level NAVSEA specification for NDT to include this new technology, which enables future shipyards and suppliers to procure, train, and qualify at scale.
- Investment into Naval Undersea Warfare Center Division, Keyport to provide engineering services to drive sustainment technology insertions for strategic capabilities such as Laser Ablation and Autonomous Maintenance Inspections. Deliverables include test and evaluation plans and approvals for alignment across key I4.0 areas.



Intelligent Systems

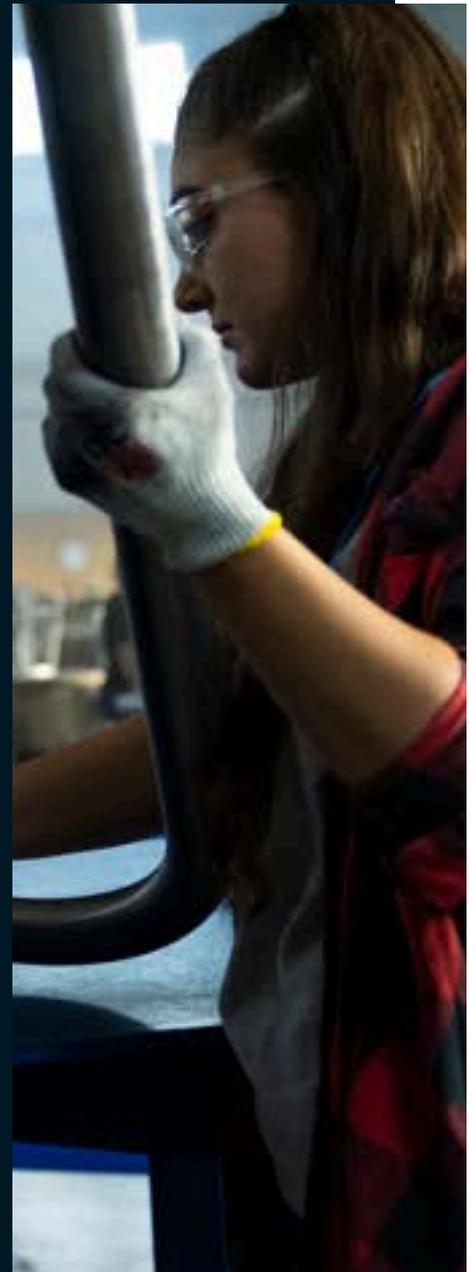
With advancements in AI-driven models for radiographic testing and the development of a streamlined NDT certification process, the Advanced Manufacturing team is pushing the existing Navy boundaries with the goal of improving accuracy and accelerating timelines across the submarine industrial base.

Examples of the commitment to deploying AI for shipbuilding construction include:

- Digitization of Radiographic Testing (RT) Film and development of an Artificial Intelligence / Machine Learning assessment tool.
- Current Navy requirements prohibit using digital formats for RT film, leading to delays of up to 8 months. The SIB program is funding the development of new requirements enabling digital collaboration and developing an AI model that is 76% accurate, matching 75% of the human inspector's capability. The goal is to reach 100% in FY25 with target applications, including training and workforce efficiency tools. This can significantly enhance inspection accuracy and speed, reducing manual labor while ensuring quality standards.



