

Port Detroit Innovation Terminal

Case Studies and Recommendations

Innovation Hub Programming, Implementation, and
Workforce Development Findings

September 18, 2026



Overview

Overview of Recommendations

This deliverable profiles innovation hub case studies and workforce development opportunities to inform the following recommendations for the Detroit Innovation Terminal:

Case Study Takeaways

- 1 Shared infrastructure works best when it's paired with a strategic programming.** Shared testing infrastructure can be complemented by incubator/accelerator programming, workforce development partnerships, and/or industry convenings.
- 2 A mixed user base facilitates cross-pollination.** Best-in-class hubs co-locate startups or growth-stage companies with established industry and research institutions to foster collaborations, mentorship, and commercialization.
- 3 Phased, right-sized implementation reduces risk and builds credibility for expansion.** Port Detroit's initial 25,000 SF office/lab could seed a larger innovation campus, framed as funders as a deliberate, de-risked strategy.
- 4 Long-term sustainability depends on a clear operating and revenue structure.** Detroit will need to resolve who operates the Terminal day to day and how revenue streams (membership, leases, philanthropic or public funding) will cover operating costs.

Workforce Takeaways

- 5 M3 offers the most concrete workforce partnership pathway available right now.** The Terminal may not need to build new training infrastructure. Classes could stay at Macomb's existing facilities, with the Terminal serving an apprenticeship and placement site, letting anchor tenants draw on M3 graduates.
- 6 Youth exposure through K-12 pathways is important for maintaining a pipeline of skilled maritime and manufacturing workers.** Port Detroit should use the facility's shared testing and demo environment as a site for structured youth touchpoints, career-connected tours, capstone projects, and paid work-based learning placements with anchor tenants.

Innovation Hub Case Studies and Recommendations

Case study approach

Purpose

The following case studies are intended to understand characteristics of successful maritime innovation and research organizations and provide lessons the Port Detroit could adopt to ensure successful delivery of an Innovation Terminal. While some are larger in scale, these case studies were selected due to their relative commonality to Port Detroit, their success in incubation of the blue economy, and their unique partnership structures.

Data Sources

The project team had the opportunity to speak with representatives from AltaSea and Maritime Blue. The information presented in the following case studies is a mix of firsthand detail received directly from representatives of these organizations supplemented with external research from the organizational websites when necessary. Information on the Port of Gulfport is sourced from websites published by the Mississippi Port Authority and University of Southern Mississippi.

Case studies at a glance

Characteristics	Port of Gulfport <i>(Gulfport, MS)</i>	AltaSea <i>(Los Angeles, CA)</i>	Maritime Blue <i>(Seattle, WA)</i>
Size	80k SF	225k SF	21k SF
Partnership Structure	Port + University	Port + Nonprofit	Port + Nonprofit
Sector Focus	Uncrewed maritime systems, federal ocean observation, sensing/surveillance technologies	Aquaculture, underwater robotics, ocean/hydrogen energy, port resilience, coastal policy	Maritime decarbonization, clean vessel tech, sustainable fisheries/seafood
Programming	Public and private R&D, startup accelerator, workforce certificate training	Public and private R&D, apprenticeship placement, sector engagement	Innovation accelerator, innovation incubator, sector convening, policy advocacy
User Mix	Early-stage + Established Companies + Federal Agencies	Early-stage + Established Companies	Early-stage + Established Companies
R&D Testing Capacity	✓	✓	
Academic Partner	✓		
Startup Incubation	✓	✓	✓
Established Companies	✓	✓	✓

Case Study Takeaways



	Port of Gulfport	AltaSea	Maritime Blue
<i>Programming</i>	Shared testing infrastructure facilitates testing across company stage and can support workforce development.	In addition to strong testing infrastructure, education, workforce development, and public engagement are all treated as core functions.	A strong role as a regional convenor positions Maritime Blue as a central anchor of the Pacific Northwest's blue economy.
<i>User Mix</i>	Co-location of startups with established industry and research partners creates pathways to collaboration, pilots, and commercialization.	Co-locating startups, established firms, universities, and research institutions creates a diverse innovation ecosystem.	Combining open membership access with dedicated incubator and/or accelerator support creates a supportive startup environment.
<i>Implementation</i>	A smaller initial facility can validate demand and position the broader campus for future investment and expansion.	A phased development approach can help scale operations, programming, and partnerships to identify priorities aligning with demonstrated success and interest.	Lease and recurring dues revenues combines with philanthropic contributions to create a sustainable financial model.
<i>Partnership</i>	A formal operator/anchor-tenant relationship between USM and Port of Gulfport ensures each entity plays to its strengths.		Maritime Blue's status as a dedicated nonprofit operator lets it run the hub more effectively than the Port of Seattle could on its own.



Port of Gulfport

Gulfport, MS

80k SF

A dual-building facility at the Mississippi State Port Authority at Gulfport, co-developed by the University of Southern Mississippi (USM) and the Port of Gulfport.

The **Marine Research Center** serves as home base for USM's research vessel fleet and houses the university's own research scientists and students, running laboratories, a fabrication shop, and a test tank with direct access to the Gulf of Mexico. It is also open to industry and federal partners for testing and prototyping.

The newer **Roger F. Wicker Center for Ocean Enterprise** ('the Center for Ocean Enterprise') opened in 2023, co-locating federal, academic, and industry partners across shared lab and training space.

Key Organizational Roles

Port of Gulfport

Owner of facility and underlying port land. Main funder of construction and infrastructure.

University of Southern Mississippi

Anchor tenant and primary facility operator, managing laboratories, research programs, and co-location agreements.

Port of Gulfport| Physical Facility

Total Campus	80k SF
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Marine Research Center Research and testing	18k SF
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Roger F. Wicker Center for Ocean Enterprise Innovation, commercialization, and workforce development	62k SF
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Key Users

- **Anchor Tenant:** National Oceanic and Atmospheric Administration
- **Academic/Research:** University of Southern Mississippi (anchor tenant)
- **Established Companies:** OceanAero, Sarconic



Port of Gulfport | Operating Roles



Operating as a subsidiary of the Mississippi State Port Authority, the Port serves as the public landlord across the Port of Gulfport campus, administering leases at both the Marine Research Center and the Center for Ocean Enterprise.



USM operates day-to-day programming at the Marine Research Center and the Center for Ocean Enterprise including R&D facilities and Maritime Training Program tracks. USM signed the 2023 lease formalizing the Center for Ocean Enterprise's opening and hosts research vessels including R/V Point Sur and R/V Ken Barbor. It also co-runs the Gulf Blue Navigator accelerator with regional partners.



The National Oceanic and Atmospheric Administration is the anchor federal tenant, holding a lease at the Center for Ocean Enterprise. NOAA also uses USM's CUBEnet testing network for on-water evaluation of uncrewed systems. This partnership directly operationalizes Senator Wicker's 2018 CENOTE Act, which mandated closer collaboration between NOAA, universities, and industry.



Based out of downtown Gulfport, USM co-administers the Gulf Blue Navigator accelerator with NVision Solutions' Unmanned Coast and Jackson State University. Unmanned Coast supports Mississippi's unmanned marine systems industry, connects startups to defense and government contracting opportunities, provides business development mentorship, and helps companies navigate federal procurement and supply chain partnerships. Jackson State University co-selects cohort participants and contributes academic and research expertise, strengthening the talent pipeline and expanding institutional participation.

Port of Gulfport | Programming



Testing and Commercialization

The Center for Ocean Enterprise's real-time network of ocean sensors and robotic vehicles, CUBenet, builds 3D-plus-time picture of the Gulf's water, allowing companies **test technology in water with maximum information on its conditions**. The Prototype Fabrication Shop provides **specialized industrial machinery to build and test prototypes on-site**. The facility also has an indoor water tank.

Private tenants include **Ocean Aero**, an autonomous maritime drone manufacturer, that **moved its headquarters to Gulfport** in 2021, adding over 60 local jobs to the region. In August 2026, autonomous-vessel maker **Saronic opened a 30,000+ square-foot site at the port to test its unmanned ship**, the Marauder, logging hundreds of hours of trials within weeks of its arrival.



Academic and Federal Research

USM runs its own uncrewed-systems and ocean-data research at the Marine Research Center, operating the fabrication shop, test tank, and CUBenet network from there.

The Marine Research Center hosts three research vessels, including the Point Sur (135 ft, ocean research), the self-driving Ken Barbor (48 ft, autonomous vessel testing), and the National Science Foundation's Gilbert R. Mason (199 ft, large-scale scientific expeditions).

NOAA also leases permanent lab space at the Center for Ocean Enterprise for federal research.



Workforce Development

The Center for Ocean Enterprise hosts **four training programs** teaching high-demand skills across the ocean-tech industry: **cybersecurity, autonomous vessel operation, maritime uncrewed systems, and data analytics**. Each 4-8 hour course pairs online lessons with an in-person day at the Marine Research Center, where students operate the center's autonomous R/Vs and run real test missions.

The Marine Research Center secured state funding to cover the cost (\$1,500 per course) for **veterans, transitioning service members, and local workers looking to move into blue-tech careers** while it was available. Although that COVID relief funding has since ended, the same courses remain available for a fee.



Startup Accelerator

Located outside of the Marine Research Center and the Center for Ocean Enterprise, Gulf Blue Navigator is a four-month startup accelerator run by USM, Mississippi engineering firm, NVision Solutions, and Jackson State University for early-stage blue-tech companies. Startups receive co-working space at Gulfport's Gulf & Ship Island Building located in downtown Gulfport, mentorship, and introductions to industry and government partners. Selected companies must register as Mississippi businesses, turning short-term mentorship into lasting local economic presence.

One recent cohort drew over 260 applicants for 6 spots. The Center for Ocean Enterprise's conference space has hosted major public events for the program.

Port of Gulfport | Timeline

2016-2018

Through a state funded partnership, **USM and the Port of Gulfport break ground in 2016** on the **Marine Research Center**, which opens in early 2018.

2018

In December, Senator Roger Wicker's **CENOTE Act** passes, directing NOAA, research universities, and private industry to collaborate on unmanned maritime systems. Paired with MS Governor Phil Bryant's **Ocean Task Force blue-economy roadmap**, this becomes the legislative and policy foundation for the **Center for Ocean Enterprise** to co-locate federal, academic, and private partners at the port.

