WASHINGTON MARITIME blue

A Strategic Alliance for Maritime Innovation and a Sustainable Blue Economy

Washington Maritime Blue *is a non-profit, strategic alliance formed to accelerate innovation and sustainability in support of an inclusive blue economy. With a mission to implement Washington State's Strategy for the Blue Economy delivered by Governor Jay Inslee's Maritime Innovation Advisory Council, we are a partnership between industry, public sector, research & training institutions, and community organizations. Maritime Blue works to create a world-class, thriving, equitable and sustainable maritime and ocean industry through knowledge sharing, joint innovation, entrepreneurship, commercialization, business and workforce development.*

Washington State's Strategy for the Blue Economy

The first, and only, US statewide strategy for the Blue Economy was delivered in January 2019 by Governor Inslee's Maritime Innovation Advisory Council and Washington State Dept. of Commerce after 18 months of stakeholder engagement.

Advisory Council Co-Chairs:

Rep.Gael Tarleton, Washington State Legislature

Dennis McLerran, Fmr. EPA Region 10 Administrator

Frank Foti, CEO and Board Chair, Vigor Shipyard

(link to Full Strategy and Council)

Washington State's Strategy for the Blue Economy

Thriving, Low Carbon Industry

Global Innovation Hub

Growing Gateways

21st Century Workforce

World-Class Cluster

13 CLIMATE ACTION

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

8 DECENT WORK AND ECONOMIC GROWTH

4 QUALITY EDUCATION

17 PARTNERSHIPS FOR THE GOALS

WASHINGTON MARITIME blue

SUSTAINABLE DEVELOPMENT GOALS

Thriving, Low-carbon Industry

Deep Decarbonization: Accelerate the transition of Washington's maritime industry to a low-carbon future.

- Initiative 1: Low-carbon maritime technologies on board
- Initiative 2: Low-carbon shore side infrastructure
- Initiative 3: Strategies for emissions reductions

13 CLIMATE ACTION

Global Innovation Hub

Blue Innovation: Drive the commercialization of emerging blue technologies.

- Initiative 1: Digital transformation
- Initiative 2: Modernization of fishing and seafood industries
- Initiative 3: Collaborative R&D
- Initiative 4: Maritime Innovation Center

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Growing Gateways

Working Waterfronts: Lead the nation in efficient, clean, and safe maritime practices across all sectors of the industry.

- Initiative 1: Smart Ports
- Initiative 2: Infrastructure & regulatory strategy
- Initiative 3: Green Gateway

8 DECENT WORK AND ECONOMIC GROWTH

21st Century Workforce

Workforce Development: Next generation of an inclusive and diverse maritime workforce with technological expertise and access to clean, healthy, living wage jobs.

- Initiative 1: Career pipeline, pathways, & connections
- Initiative 2: Inclusivity, support, & outreach

4 QUALITY EDUCATION

World-Class Cluster

Cluster Coordination: A formal cluster organization will drive implementation of Washington Maritime Blue to ensure a strong maritime industry founded on competitive companies and an attractive business environment.

- Blue Focus: Communications & Marketing
- Blue Forum: Knowledge Sharing
- Blue Forward: JIP* & Business Services
- Blue Force: Training & Education
- Blue Finance: Funding & Investment

17 PARTNERSHIPS FOR THE GOALS

Independent, Innovation Cluster Formed

Formal Ocean/Maritime Clusters have emerged as organizational entities that enhance competitiveness and collaboration. To ensure accountability and implementation we spun out an independent, nonprofit, Cluster Organization charged to Implement the State's strategy – using the "Quadruple Helix" approach.

Industry Members

Schwabe Williamson & Wyatt
Wärtsilä
SSA Marine – A Carrix Enterprise
LAVLE
ABB
TOTE Maritime
SPEAR Power Systems
CROWLEY – People Who Know
Glosten
Kongsberg
DNV·GL
PugetLNG
VIGOR
Corvus Energy
ioCurrents
CETS
Puget Sound Pilots – Protecting Puget Sound Since 1935
PMG Pacific Mobility Group
eodyn – Ocean in motion
Wennberg Engineering LLC
SIEMENS
numurus – Smart System Solutions
Elliott Bay Design Group
MER Equipment
First Mode
Janicki Industries
Ballard
The Mobile Boat Guys – Professional Yacht Detailing
Bieker Boats
Freeboard
Ramboll
ecoSPEARS
Beam Reach
eOceans
Discovery Health
ssi Strategic Solutions Inc.
oneTANK from Glosten
All American Marine Incorporated
Net Your Problem
SPBES
One for Neptune
CalWave Power Technologies
OCO
EDCO, INC. – Custom Manufacturing for Industry
Resolute Marine Energy – Clean Power from Ocean Waves
EQULL
PureWatercraft