WORKFORCE DEVELOPMENT



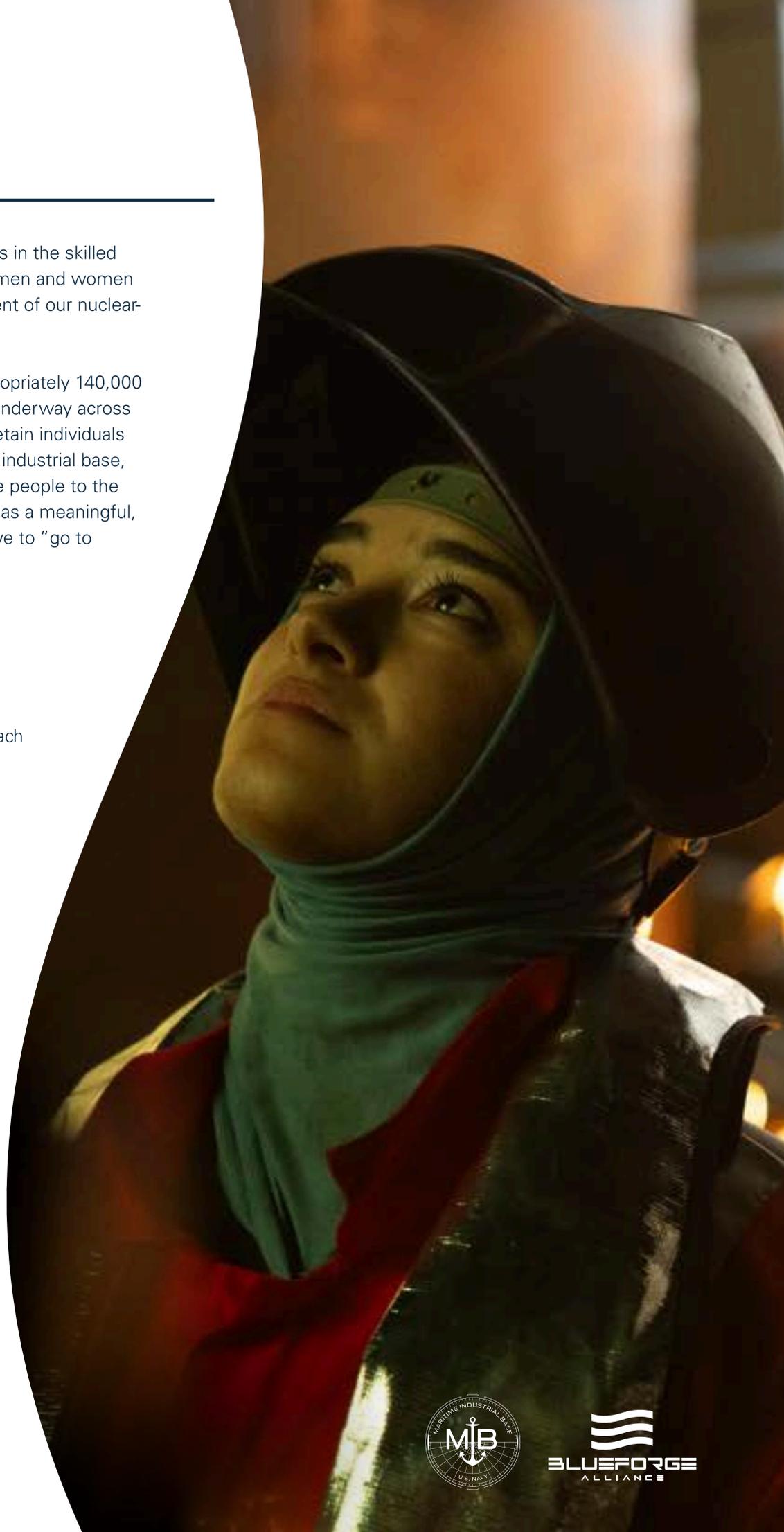
Overview

The backbone of Workforce’s mission lies in the skilled hands of the hundreds of thousands of men and women whose dedication guides the development of our nuclear-powered submarines.

Workforce efforts targeted at hiring appropriately 140,000 new workers over the next decade are underway across the country to attract, train, place, and retain individuals with the right skillsets into the maritime industrial base, with focused efforts on connecting more people to the mission, and highlighting manufacturing as a meaningful, family-sustaining career and an alternative to “go to college” culture.