2019-2021

Groundbreaking begins on the Center for Ocean Enterprise in November 2019, funded partly through federal Hurricane Katrina port-reconstruction money and designed to operationalize the CENOTE Act's model. In September 2021 **Ocean Aero** becomes the site's first major private anchor tenant.

2022-2023

USM launches a pilot cohort of the Gulf Blue Navigator accelerator in late 2022, bringing early-stage blue-tech startups into the ecosystem before construction of the Center for Ocean Enterprise finishes. In October 2023, **Ocean Aero's facility** and the newly built **Center for Ocean Enterprise** both hold ribbon-cutting ceremonies. **NOAA** signs a lease for permanent on-site office and lab space.

2024-2025

The **Gulf Blue Navigator's** first full post-pilot cohort is selected in 2024. A third cohort runs in 2025, shifting focus toward **coastal-resilience startups** and continuing the accelerator's role feeding new companies into the site's growing ecosystem.

2026

Saronic, a well-funded autonomous-defense-vessel company, opens a 30,000+SF testing and commissioning site at the port for its Marauder unmanned surface vessel, logging hundreds of testing hours within weeks. USM and port officials explicitly credit the **Center for Ocean Enterprise** uncrewed-maritime strategy for **attracting this investment**, calling it the strongest validation yet of the approach.

Port of Gulfport | Funding

Capital Funding

~\$42M total campus cost

State Government

Mississippi Dept. of Environmental Quality, RESTORE Act grant, state appropriations to USM

Federal Government

CDBG-DR Port Restoration Grant

Other

Port of Gulfport and USM partnership

Operating Funding

While information on general operating costs is not publicly available, USM sustains its research activity through a continuous pipeline of competitively awarded federal and state grants. The Center for Ocean Enterprise's tenants, philanthropy, and other sources may also generate revenue, though information is not clearly publicly disclosed.



Port of Gulfport | Programming

Accelerator programming such as mentorship and business development support can complement testing infrastructure and help startups commercialize.



Gulf Blue Navigator, operated by USM, NVision Solutions, and Jackson State University, **provides early-stage startups with mentorship, business development support, and access to the Marine Research Center's testing infrastructure through site visits and technical engagement opportunities**. While participating companies are primarily based in a downtown coworking space and do not permanently co-locate within the Marine Research Center or Center for Ocean Enterprise, the accelerator **serves as a gateway to shared facilities, expertise, and industry networks**.

Detroit's Innovation Terminal could adopt a similar approach by providing startups with structured mentorship, business development support, and staged access to shared testing infrastructure through partnerships with universities, industry stakeholders, and public-sector entities. **Programming could connect early-stage companies to technical expertise, site visits, demonstration facilities, and pilot opportunities, helping build readiness for future growth and tenancy**. Shared water-based and mobility-testing assets could further **reduce barriers to innovation** by providing access to specialized infrastructure.

Port of Gulfport | Shared Testing Infrastructure

Shared testing infrastructure facilitates testing across company stage and can support workforce development.

Gulfport's **shared testing infrastructure allows a diverse array of users to test and prototype new technologies**. USM operates its own labs, fabrication shop, and test tank at the Marine Research Center. NOAA leases permanent office and lab space at the Center for Ocean Enterprise. Ocean Aero and Saronic each operate independent facilities elsewhere at the port. However, **all entities rely on the same Gulf-based testing range and CUBEnet sensor network** to evaluate their systems, **testing independently while sharing the region's core testing infrastructure**.

Gulfport also leverages testing assets for training courses that put trainees directly on research vessels, **giving workers hands-on experience with the same equipment used by on-site companies**. This model links workforce development directly to the site's physical infrastructure rather than treating training as a separate program, providing useful hands on-experience to trainees.

Port Detroit could consider leveraging shared testing infrastructure for both **commercialization** and **workforce training purposes**. This approach can **create knowledge-sharing opportunities and provide trainees with enhanced educational experiences**. However, the feasibility of this approach will depend on the type of testing infrastructure provided and whether it has synergies with workforce training and skills requirements.

Port of Gulfport | Academic Operator

A formal operator/anchor-tenant relationship between USM and Port of Gulfport ensures each entity plays to its strengths.



The Port of Gulfport owns the land/facility and funded construction, while USM is anchor tenant and primary operator, managing labs, research programs, co-location agreements, and workforce development. This operational split lets each partner focus on its strength; the Port secures capital, manages real estate, and reduces its own operating risk and staffing burden, while USM gains dedicated research and testing space, plus autonomy to run programs, recruit tenants, and pursue grants aligned with its academic mission, **accelerating research output and workforce development neither could achieve alone.**

Port Detroit could seek an educational partner or set of partners that can provide strong maritime institutional capacity. **Formalizing this into an anchor-operator role** could have **UM operate and staff core research/testing labs, lead recruitment and management of co-location agreements, or facilitate workforce training partnerships.** Under this model, Port Detroit retains landlord and capital-funder responsibilities, while the educational partner(s) support operations and extend capacity.

Port of Gulfport | Initial Catalytic Phase

A smaller initial facility can validate demand and position the broader campus for future investment and expansion.



The full Gulfport campus was **built in two phases roughly seven years apart**. The Marine Research Center came first: an 18,000 SF state-funded academic facility that gave USM an initial foothold to establish research programs, build partnerships, and prove out demand before any large-scale investment followed. That early activity helped lay the groundwork for the much larger, federally-funded, 62,000 SF Center for Ocean Enterprise, leveraging initial academic critical mass from USM to attract commercial tenants.

For Detroit, the initial 25,000-square-foot Innovation Terminal could serve as a first-phase catalyst driven by an academic anchor, similar to Gulfport's 18,000-square-foot Marine Research Center. The facility could **establish programming, tenant relationships, and commercialization activity that demonstrate demand, attract partners, and support future expansion of the broader innovation hub**.



AltaSea

Los Angeles, CA

225k SF

AltaSea is a nonprofit blue-economy campus at the Port of Los Angeles that brings together startups, industry leaders, universities, and public-sector partners who are advancing sustainable aquaculture, ocean exploration, underwater robotics, marine energy, ocean data, and other emerging maritime technologies.

AltaSea primarily focuses on innovation and education. It has a **Center for Innovation** that serves as the campus' hub for research, testing, and commercialization, as well as a **Center for Education and Engagement** which will serve as the campus's hub for education and public engagement.

Key Organizational Roles

Port of Los Angeles

Owns underlying land and waterfront infrastructure; long-term landlord and public sector partner.

AltaSea 501(c)(3)

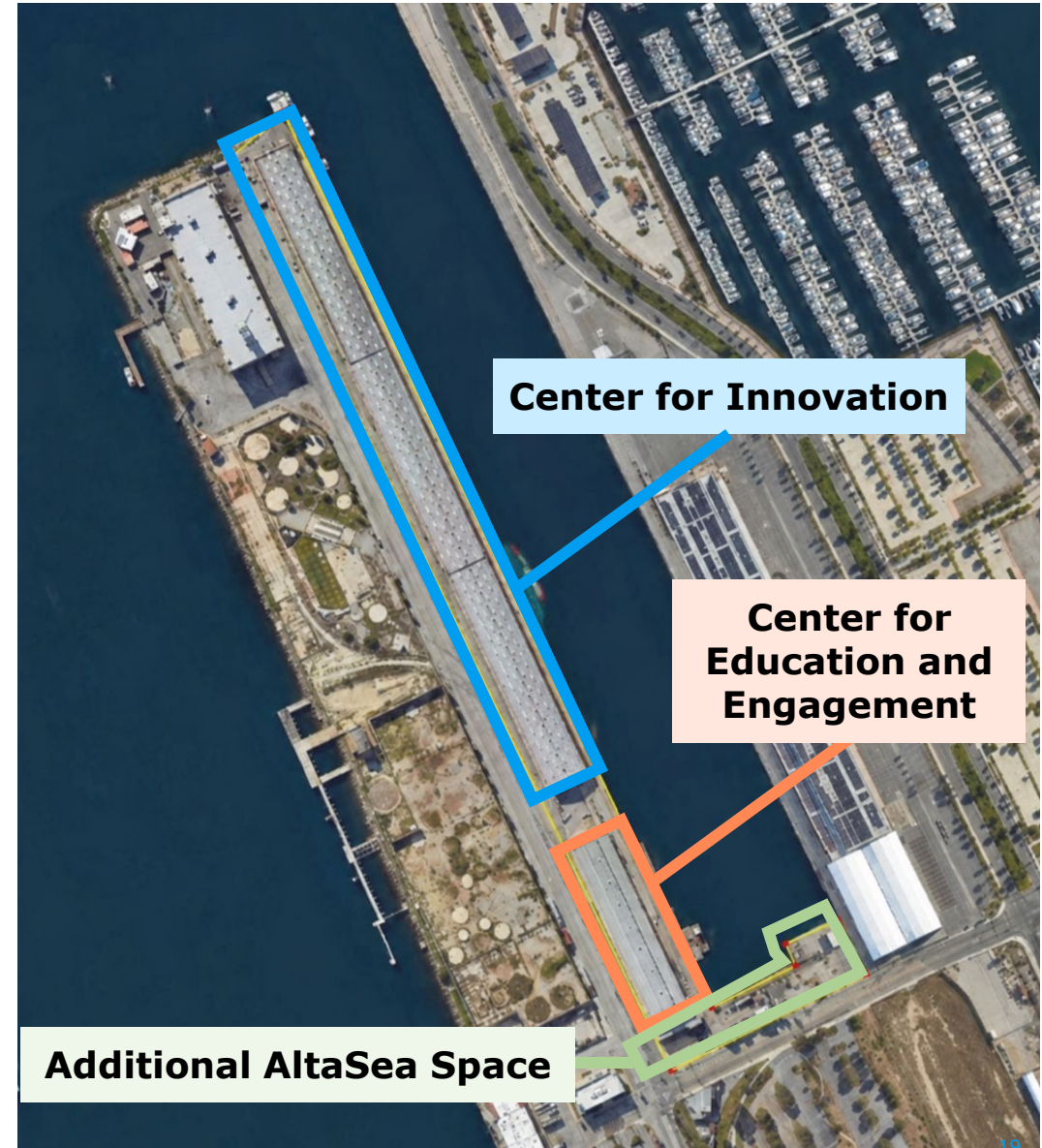
Operator responsible for tenant leasing, partnerships, workforce development, programming, and ecosystem building.