Organizational Partners

Impact Washington
Goodwill – Because jobs change lives
EDASC – Economic Development Alliance of Skagit County
Workforce Development Council of Seattle-King County
NWSeaport – Maritime Heritage Center – Preservation • Heritage • Education • Skills
Working Waterfront Coalition of Whatcom County
Green Marine
Northwest Straits Foundation
Sound Experience
NAMEPA
CleanTech Alliance Washington
Northwest School of Wooden Boat Building
Norwegian Centres of Expertise – NCE Maritime CleanTech

blue – Washington Maritime

A Strategic Alliance for Maritime Innovation and a Sustainable Blue Economy

A partnership to implement Washington State's Strategy for the Blue Economy - a thriving maritime economy, a healthy ocean & marine environment, equitable & resilient communities.

Research Institutions

Pacific Northwest National Laboratory
PMEC – Pacific Marine Energy Center
Applied Physics Laboratory – University of Washington
PMEL – Pacific Marine Environmental Laboratory

Public Partners

Washington State Department of Commerce
Port of Seattle
The Northwest Seaport Alliance – Gateway to Solutions
Washington State Department of Transportation
Center of Excellence for Marine Manufacturing & Technology
Washington State Ferries
Seattle Office of Economic Development
Sea Grant Washington
Puget Sound Partnership
Port of Everett
Port of Skagit
Tacoma
EDA – Jamestown S'Klallam Tribe Economic Development Authority
Kitsap Transit – Connecting Communities
Port of Bellingham – Building A Strong Community
Seattle Public Schools
Washington Workforce Training and Education Coordinating Board
Port of Anacortes
Skagit County Washington
Tacoma Power – Tacoma Public Utilities
Port of Whitman County

Scope of Work – The 6 Blue "F"s

Blue Focus	Blue Forum	Blue Forward
Marketing & Communications	Networking & Knowledge Sharing Events	Facilitating Joint Innovation Projects
Blue Force	**Blue Finance**	**Blue Founders**
Career Connected Workforce Development	Access to Capital Public & Private Funding	Supporting Entrepreneurship

Maritime Blue engages members, partners and stakeholders in a number of ways in order to fulfill its mission. Taking lessons learned and models from other cluster organizations and innovation ecosystem builders around the globe.

Blue Forward

Members come together through **Joint Innovation Projects (JIPs)** and collaboration to implement key demonstration projects and strategic planning for growth in the Blue Economy

- Washington State Ferry Electrification
- Seattle Waterfront Decarbonization Strategy
- JIP: Zero-emission Foiling Fast Ferry
- JIP: Green Hydrogen for Tacoma Maritime
- JIP: Early Covid-19 Detection for Maritime and Fisheries
- JIP: Quiet Sound – Whale Report Alert System (WRAS)

Joint Innovation Program (JIP)

Zero Emission Fast Foil Ferry

Development of an innovative Hydrofoil craft

CHALLENGE

A zero-emission, clean transit concept for a high-speed hydrofoil craft using lightweight carbon fiber hull construction. Vision is to help relaunch the "Mosquito" fleet & reduce vehicle traffic. A collaborative approach is needed to identify & solve the challenges related to technical, safety, operational risks & financial feasibility.

SCOPE

This collaborative JIP will advance through feasibility & demonstration phases with project tasks that may run in succession/parallel. These include:

- Advance design spiral from concept to preliminary design, to contract design for construction.
- Economic & environmental benefits & impacts
- Terminal & shoreside infrastructure requirements
- Materials & construction
- Routing analysis & operations
- Advance detection & avoidance strategies
- Regulatory, testing & permitting
- Hybrid funding model for first demonstration

BENEFITS

More efficient vessel, reduced emissions, improved commuter & transit options, quieting & strike avoidance to reduce marine mammal impacts, platform for WA manufacturing, innovation & economic development.

VALUE

A zero-emission high speed waterborne transportation alternative in the Puget Sound. The foil ferry can offer a safe, reliable & cost-effective option, while minimizing the environmental impact on air & water quality as well as marine life. Washington companies to develop state of the art technology & competence to support our region as a center of excellence for maritime decarbonization.

Partners

Glosten

BIEKER BOATS

DNV·GL

Kitsap Transit

Port of Anacortes

Port of Bellingham

Port of Skagit

EDASC

Joint Innovation Project (JIP) - DRAFT

Zero-Carbon Maritime Hydrogen Ecosystem through Formic Acid Storage Pathways

CHALLENGE

Alternative fuels and energy are needed to reduce emissions from transportation and port operations. Hydrogen shows great promise, if it can be generated at scale in our region from renewable energy, as well as stored and transported in a safe manner. Tacoma Power has excess clean hydropower generation that can be utilized to make Green Hydrogen. They also need to provide energy for cold-ironing services to berthed vessels, which have large variances in power demand and timing.