KEY FOCUS AREAS

- Attraction and Recruitment
- Educational Programs and K-12 Outreach
- Training
- Placement and Partnerships



BLUE COLLAR TOUR. LONDON SERIES. STEAMCLIPSE.
SONOMA. POCONOS RACE. CT SUN FAN FEST. BUILT
TO LAST. MICHIGAN MARITIME MANUFACTURING.
PROJECT MFG MARITIME CLASH OF TRADES
CHAMPIONSHIP. WESTERN WELDING ACADEMY. BE
PRO BE PROUD. AMERICAN WELDING SOCIETY.
RICKWOOD FIELD GAME. RAPID CONFERENCE.
DVIRC. MLB ALL STAR. CHICAGO. HIRE HARTFORD.
BATTELLE TEACHER ACADEMY. THE AMERICAN
SCHOOL COUNSELORS ASSOCIATION. NATIONAL
EDUCATION ASSOCIATION. ROBONATION.
NEXTGENED. SEA CADETS. PEER FORWARD.
PROJECT PROVIDENCE. JOHN D. HAYNES SCHOOL OF
WELDING TECHNOLOGY. **1.5 MILLION+ APPLY CLICKS**
ON BUILDSUBMARINES.COM. LONG ISLAND
RAILROAD MARKETING CAMPAIGN. CT SUN -
WOMAN OF INSPIRATION NIGHT. YANKEE GAME
SUPPLIER EVENT. RICHMOND RACE. M3
ANNOUNCEMENT. NUTS, BOLTS & THINGAMAJIGS.
ATDM. VIRGINIA REGIONAL MARITIME
TRAINING SYSTEM **5,000+ TRAINED INDIVIDUALS.**
FABTECH. SCOUTING OF AMERICA.
#PHILLYBUILDSGIANTS MURAL DESIGN. NAVY
FOOTBALL GAME. IMTS CONFERENCE. CT SUN AT TD
GARDEN. DARLINGTON RACE. CT SUN STEM NIGHT.
AUBURN & ALABAMA SPORT PARTNERSHIPS.
HARTFORD YARD GOATS. MILB PROGRAM ADS.

Attraction and Recruitment

The Navy SIB program has made significant strides in raising awareness and connecting people with career opportunities in maritime manufacturing. Throughout FY24, key partnerships with NASCAR, Major League Baseball (MLB), the Connecticut Sun Women's NBA team, and NCAA college football provided national and regional stages for elevating the conversation around maritime manufacturing.

Local efforts have been equally impactful, including community and youth sports sponsorships. The Michigan Maritime Manufacturing (M3) program exemplifies this approach with more than 70 youth sports sponsorships across Detroit and Grand Rapids.

These efforts have driven significant engagement on BuildSubmarines.com:

12M+

total website sessions on
buildsubmarines.com

1.6M

visits to the site on event
days (NASCAR, MLB, etc.)