AltaSea | Physical Facility

Total Campus	35 acres
Center of Innovation Business incubator, blue economy	180k SF
Center for Education and Engagement Education programming and engagement	45k SF
Deep-water Dock Exploration vessels, research barges	3k linear feet

Key Users

- **Anchor tenants:** University of Southern California, Southern California Marine Institute
- **Established companies:** Blue Robotics, Boeing Echo Voyager
- **Startups:** Braid Theory (startup incubator and accelerator), Holdfast Aquaculture, Montauk Technologies, Pacific Mariculture, Eco Wave Power, Carlsbad Aquafarm, Nautilus Data Technologies, RCAM Technologies
- **Academic/Research:** CalTech, UCLA
- **Government:** California Department of Fish and Wildlife
- **Nonprofit:** Ocean Exploration Trust



AltaSea | Programming



Center for Innovation

The Center for Innovation serves as the campus's **primary hub for ocean technology research, commercialization, and testing.**

It offers flexible offices, laboratories, and collaborative workspace paired with direct waterfront access, allowing startups, researchers, and established companies to develop, pilot, and scale new technologies. As of November 2025, the Center was ~85% leased with 27 tenants. Braid Theory, AltaSea's first tenant, runs its blue-tech accelerator programming from a dedicated co-working and testing site within the Center.

Users range from early-stage startups to major industry and academic partners, creating a shared ecosystem for innovation and commercialization.



Center for Education & Engagement

The current Center for Innovation delivers Ocean STEM **programming for K-12 through college students** including field trips, high school research mentorships, curriculum resources, and hands-on lab experiences that introduce students to ocean science.

The Center for Education and Engagement, scheduled to open in 2027, will feature **technology laboratories and flexible education and exhibition spaces** that expand opportunities for research, learning, and public engagement.



Workforce Development

AltaSea supports workforce development **through trainings, structured STEM education, and facilitated blue economy career pathways.**

The AltaSea campus offers **paid internships, summer mentorship opportunities, and ocean STEM courses.** It created and participates in the **Ocean Careers Pathway Program** which focused on career exploration, technical training, and industry connections.

There are opportunities to **complete Blue Economy Career and Professional Development (BECAP) certificate programs** for emerging blue economy careers.

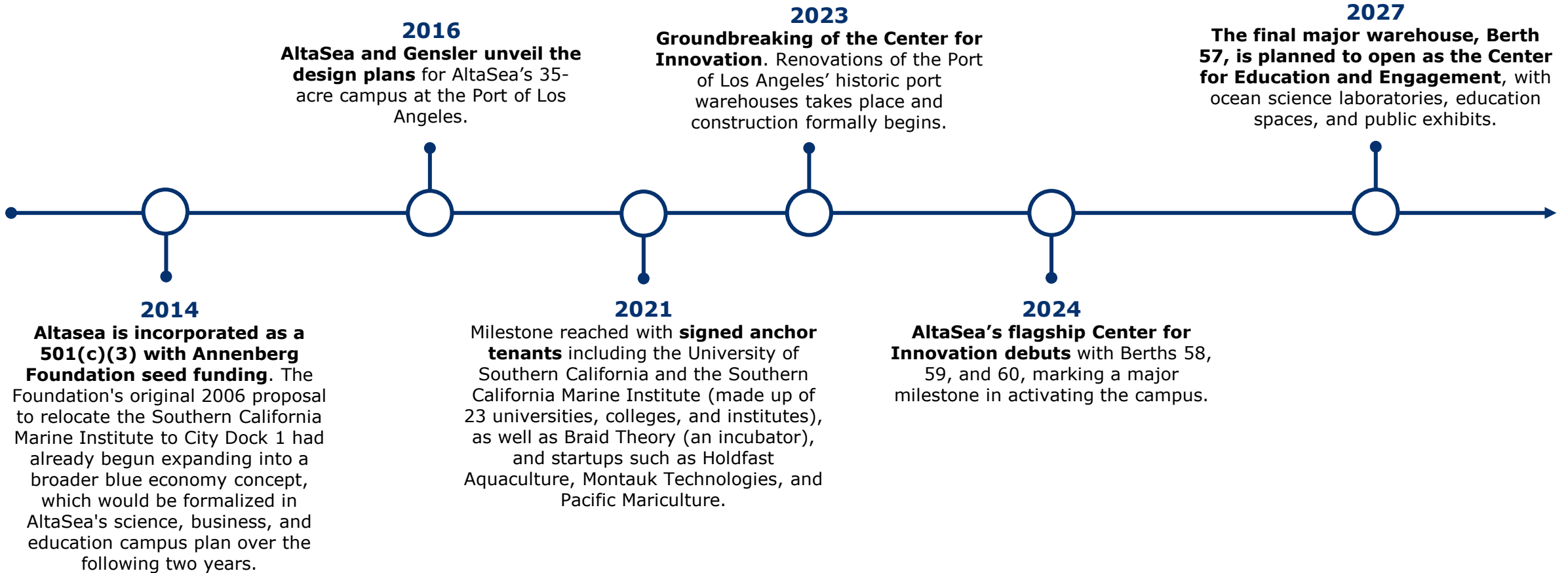


Deep Blue Decade Initiative

Beyond its local impact, AltaSea's Deep Blue Decade Initiative (DBDI) seeks to **scale ocean-based climate solutions through a global network of blue economy partners and hubs.**

Launched following AltaSea's 10th anniversary, the initiative is **establishing partnerships across ocean communities** in Jordan, Indonesia, Tanzania, Tonga, Singapore, Barcelona, Durban, and Rio de Janeiro.

AltaSea | Timeline



AltaSea | Funding

Capital Funding

~\$217M total campus cost

Philanthropic	Annenberg Foundation
Local Government	City of LA Harbor Department, Port of Los Angeles
State Government	State of California
Federal Government	Rep. Nanette Barragán earmark, Sen. Alex Padilla grant
Other	Board of Trustees capital campaign

Operating Funding

~\$6.16M annual operating expenses (FY2024)

Philanthropic	~90-95% from contributions and grants
Earned Revenue	~5-10% of annual revenue from program service and rental income



AltaSea | Operating Roles



Public landlord providing the site and capital infrastructure. Owns the 35-acre former City Dock 1 and executed a 50-year lease to AltaSea in 2013. Funded a \$57M capital investment for site rehabilitation through the Harbor Department. Co-funded the Center of Innovation buildout with a \$6M matching grant, which was matched by \$6M from the State of California in 2021. Retains oversight of maritime and industrial use standards and dock infrastructure on the leased site.



501(c)(3) managing day to day operations, in charge of tenants and campus programming. Recruits, leases to, and manages all campus tenants. Leads fundraising and capital campaigns beyond the Port's base investment including the \$35M Phase 1 renovation and \$29M in additional state/private grand-opening funding. Designs and runs all programming including research partnerships, workforce development, bi-monthly open houses, and public exhibitions. Drives external partnerships (universities, NOAA, Ocean Exploration Trust) and community/education engagement.

AltaSea | Benefits of Co-Location

Co-locating startups, established firms, universities, and research institutions creates a diverse innovation ecosystem.



AltaSea **brings together startups, established companies, universities, research institutions, and public-sector partners within a shared waterfront campus.** Companies such as Blue Robotics and Holdfast Aquaculture operate alongside organizations including USC, UCLA, Caltech, and the Southern California Marine Institute, creating opportunities for research collaboration, workforce development, technology testing, and commercialization that would be difficult to achieve independently.

Port of Detroit's Innovation Terminal **should consider pursuing a diverse user mix and ensure that the terminal is designed around the needs of a diverse innovation ecosystem.** Accommodating this mix through flexible workspace, testing facilities, collaborative areas, and dedicated research space can foster stronger connections, technology development, talent pipelines, and commercialization.

AltaSea | Initial Catalytic Phase

A phased development approach can help scale operations, programming, and partnerships to identify priorities aligning with demonstrated success and interest.



AltaSea's first phase transformed three historic warehouses into the Center for Innovation. This **initial investment activated only a portion of the site**, established the nonprofit, and demonstrated demand by securing named anchor tenants: USC (operating a 6,000 SF seaweed/regenerative aquaculture lab), the Southern California Marine Institute (a consortium of 23 universities and colleges), and Dr. Robert Ballard's Ocean Exploration Trust, whose research vessel Nautilus docks on-site—alongside blue-economy companies like Braid Theory, Holdfast Aquaculture, Montauk Technologies, and Pacific Mariculture. As the first step in a 13-year buildout, it also helped build partnerships and reduce risk before larger capital commitments.

While AltaSea's first phase is substantially larger than Port Detroit, the same principle applies. **A smaller initial footprint can activate the site, establish the innovation program, secure named anchor tenants like these, and demonstrate market demand.** Early success can shape future phases, helping identify the strongest partnerships, funding opportunities, and expansion priorities as the site grows over time.

AltaSea | Programming

In addition to strong testing infrastructure, education, workforce development, and public engagement are all treated as core functions.



AltaSea complements its testing and innovation facilities with workforce, education, and public engagement programming. The campus offers internships, mentorship opportunities, STEM education, workforce training, and blue economy certificate programs that help build talent pipelines. Public-facing events, exhibitions, and open houses create broader community engagement, while initiatives such as the Deep Blue Decade Initiative convene industry, academic, and public-sector partners to attract investment and advance the blue economy.

Building on testing infrastructure with partnerships that promote **education, convening functions, and workforce development** could broaden the Port of Detroit Innovation Terminal's impact beyond technology development. Additional programs can help build local talent pipelines, create visible public benefits, attract a broader range of visitors and funding partners, and keep the campus active beyond its commercial and research uses.



Washington Maritime Blue – Maritime Innovation Center

Seattle, WA

21k SF

Washington Maritime Blue is advancing a sustainable blue economy through innovation, workforce development, and industry collaboration. The organization currently operates out of the **Blue Hub**, a leased co-working space within Fishermen's Terminal's existing commercial facilities, serving as a bridge facility while the historic Ship Supply Building undergoes renovation into the Maritime Innovation Center. The **Maritime Innovation Center**, once complete, will become the anchor site, providing flexible workspace, workforce training facilities, and support services once the Incubator relocates there.

Through its **Blue Ventures programs**, including the Maritime Blue Innovation Accelerator and the Seattle Maritime Blue Incubator, Maritime Blue connects startups, established companies, government agencies, investors, and academic institutions. It also leads the **Blue Wind Collaborative**, a coalition advancing Washington's offshore wind.

Key Organizational Roles

Port of Seattle

Owner/landlord of port and waterfront infrastructure and primary funder.

Maritime Blue

Non-profit operator responsible for tenant leasing, partnerships, workforce development, programming, and ecosystem building.

Washington Maritime Blue | Physical Facility

Total Campus	21k SF
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Maritime Innovation Center

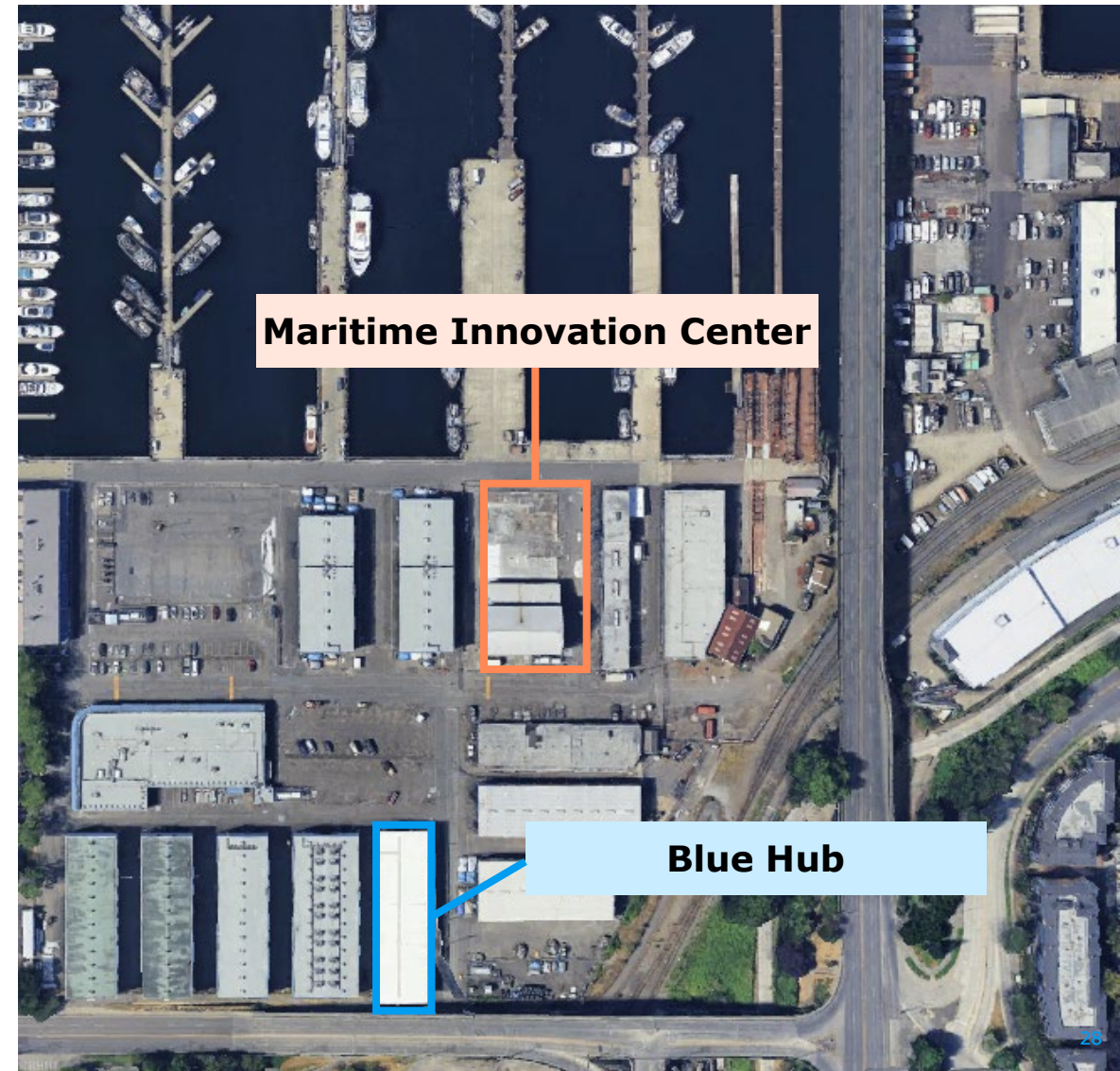
Incubator and accelerator space, fabrication shop, anchor tenant offices, event and training space	15k SF
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Blue Hub

Co-working, home to the Seattle Incubator, member event space	6k SF
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Key Users

- **Anchor Tenant:** Washington Maritime Blue (10-year lease, facility operator)
- **Government:** Port of Seattle, Washington State Employment Security Department
- **Academic/Research:** University of Washington - Seattle, University of Washington – Tacoma, Pacific Northwest National Laboratory, Oregon State University
- **Established companies:** Aurelia Boat Club
- **Startups:** Aquugga, OpenTug, Goldfish.io, Berkeley Marine Robotics, CelluloTech



Maritime Blue | Operating Roles



Owner of the land and waterfront infrastructure at Fishermen's Terminal, acting as landlord while Maritime Blue operates programming. Institutional funder of Maritime Blue, and primary co-funder of Maritime Innovation Center renovation.



Nonprofit operator handling tenant leasing, partnerships, and programming across the region's Blue Economy. Runs the Blue Hub including the Blue Accelerator, Seattle and Tacoma Incubators, and Blue Wind coalition. Holds a 10-year lease as anchor tenant for the Maritime Innovation Center.



Key public funder and policy partner, primary co-funder of Maritime Innovation Center renovation along with Port of Seattle. Holds a seat on Blue Wind's Leadership Committee, guiding the state's offshore wind supply-chain strategy.



Recurring funder for workforce and sector-development programming. Funded Blue Wind's East Coast Delegation Trip and has supported the Youth Maritime Collaborative alongside the Workforce Development Council of Seattle-King County.



13-member body spanning ports, labor unions and groups nonprofits guiding Maritime Blue's offshore wind supply-chain strategy. Maritime Blue staffs the coalition while the Committee sets direction, coordinating policy across Washington, Oregon, and California.

Washington Maritime Blue | Programming



Incubator and Accelerator

Maritime Blue's **Blue Accelerator** is a cohort-based program focused on **scaling and growing maritime industry startups** through intensive support, mentorship, and industry access. Selected applicants receive **\$100K equity investment**. Since launching in 2018, the accelerator, operating out of the **Blue Hub**, has graduated more than 30 startups that have collectively raised over \$450 million and **created more than 500 jobs**.

In partnership with the Port of Seattle, Maritime Blue operates the **Seattle Incubator**, supporting earlier-stage ideas/concepts and startups, or companies looking for a soft landing into the region's blue economy. Over 10 months, selected startups receive **industry network access** and **rent-free collaborative working space** at the Blue Hub.



Industry Coalitions

In 2023, Maritime Blue launched **Blue Wind**, a coalition **strengthening Washington's role in the West Coast floating offshore wind supply chain** through workforce development, convening, and advocacy, staffed by Maritime Blue and guided by a **Leadership Committee of ports, labor, nonprofits, and community groups**.

Blue Wind **co-hosts monthly meetings and quarterly workshops** across WA, OR, and CA, and hosted a Seattle-funded East Coast Delegation Trip exposing King County businesses to the mature East Coast offshore wind sector.

Maritime Blue also leads other coalitions including **Quiet Sound** (reducing vessel noise impacts on killer whales) and the **Sustainable Maritime Fuels Collaborative** (accelerating low- and zero-emission maritime fuels).



Ecosystem Membership Programming

The **Blue Hub** is Maritime Blue's physical and figurative umbrella for programming activity. It offers a membership through which blue economy service providers, suppliers, manufacturers, designers, researchers, educators, and funders benefit from **institutional partnerships, co-working space, networking events, and convenings throughout the year**, as well as dedicated account management. Benefits vary by membership level. **Membership fees range from \$300-\$25,000** annually depending on company size.

Upon opening, **the Maritime Innovation Center** will offer **seven Class A waterfront offices** available for rent, **co-working space, a classroom, a dedicated pitch stage, and event capacity for more than 200 people**.