560K+

job alerts created based on
geography or career track

48K+

candidate profiles created

105K+

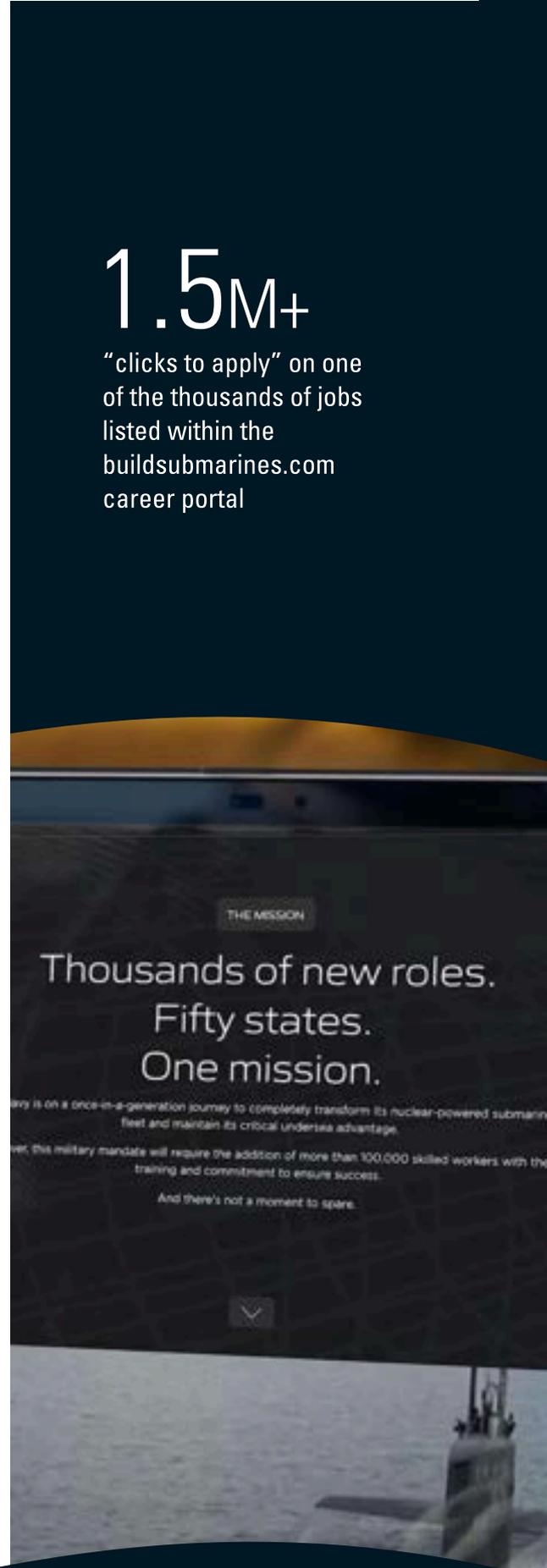
jobs listed on the website
between Sept 2023 – Sept 2024

1800+

SIB suppliers' careers are
active in the career portal

1.5M+

"clicks to apply" on one
of the thousands of jobs
listed within the
buildsubmarines.com
career portal



Media Campaigns — “We Build Giants” (BuildSubs)

In FY24, we rolled out a comprehensive national marketing campaign designed to grab attention and spark imagination, driving awareness for submarine manufacturing careers and securing a continuous flow of talent into the submarine industrial base. Our “We Build Giants” campaign, developed for our BuildSubmarines.com brand, was crafted to attract talent both in the short and long term by emphasizing the scale and significance of the industry.

Key components of the campaign included a signature commercial aired during major cultural events, along with a robust cross-channel activation strategy. This expansive campaign leveraged pre-roll videos, out-of-home advertising, digital display banners, social media, search marketing, and streaming audio, ensuring that our message reached target audiences at key moments of engagement. Through these efforts, we aimed to inspire potential talent and strengthen the pipeline of talent critical to the submarine industrial base’s current and future success.

1.5B

media impressions via
the “We Build Giants”
campaign in FY24.

[Link to Signature](#)

[“We Build Giants” Commercial](#)



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Build Submarines April 11 at 11:01 AM · 🌐

Join the men and women building our Navy's next generation submarines and learn the skills to build a career as big as your ambition.

We build giants. Because it takes a giant to build one.



BuildSubmarines.com

We Build Giants [Learn more](#)

Build your career

👍 3 1 comment

👍 Like 💬 Comment ➦ Share



Media Campaign — Maritime Manufacturing “Built to Last”

Launched in May 2024, the “Built to Last” campaign was aimed at raising awareness of career opportunities in maritime manufacturing. Featuring a reimagined Rosie the Riveter, the campaign targets Gen Z, encouraging them to pursue impactful, long-term careers in this vital industry. Rosie, who originally symbolized women’s contribution to WWII manufacturing, now champions maritime roles that support the U.S. Navy’s mission. The campaign also reaches parents, mentors, and educators, key influencers in shaping career decisions.

Viewers are directed to [CareersBuiltToLast.com](https://careersbuilttolast.com), a mobile-first platform showcasing career opportunities and training programs across all 50 states. With a broad media approach, including national and regional outreach, “Built to Last” highlights the stability, purpose, and advancement potential in maritime careers.

540M+

media impressions via the
“Built to Last” campaign since
it launched in May ‘24.

625K+

site sessions to
careersbuilttolast.com website
since it launched in May ‘24.