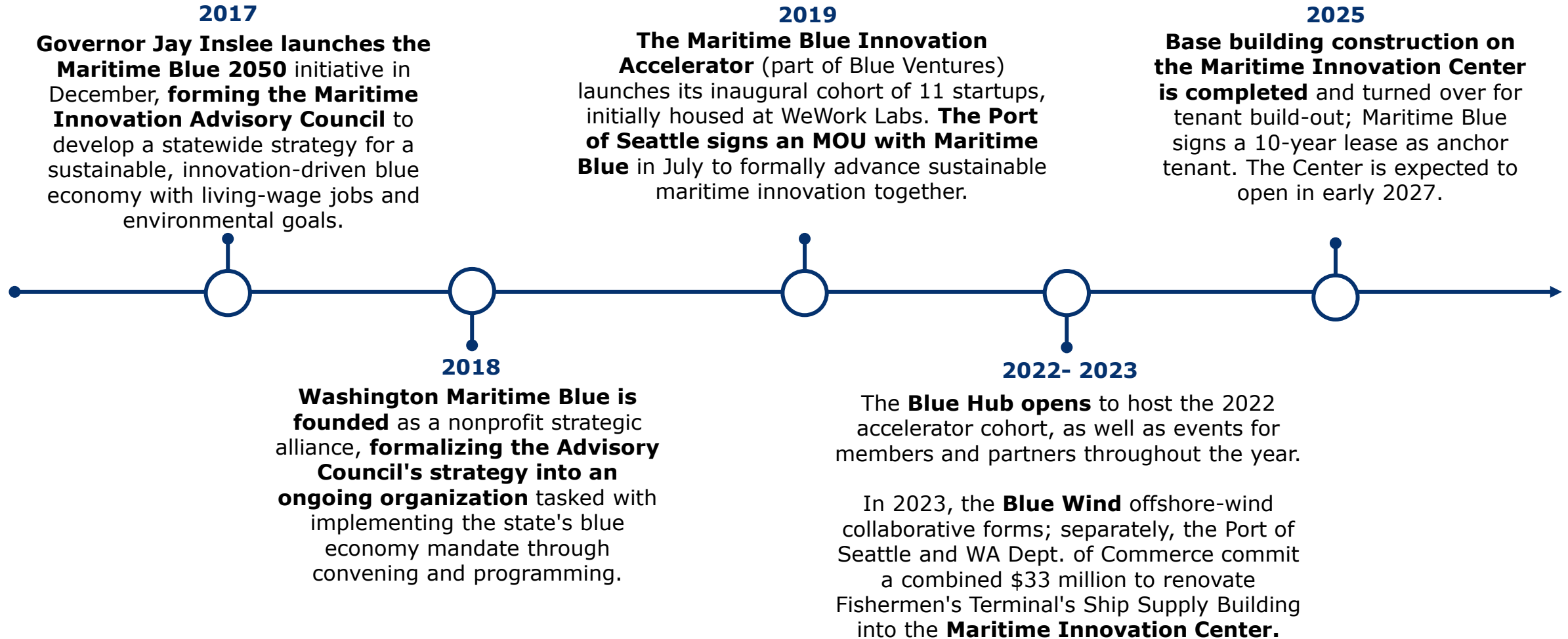


Education and Workforce Development

The **Youth Maritime Collaborative (YMC)**, is a coalition of **regional schools, nonprofits, training providers, and public agencies building career pathways into maritime for young people**.

Maritime Blue also **recruits companies to host interns, offer tours, or join outreach panels**. Past funding has come from the City of Seattle, the Workforce Development Council of Seattle-King County, and a Builders Initiative grant.

Washington Maritime Blue | Timeline



Washington Maritime Blue | Funding

Capital Funding

~\$33M total campus cost

Local Government

Port of Seattle

State Government

Washington State Department of
Commerce

Operating Funding

~\$2.6M annual operating expenses (FY2024)

Philanthropic

~64% from contributions and grants

Earned Revenue (FY 2025)

~35% from program service revenue

~1.5% from rental property income



Maritime Blue Innovation Center | Programming

Combining open membership access with dedicated incubator and/or accelerator support creates a supportive startup environment.



Blue Hub provides access to networking events and industry connections through a **membership fee system** tiered by company size. Maritime Blue also runs **two distinct startup programs**. **The Seattle Incubator** is a free, 10-month program for early-stage, concept-level founders, providing workspace and mentorship as they develop their ideas. **The Maritime Blue Accelerator** is a more intensive, 4-month program for venture-scale companies, offering a \$100K equity investment alongside deeper industry access.

Detroit's Innovation Terminal can **consider both types of programming**. A **membership-based model** can provide startups and industry partners affordable access to space, shared amenities, and networking opportunities. A **dedicated incubator or cohort-style accelerator program** could formalize deeper support, giving Detroit startups structured mentorship, funding connections, technical guidance, and real-world testing infrastructure within the Terminal itself.

Maritime Blue Innovation Center | Nonprofit Operator

Maritime Blue's status as a dedicated nonprofit operator lets it run the hub more effectively than the Port of Seattle could on its own.



While Seattle's Port Authority owns the land and waterfront infrastructure and acts as long-term landlord and anchor funder, **Maritime Blue functions as a separate nonprofit operator handling tenant leasing, partnerships, programming, and ecosystem-building**. With separate staffing, organization and operating model, Maritime Blue's mission is to steward the Innovation Center, allowing the Port to serve as a supporter while focusing on day-to-day port operations.

Port Detroit might consider establishing a separate nonprofit operator, or identifying an existing one, whose sole mandate is managing the facility. **A dedicated operator may be better positioned than the Port to lead fundraising, partnerships, tenant attraction, and ongoing programming.**

Maritime Blue Innovation Center | Diversified Funding

Lease and recurring dues revenue combines with philanthropic contributions to create a sustainable financial model.



Leases and Blue Hub membership fees, scaled by company size, generate up to 35% of Maritime Blue's annual revenue. These are supplemented by grants, corporate/philanthropic sponsorships, public contributions, and program-specific funding. **Together, tiered leasing, dues, and diversified grants/sponsorships create a blended model balancing earned revenue with public and philanthropic support.**

The Port of Detroit could consider a model **that generates revenue from established anchor companies through long-term leases while charging membership and usage fees for shared testing, demonstration, and innovation space.** Layering scaled membership dues for shared services, mentorship, and events, and diversifying further with state or federal grants, corporate sponsorships, and program-specific funding reduces reliance on a single revenue source **while sustaining affordable access to testing infrastructure and innovation programs for startups long-term.**

Maritime Blue Innovation Center | Convening Power

A strong role as a regional convenor positions Maritime Blue as a central anchor of the Pacific Northwest's blue economy.



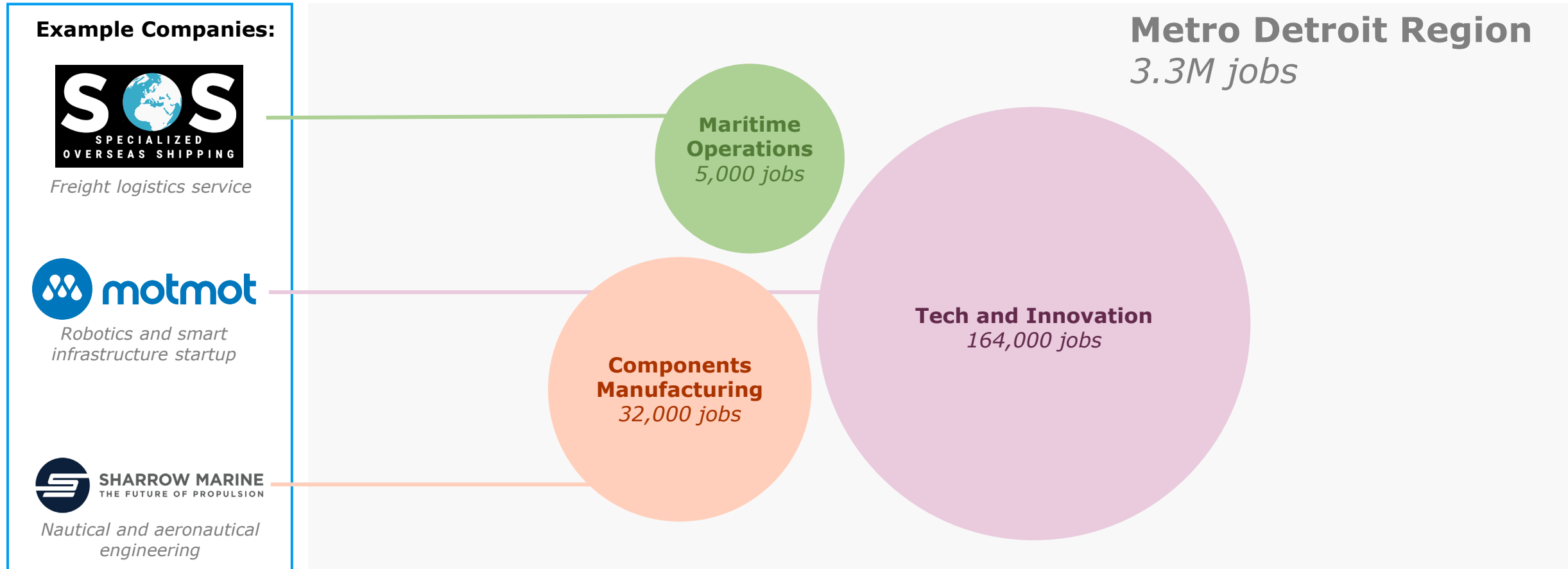
Washington Maritime Blue **demonstrates the value of a dedicated convening organization that brings together** industry, research, capital, and government entities.

Through the Blue Wind coalition, Maritime Blue **convenes ports, labor organizations, nonprofits, community groups, researchers, and public agencies** around a shared strategy for the West Coast floating offshore wind supply chain. By engaging partners and coordinating stakeholders, Maritime Blue **helps position the State to compete** for emerging offshore wind supply-chain opportunities tied to development along the West Coast. Industry delegations, workshops, and peer-learning exchanges **bring best practices from more mature markets back to the Pacific Northwest**, supporting regional economic development efforts and informing future workforce, manufacturing, and infrastructure strategies.

This analysis has established that **Port Detroit Innovation Terminal is well-positioned to fill this currently-empty convening role in Southeast Michigan**. Engaging cross-sector leaders, proactively guiding policy change and hosting cross-industry convenings could position Detroit's Innovation Hub as the **connective tissue for the regional maritime ecosystem**.

Workforce Development Opportunities

The maritime-supportive ecosystem's 201k jobs comprise 6% of the region's total employment.

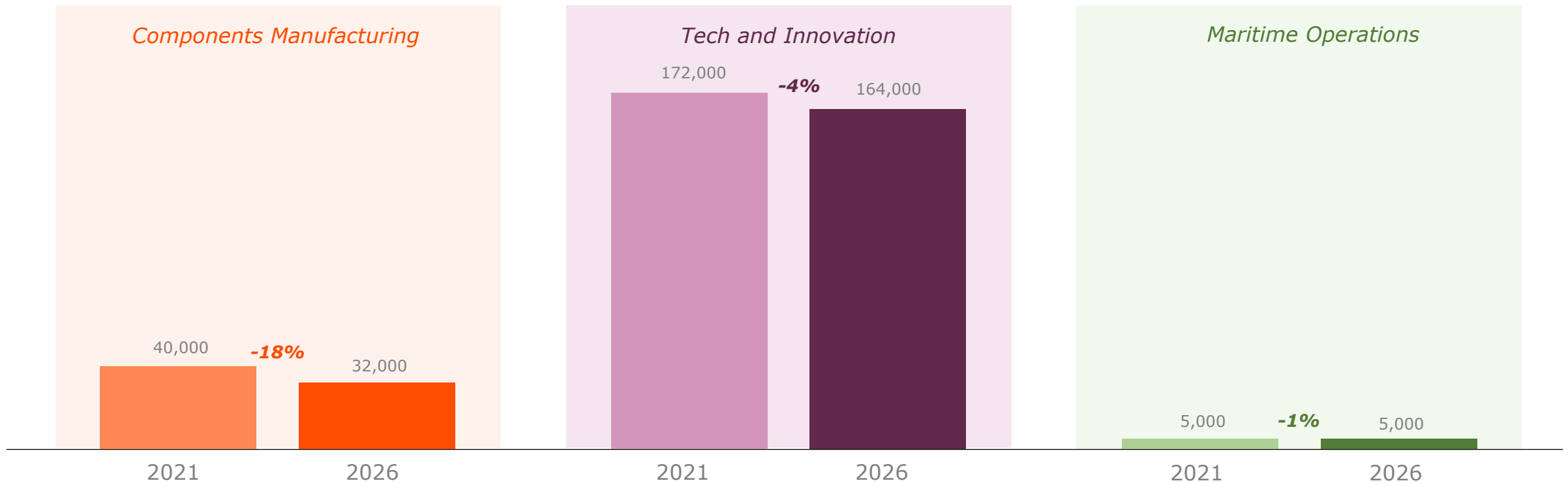


Source: HR&A Analysis of Lightcast Data. Segment definitions are as follow: Maritime-supportive manufacturing - Common industries supplying naval shipbuilding. Tech and Innovation-derived from HR&A definition of tech and innovation. Maritime Operations – Academic definition of shipbuilding industry mapping from University of Michigan.

Employment in maritime-supportive industries has declined – but investments and policy can help to grow industrial capacity.

Employment in the Detroit region has grown 8% over the past 5 years. While employment in each of the maritime ecosystem's key sectors has declined, many of these sectors overlap with those targeted for investment through sustainable mobility.

Maritime-Supportive Ecosystem Employment Change by Segment, 2021-2026

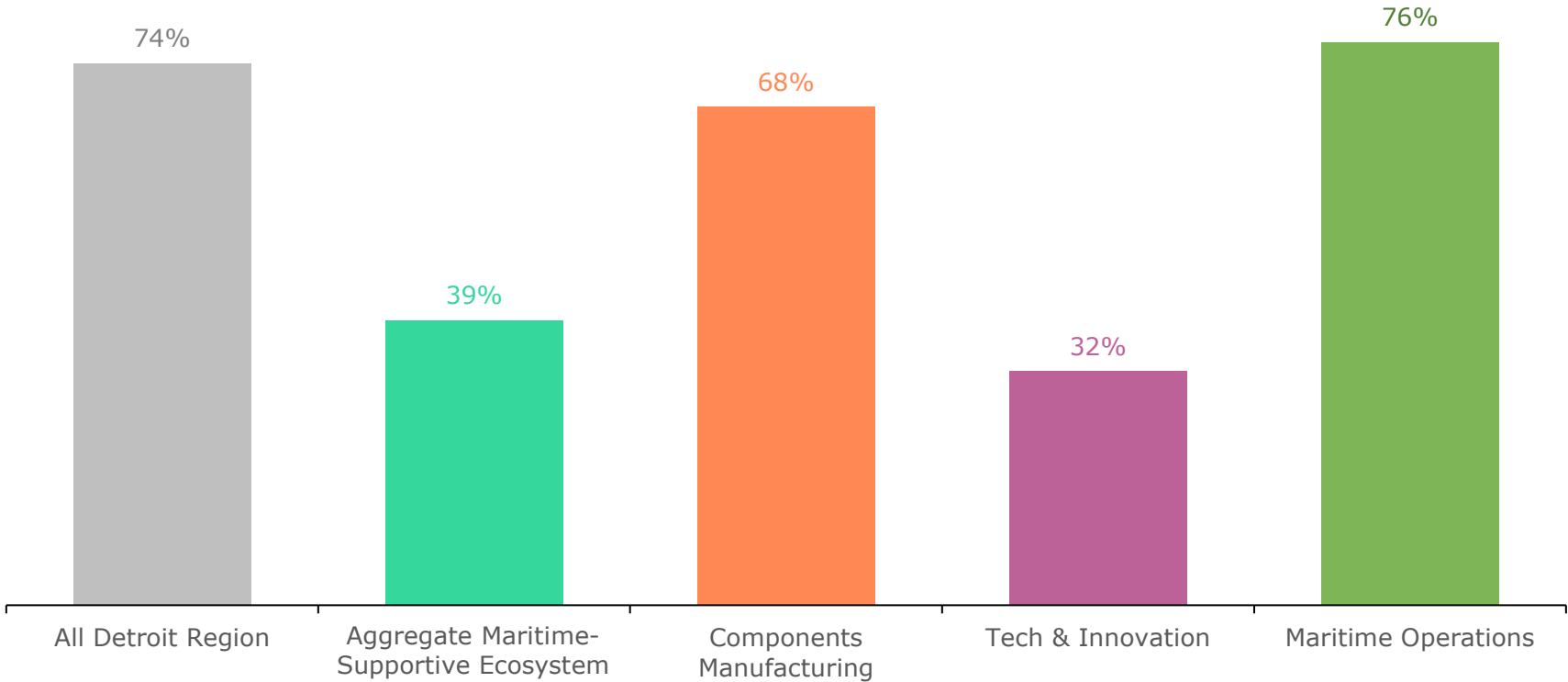


Source: HR&A Analysis of Lightcast Data. Segment definitions are as follow: Maritime-supportive manufacturing - Common industries supplying naval shipbuilding. Tech and Innovation-derived from HR&A definition of tech and innovation. Maritime Operations – Academic definition of shipbuilding industry mapping from University of Michigan.

The maritime-supportive ecosystem contains and can create more low-barrier to entry jobs.

Share of Low-Barrier-to-Entry Jobs by Sector, 2026

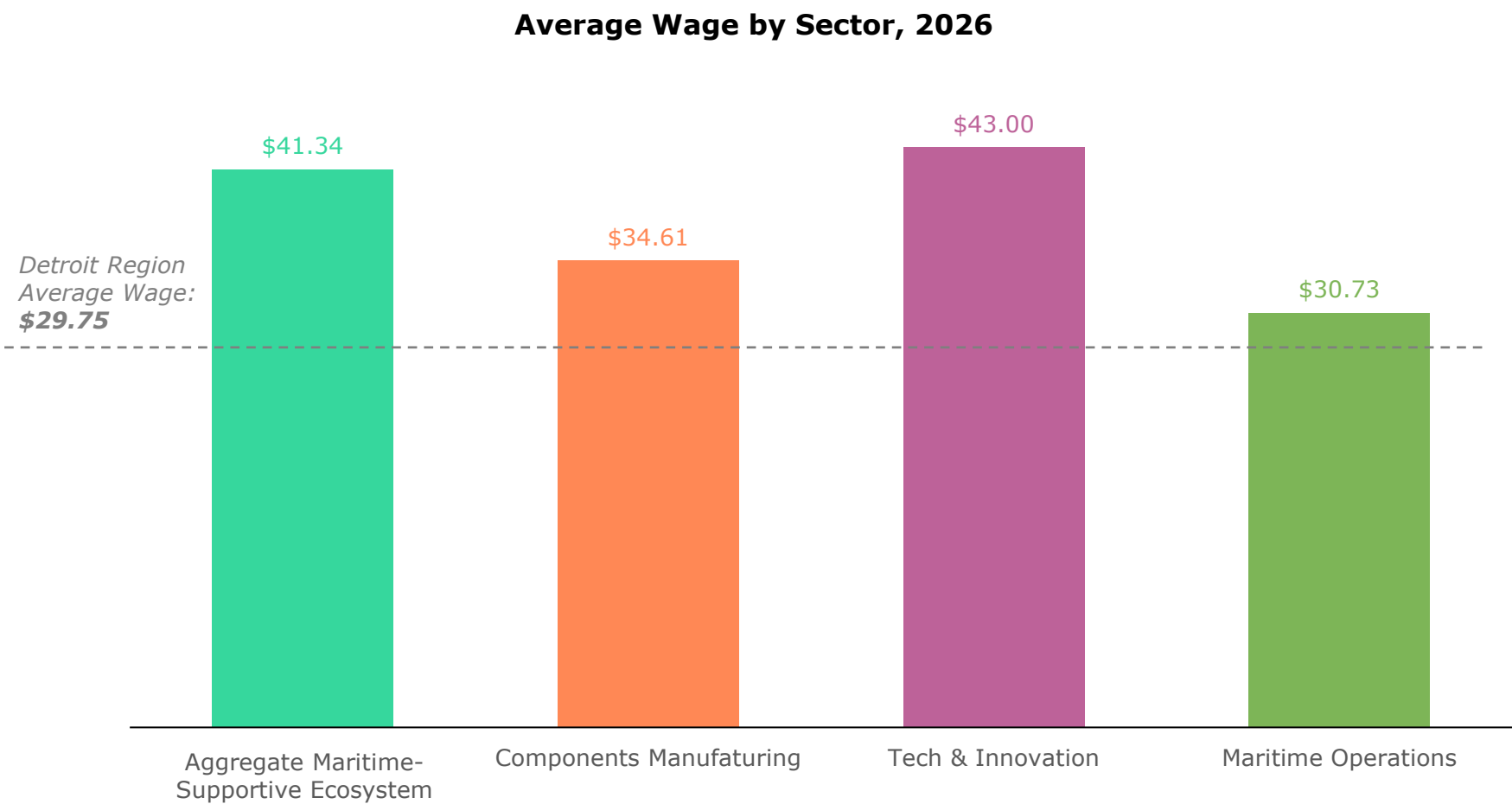
76% of jobs in maritime-operations and 68% of jobs in maritime-related manufacturing **do not require a four-year degree**, offering opportunities for low-barrier to entry jobs.