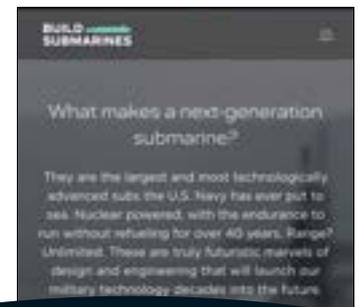
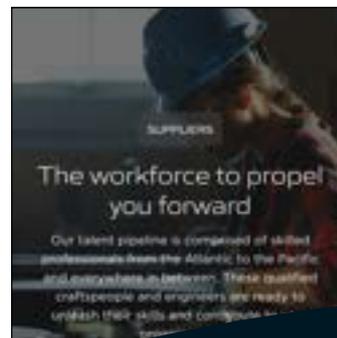
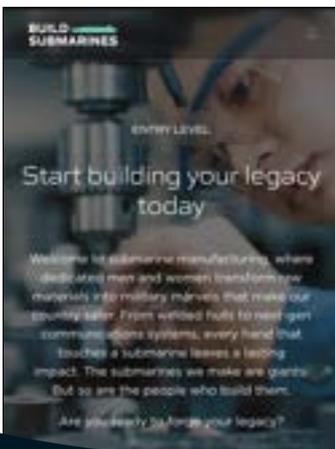
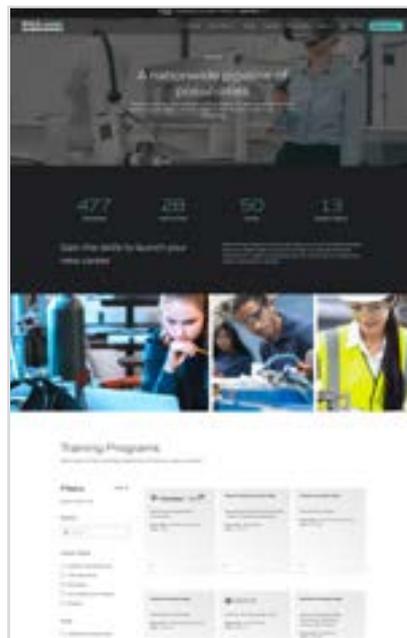
BuildSubmarines.com Website

In FY24, we expanded on the previously launched BuildSubmarines.com website, transforming it into a bottom-of-the-funnel conversion engine designed to match talent with critical opportunities across the submarine industrial base. We created a streamlined destination to connect interested candidates with meaningful career paths, providing easy access to open job and training opportunities across the thousands of suppliers supporting the submarine production mission.

The enhanced site now features:

Career Portal: Powered by ZipRecruiter, connecting job seekers with roles throughout the maritime manufacturing ecosystem

Training Portal: Showcasing 477 programs at 28 institutions, offering resources on industry-relevant programs





Subject: BuildSubmarines.com

Just some feedback from posting our first job on BuildSubmarines.com — the applications we received were excellent. Had intended to hire one person and ended up hiring two.

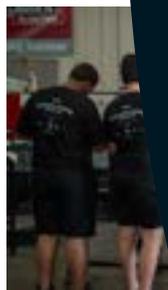
We have typically used indeed.com in the past. The quality and mission alignment of the candidates coming in from BuildSubmarines.com was a huge difference.”

—An unprompted e-mail from a SIB Supplier

Educational Programs and K-12 Outreach

In an effort to reach more people, earlier, the team's educational programs have focused on hands-on activities, professional panels, SIB supplier field trips and job-shadowing, educational curricula, and experience/exposure opportunities.

Over the last year, key partnerships including Battelle Teacher Academy, The American School Counselors Association, National Education Association, RoboNation, NextGenEd, Sea Cadets, Peer Forward, Nuts, Bolts, & Thingamajigs, and Craftsman with Character have enabled outreach and engagement with students and educators focused on elevating manufacturing career pathways.