Source: HR&A Analysis of Lightcast Data.

The maritime-supportive ecosystem contains and can create more well-paying jobs.

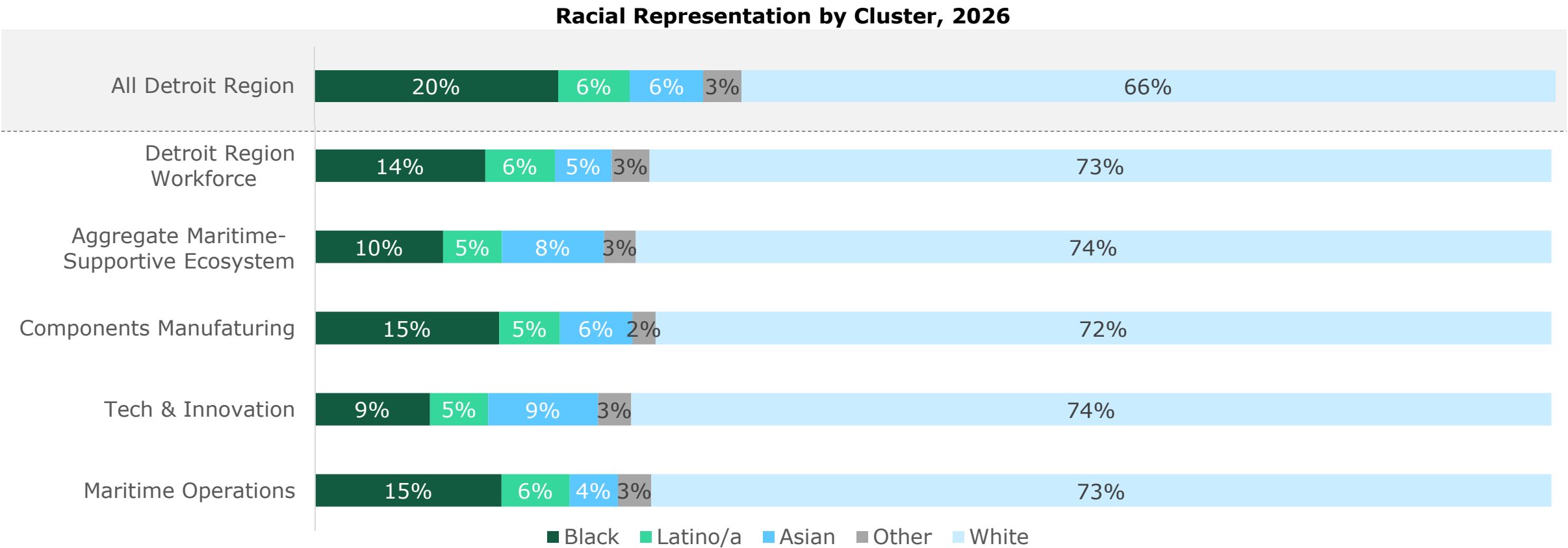
Occupations in all segments of the maritime-supportive industry **pay a higher average wage than the region overall**, though tech and innovation is the only individual segment that pays above the region's living wage (\$36.95).



Source: HR&A Analysis of Lightcast Data. Living wage calculated using MIT Living Wage Calculator for Detroit-Warren-Dearborn area. Wage based on 2 adult, one working, one child household.

Racial representation in maritime-related manufacturing and maritime operations is similar to the region's.

20% of the region's population is Black but is only represented by 14% of the workforce, and the Maritime Ecosystem is performing substantially worse. This discrepancy points to the need for further workforce support for local residents.



Source: HR&A Analysis of Lightcast Data.

Defining strengths and gaps in Detroit's maritime-related workforce

Core strengths in Metro Detroit's maritime-related workforce

1 Strong manufacturing and defense supply chain

The region's manufacturers already operate as a critical maritime components-supply base, fabricating precision parts that ship to East Coast yards to relieve the Navy's shipbuilding backlog. In 2024, the Navy selected Michigan as one of the first sites for replication of its Accelerated Training in Defense Manufacturing (ATDM) program, because of its supply-chain capacity and concentration of defense-sector employers. This satellite location has become Macomb Community College's Michigan Maritime Manufacturing (M3) Program.

2 High transferability of skills from the region's strongest industries

The manufacturing sector employs over 282,000 workers and is the 4th largest sector in the region. 7% of the Detroit region's workforce is concentrated in manufacturing, double the national rate of 3%. The region's robust mobility sector – which includes auto manufacturing industries – employs over 354,000 people in 2026.* Given the high overlap between skills in the mobility and maritime sectors, this suggests high potential for transferability of skills to supply the maritime workforce. As manufacturing companies increasingly adopt automation techniques, ensuring that Detroit's skilled manufacturers are prepared for the mobility roles of the future requires dedicated training on autonomous machining operation to keep pace with the demand for new skills.

Source: HR&A Analysis of Lightcast Data, * Detroit Regional Chamber, **American Welding Society [Welding Workforce Data](#), ***[Bureau of Labor Statistics](#).

Defining strengths and gaps in Detroit's maritime-related workforce

Gaps in Metro Detroit's maritime-related workforce

1 **National shortage and aging pool of skilled manufacturers and welders**

Skilled welders – a critical maritime occupation - are a nationally declining talent pool. The U.S. is projected to need 320,500 new welding professionals by 2029, and that demand far outpaces the current hiring/training pipeline.** Closing the hiring gap for skilled welders will require intensive dedicated workforce strategy but also presents an opportunity for the Detroit region to become a leading hub of training to meet the high demand for these roles.

2 **Aging Pool of skilled welders**

Nationally, only 9.4% of today's welding workforce is under 25, and for every five welders retiring, just two are entering the field.*** Skilled manufacturers, more broadly, are facing similar trends in an aging workforce meaning that workforce engagement to up the talent pool in these industries will require intentional youth engagement.

3 **Shifts in OEM hiring**

Nationally, Motor vehicle and parts manufacturing employment fell by roughly 29,000 workers in 2025 nationally, even as production held steady, pointing to reduced OEM/supplier hiring rather than output declines. This national trend is reflected in Metro Detroit by the 18% decline among in employment in components manufacturing from 2021 to 2026. While Detroit has experienced decline in employment in its auto manufacturing roles, this trend indicates a shift in hiring that creates a pool of unemployed but qualified manufacturing employees.

Source: HR&A Analysis of Lightcast Data, * Detroit Regional Chamber, **American Welding Society [Welding Workforce Data](#), ***[Bureau of Labor Statistics](#).

The region's network of maritime and mobility workforce training creates a strong platform for skills transferability.

	Program	Training Focus	Credentials Offered
Maritime Training	Michigan Maritime Manufacturing (M3) Program - Macomb Community College	Skilled maritime computer numerical control (CNC) or welding training with a defense focus modeled after the Navy's Accelerated Training in Defense Manufacturing (ATDM) <i>(More information on following page.)</i>	Navy-accredited CNC and welding certificates
	Great Lakes Maritime Academy - Northwestern Michigan College	Trains cadets as deck and engineering officers for Great Lakes and ocean vessels, leading to USCG licensure	U.S. Coast Guard license
	Building the Future of America's Navy - Oakland Community College	CNC machining, welding, robotics, additive manufacturing, NDT for naval shipbuilding pre-apprenticeships	CNC, welding, robotics, or manufacturing certificate
Mobility Training	Michigan Industry-Driven Skills Training Program (M-Step)	Employer-led shipbuilding/CNC-welding apprenticeships and skills certificates for laid-off workers funded by Michigan Department of Labor and Economic Opportunity	Skills certificates, apprenticeship credentials, or industry credentials
	Global Epicenter for Mobility (GEM) Grant	Funds training in manufacturing/mobility roles primarily engineering, electrification, fabrication, welding, and production	Welding, EV/electrification technician, or manufacturing/production certificate
	Wayne County Community College District	EV/battery technology, mechatronics, robotics, advanced manufacturing, and commercial driving (CDL)	Stackable college certificates in EV, robotics, and manufacturing
	SEMCA Michigan Works	Connects workers to no-cost mobility, EV, manufacturing, and welding courses	Welding, manufacturing, or mobility certificate
	Focus: HOPE	Free 15-week pre-apprenticeship in CNC machining, robotics, welding, forklift operation	NIMS credentials: CNC Lathe/Mills Level 1, Material Measurement & Safety

CASE STUDY

Macomb's M3 program is the state's leading producer of a maritime-ready talent pool

Program Highlights

- **Modeled after the Navy's Accelerated Training in Defense Manufacturing (ATDM) program** located in Danville, Virginia and backed by \$15.4M in Navy funding scheduled to run through 2027
- The 600-hour no-cost program offers CNC and welding training and prepares graduates to sit exams through AWS or the National Institute for Metalworking Skills (NIMS) to gain **nationally accredited certifications**
- Housed in a Macomb's 40,000-square-foot Michigan Technical Education Center (M-TEC), located in Warren, **students train on industry grade equipment** including 24 dedicated welding booths (MIG, TIG, arc) and Haas Automation CNC lathes and mills, maintaining a 1:1 student-to-equipment ratio throughout
- Targeting **384 graduates by 2027**, the program is tracking toward 200+ graduates per year first cohort graduated 21, ~50% hired immediately
- While graduates are generally hired by suppliers to the Navy, as the maritime innovation ecosystem in the Detroit region grows, M3 could become a supplier of talent to additional maritime companies



RECOMMENDATION

The Innovation Terminal can potentially serve as a satellite training facility and/or post-graduate placement opportunity for skilled tradespeople.

The M3 program presents the strongest opportunity for a first step in workforce partnership.



With its **consistent stream of skilled graduates** and \$15.4M in secure Navy funding, the M3 program is one of the strongest contenders for a first step in potential workforce development partnership with the Port.

The Innovation Terminal can function as a site for **internships and paid apprenticeships** for M3 graduates with the Terminal's anchor tenant(s). The Terminal may not need to build new training infrastructure. Classes could stay at Macomb's existing facilities, with the Terminal serving as the placement and testing site, letting anchor tenants draw on M3 graduates while the program builds capacity for maritime-specific skills. A partnership like this could provide an exciting **placement opportunity for M3 graduates**, and **staff companies at the Terminal with skilled talent**, increasing capacity for maritime innovation.

Following this partnership, the Port might look to phase in additional workforce pathways to its array of programming.

CASE STUDY

K-12 workforce education can strengthen the pool of skilled tradespeople.

Youth Workforce Engagement Case Study:
Port of Tacoma and Tacoma Public Schools
Tacoma, WA

- Maritime|253 will be a **regional Career and Technical Education (CTE) skills center** serving high school students from multiple school districts throughout Pierce County. The curriculum, still in development, will focus on **skilled and technical trades, transportation and logistics, technology and innovation, and sustainability in the maritime industry**. Courses will be free and will be taught alongside students' regular high school coursework
- The initiative began fall 2022 as a feasibility study by Tacoma Public Schools examining prior Port of Tacoma and Port of Seattle workforce initiatives
- While the skills center is yet to open, the program has been operating "Summer Sessions" at **two interim sites** in Tacoma: a bike shop/community space and the Foss Waterway Seaport a maritime heritage museum. Both pay a \$500 completion stipend and serve around 300 students across partner districts
- **Roughly 200 students** are enrolled for the permanent skills center opening fall 2026, feeding into apprenticeships, direct employment, or further maritime credentials/degrees

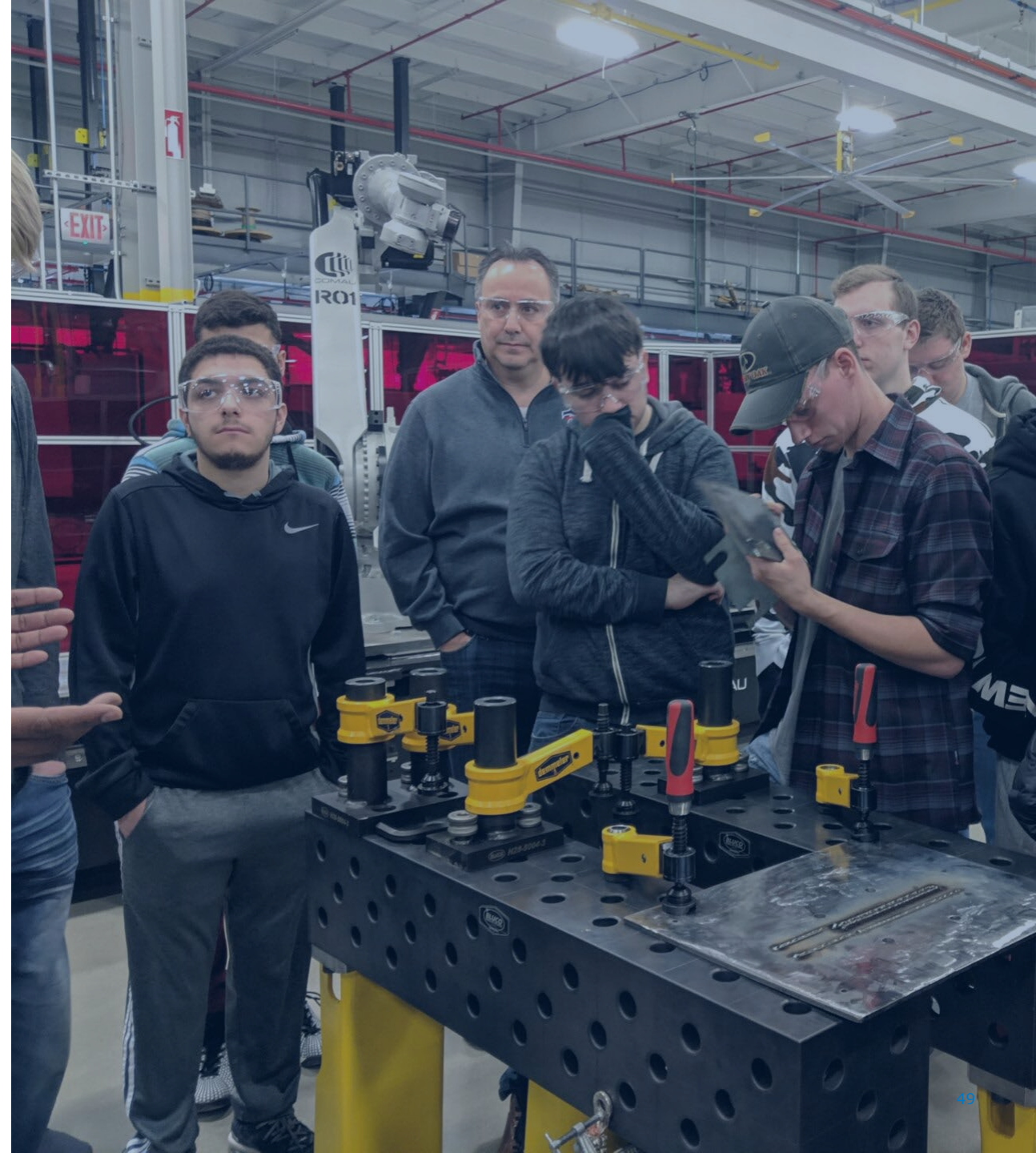


CASE STUDY

K-12 workforce education can strengthen the pool of skilled tradespeople.

Youth Workforce Engagement Case Study:
LIFT IGNITE: Mastering Manufacturing
Detroit, MI

- Founded in 2014, Lightweight Innovations For Tomorrow (LIFT) is a Manufacturing USA institute, operated by Detroit-based nonprofit, American Lightweight Materials Manufacturing Innovation Institute (ALMMII)
- LIFT was established under a cooperative agreement with the **Department of Defense Manufacturing Technology Program** (ManTech), managed through the Office of Naval Research. This agreement charges LIFT with **advancing lightweight materials and manufacturing technology/talent development for the defense industrial base**
- Its Learning Lab is a hands-on K-12 manufacturing training facility, which operates the IGNITE: Mastering Manufacturing curriculum introduces students to **welding, CNC machining, robotics, and materials science**
- In 2025, seven Detroit high schoolers completed IGNITE. The program has been piloted in 3 districts and has been deployed in over 100 districts nationwide.



RECOMMENDATION

The Innovation Terminal could support youth engagement programs that introduce trade skills early to support the maritime ecosystem.

Increase awareness and create access to maritime occupations for Metro Detroit students through transferable credits & work-based learning opportunities.



The aging, shrinking skilled-trades workforce means Detroit needs to **build awareness of maritime and manufacturing careers well before students reach the workforce pipeline.** The previous case studies demonstrate that education and public engagement function as core programming alongside R&D and workforce development, not an afterthought — a model Port Detroit should adopt from the outset.

Once the Terminal is operational, Port Detroit could seek a partnership — following the models of LIFT's IGNITE and Maritime|253 — to facilitate structured K-12 education and exposure. To facilitate hands-on learning, Port Detroit, with the support of a partner organization, could use the facility's shared testing and demo environment as a site for **structured youth touchpoints, career-connected tours, capstone projects, and paid work-based learning placements** with anchor tenants, complementing rather than replacing adult retraining pathways.

Appendix

Appendix: Sector definition NAICS codes

NAICS Code	Title	Sector
513210	Software Publishers	Tech & Innovation
517410	Satellite Telecommunications	
517810	All Other Telecommunications	
518210	Computing Infrastructure Providers, Data Processing, Web Hosting, and Related Services	
541330	Engineering Services	
541380	Testing Laboratories and Services	
541511	Custom Computer Programming Services	
541512	Computer Systems Design Services	
541513	Computer Facilities Management Services	
541519	Other Computer Related Services	
541690	Other Scientific and Technical Consulting Services	
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	
541990	All Other Professional, Scientific, and Technical Services	
483111	Deep Sea Freight Transportation	Maritime Operations
483113	Coastal and Great Lakes Freight Transportation	
483211	Inland Water Freight Transportation	
488310	Port and Harbor Operations	
488320	Marine Cargo Handling	
488330	Navigational Services to Shipping	
488390	Other Support Activities for Water Transportation	
488510	Freight Transportation Arrangement	

Segment definitions are as follow: Maritime-supportive manufacturing - Common industries supplying naval shipbuilding. Tech and Innovation- derived from HR&A definition of tech and innovation. Maritime Operations – Academic definition of shipbuilding industry mapping from University of Michigan.

Appendix: Sector definition NAICS codes

NAICS Code	Title	Sector
325211	Plastics Material and Resin Manufacturing	Maritime-Related Manufacturing
325220	Artificial and Synthetic Fibers and Filaments Manufacturing	
325510	Paint and Coating Manufacturing	
325520	Adhesive Manufacturing	
	Rubber Product Manufacturing for Mechanical Use	
326291		
331110	Iron and Steel Mills and Ferroalloy Manufacturing	
331529	Other Nonferrous Metal Foundries (except Die-Casting)	
332312	Fabricated Structural Metal Manufacturing	
332313	Plate Work Manufacturing	
332410	Power Boiler and Heat Exchanger Manufacturing	
332510	Hardware Manufacturing	
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing	
333613	Mechanical Power Transmission Equipment Manufacturing	
333618	Other Engine Equipment Manufacturing	
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	
333998	All Other Miscellaneous General Purpose Machinery Manufacturing	
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	
334290	Other Communications Equipment Manufacturing	
334417	Electronic Connector Manufacturing	
334419	Other Electronic Component Manufacturing	
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	
334514	Totalizing Fluid Meter and Counting Device Manufacturing	
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	
334519	Other Measuring and Controlling Device Manufacturing	
335312	Motor and Generator Manufacturing	
335314	Relay and Industrial Control Manufacturing	
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing	
336412	Aircraft Engine and Engine Parts Manufacturing	
336611	Ship Building and Repairing	
336612	Boat Building	

Segment definitions are as follow: Maritime-supportive manufacturing - Common industries supplying naval shipbuilding U.S. Navy Maritime Industrial Base. Tech and Innovation- derived from HR&A definition of tech and innovation. Maritime Operations – Academic definition of shipbuilding industry mapping from University of Michigan.