KEY HIGHLIGHTS

25,000+

students engaged through outreach and submarine manufacturing activities in 30 states

70+

teachers engaged through trainings and camps

6,000+

High School students reached through outreach activities including Nuts, Bolts & Thingamajigs, STEAMclipse, Scouting of America, Western Welding Academy's Blue-Collar Tour and Be Pro Be Proud

3M+

educators, school counselors, and administrators across the country exposed to SIB educational programs and attraction materials, providing career exploration, soft skills, and character development curriculum resources as well as professional development opportunities

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Training

To reach a sustained hiring demand of 14,000 new workforce members year-over-year for the next decade to build and maintain submarines, we worked in partnership with shipbuilders, suppliers and state/local communities to understand employer demand signals for the most critical skills needed to support the maritime industrial base.



250

Accelerated training cohorts launching as part of the Michigan Maritime Manufacturing (M3) initiative will result in 250 welders and machinists annually for suppliers throughout Michigan

5,000

During FY24, Southeastern New England Defense Industry Alliance (SENEDIA) achieved and exceeded their "5,000 trained" milestone



1,800

Virginia Regional Maritime Training System investments for skilled trades training will increase throughput of trained individuals by more than 1,800 over the next year

4,000+

Individuals across dozens of training pipelines in critical maritime industrial base skills, including ~2,700 across five state level Talent Pipeline Programs (TPPs) in Philadelphia and Pittsburgh, PA; Hampton Roads, VA; Boston, MA; and Long Island, NY



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National Training Model

The Accelerated Training in Defense Manufacturing (ATDM) program in Danville, VA, graduated 335 trained and certified craftsmen with the skills needed to contribute immediately. The program has continued to scale, producing double the number of trained graduates in FY24.

614

ATDM has graduated more than 614 diverse students from nearly 30 states since its inception in June 2021. Of the 412 career seekers, 77% have been placed in the submarine and broader defense industrial base.

1,000~

The program will move into its new training facility in December 2024. This facility will enable ATDM to reach its full operational capability of ~1000 graduates per year by the end of 2025.



Talent Pipeline Programs

In FY2024, SIB's state-level Talent Pipeline Programs (TPPs) in Boston, Philadelphia, Pittsburgh, Long Island and Hampton Roads – which include nearly 300 small and medium industry partners – yielded more than 2,700 pipeline hires across the maritime industrial base. This is a 300% increase from FY23.

Key Highlights:

- Success of these programs led to the formal launch of a Southern California pipeline in FY24, which already includes more than 50 suppliers.
- Launched an Enterprise pipeline with several multi-site suppliers who will implement the TPP model at more than 25 sites.
- Expanded regional pipelines to ensure that interested suppliers outside of the pipeline locations can receive the same talent, acquisition, and retention support no matter where they are located.



Partnerships

The SIB program continued to form and build upon vital partnerships with organizations strategically aligned to support the mission. These partners engaged both suppliers and training institutions to help attract and place candidates, upskill employees, and retain valuable skilled trades workers.

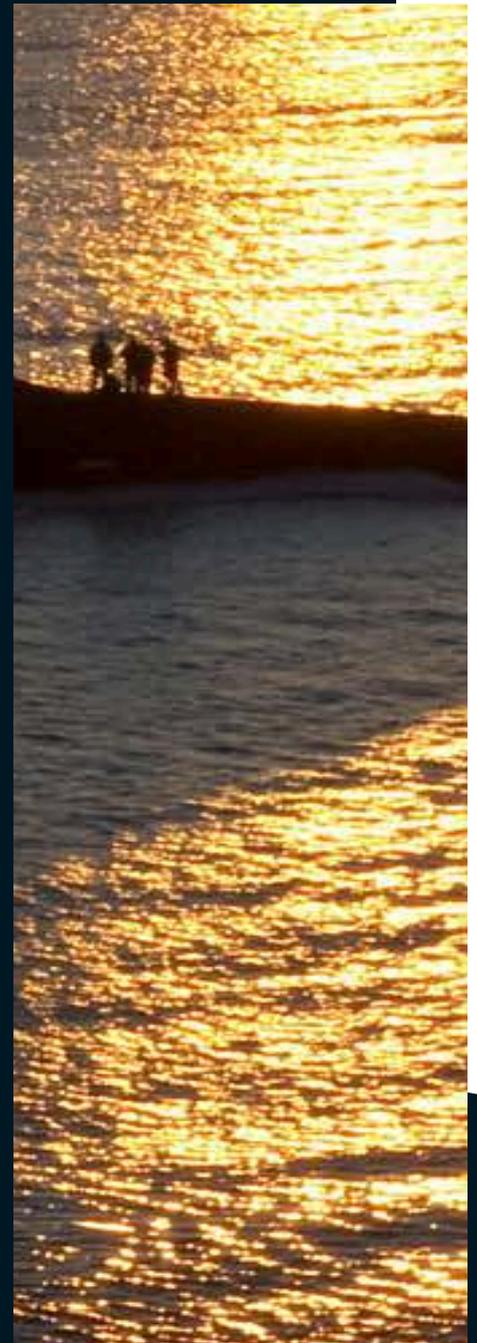
Our partnership with NextOp resulted in the placement of 60 veterans in maritime manufacturing, and we anticipate to grow to 100 by year's end.

Featured Project: The Delaware Valley Industrial Resource Center

- The Delaware Valley Industrial Resource Center (DVIRC) launched the #PhillyBuildsGiants campaign and provided outreach to 680 SIB suppliers in the Delaware Valley (Philadelphia, Delaware, southern New Jersey) area.
- This local campaign led to engagement with 151 local suppliers, 39 of which were recruited to join the Talent Pipeline Program.
- Seven community events and interaction with over 400 students.
- A Philadelphia-themed video targeting adults looking for a new career resulted in 276K YouTube views and 1,880 form submissions for more information about careers in the maritime industrial base.



FY2025 AND BEYOND



From Depths to Horizons: The Evolution of the Navy's Industrial Base Strategy

In October 2021, amidst an increasingly complex global security landscape and acute supply chain and workforce challenges, the U.S. Navy established the Submarine Industrial Base (SIB) program to address once-in-a-generation ramp in demand for submarine construction. This initiative was critical as the U.S. Navy embarked on its largest submarine recapitalization effort in 50 years, with a laser focus on delivery of one Columbia-class ballistic missile submarine and two Virginia-class attack submarines annually by 2028. This ambitious goal represents a fivefold increase in new submarine construction and will place an enormous strain on an already stressed Defense Industrial Base.

Rising geopolitical tensions, notably with China and Russia, continue to shape the strategic environment and drive the need for a robust and agile undersea fleet to maintain maritime dominance and strategic deterrence. At the same time, there are significant challenges facing nation's maritime industrial base and its ability to meet the Navy's force structure goals.

Recognizing the interconnected nature of naval shipbuilding and the broader maritime industry, the Navy has taken a bold step forward. In September 2024, building on the successes and lessons learned from the work that preceded it, the Navy established the Maritime Industrial Base (MIB) Program, a Director Reporting Program Manager (DRPM) to the Assistant Secretary of the Navy for Research, Development, and Acquisition. This strategic reorganization integrates the Submarine Industrial Base and Surface Combatant Industrial Base (SCIB) programs into a cohesive entity focused on the overall health of the maritime enterprise.

The transition to the MIB Program represents a comprehensive approach to revitalizing America's shipbuilding and ship sustainment ecosystems, more holistically addressing challenges and opportunities, and responding to a comprehensive Navy demand signal.

As we look to the future, transitioning from the SIB program to the MIB Program Office marks a pivotal moment in the Navy's industrial base strategy, opening the aperture in efforts and investments to meet future defense demands more effectively. This strategic realignment will play an instrumental role in realizing the vision of Secretary Del Toro's Maritime Statecraft – a whole-of-government effort to rebuild the nation's comprehensive maritime power and position the Navy and industry to build the expanded surface and submarine fleet required to achieve our National Defense Strategy.





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