PARTNERS

OCO – Use, Don't Waste, Carbon Dioxide

Pacific Northwest National Laboratory

Tacoma Power – Tacoma Public Utilities

DNV·GL

SOLUTION

- Build and scale a Maritime hydrogen ecosystem through a project at the Port of Tacoma that demonstrates the concept of a port-based hydrogen (H2) solution utilizing Formic Acid for lower cost and safer storage and movement.
- This demonstration features a system that creates a liquid H2 carrier, formic acid, directly from green renewable electricity, water and recycled CO_2. This unique technology is provided by two of the partners: OCO Inc., whose electrolyzer technology creates the formic acid as a liquid H2 carrier and the Pacific Northwest National Laboratory, that provides a reformer technology to decompose and release the H2 from formic acid when needed.
- A Tacoma Power will provide the green electricity, which comes primarily from hydroelectricity and is 97% carbon free. They will also be the end user of the H2, to generate energy on demand for cold-ironing services to berthed vessels.
- DNV GL will provide techno-economic modeling so that this demo can be used to provide the anchor application for scaling-out hydrogen use in other maritime applications like hydrogen fueling for trucks, trains, vessels and a wide variety of cargo handling applications.

VISION

Regional collaboration to make Tacoma, WA the production and distribution nerve center for scaling up the use of clean hydrogen for port and maritime applications.

BENEFITS

This approach provides a large-scale local production and use for Hydrogen in maritime ports that can be stored as a liquid carrier in the form of Formic Acid, overcoming some of the key storage and movement challenges. This demonstration has the potential to show ports, utilities, and numerous maritime end-users what can be achieved when H2 is used at scale

Joint Innovation Project (Proposed)

Support and Scale the Whale Report Alert System for QUIET SOUND

CHALLENGE

As a relatively new tool in Washington State, the Whale Report Alert System (WRAS) requires more robust participation from various user groups to improve the data input for cetacean sightings. As such, the challenge is to work with various entities to garner data, facilitate smooth implementation of WRAS, and evaluate WRAS efficacy in Washington State based on how alerts impact mariner actions on the water.

SOLUTION

Recruit and train users:

- Education and outreach
- Implementation Planning w/ operators
- Develop and deliver trainings

Implement WRAS:

- Work with end-users to operationalized
- Aggregate visual sittings networks data
- Provide ongoing support to users
- Monitor data input

Efficacy and Adaptive management:

- Plan for and develop usage analysis
- Continued implementation support and data monitoring

Integration of Data sources:

- Expand coordination of data cross-boarder and sector
- Assessment of hydrophone networks
- Continued improvement and long-term recommendations

Proposed PARTNERS

Port of Seattle
THE NORTHWEST SEAPORT ALLIANCE
Washington State Ferries
PUGETSOUND PARTNERSHIP
PMSA PACIFIC MERCHANT SHIPPING ASSOCIATION
MARINE EXCHANGE OF PUGET SOUND
Orca Network
ocean wise
NOAA FISHERIES
PORT of vancouver

VISION

Support and scale use of Whale Reporting and Alert System (WRAS) in Washington waters.

Joint Innovation Project

COVID-19 Early Detection System for Fisheries & Maritime

CHALLENGE

Every summer 10,000 plus people go to work in the Alaska based fisheries through Washington State. Most of the fishing and processing companies are based in WA as well as the workforce. The entire fishery contributes more that $10 Billion dollars to our economy and is a vital part of our food security supply chain. However - How do we support and enable this activity and workforce in a way that is safe and not contributing to the spread of COVID-19, threatening small communities throughout Alaska and hence, the entire fishery itself? How can we monitor and track the health of the workforce who is particularly high risk due to the nature of the work?

SOLUTION

A partnership between Maritime Blue, the Institute for Health Metrics and Evaluation (IHME) and Discovery Health MD (DHM) will build, implement and scale an early detection system to prevent the spread of COVID-19 in this high risk workforce.

- IHME will build a survey, provide data analysis, and dashboard for early detection
- Survey results will inform and support businesses internal data collection needs
- DHM will work with the Fishing and Maritime industry to support operationalization
- Engage in further technology partnership to ensure efficient and safe data transfer to and from vessels
- Scale the solution in concert with other contact tracing efforts to be utilized in other high risk workforce sectors and eventually to whole communities, regions and states.

PARTNERS

Institute for Health Metrics and Evaluation

DISCOVERY HEALTH

VISION

Provide the technology and communications platform to allow the fishing and maritime sector to return to work safely and build a pilot that can be scaled to other sectors and regions.

BENEFITS

The overall goal for this Program is prevent the spread of COVID-19 as industries are implementing back to work initiatives, while maintaining the health of employees and the communities in which they live or operate. Strategic analyses that utilize the survey and testing data will allow us to look for a potential for resurgence, protect jobs and protect the global food supply chain

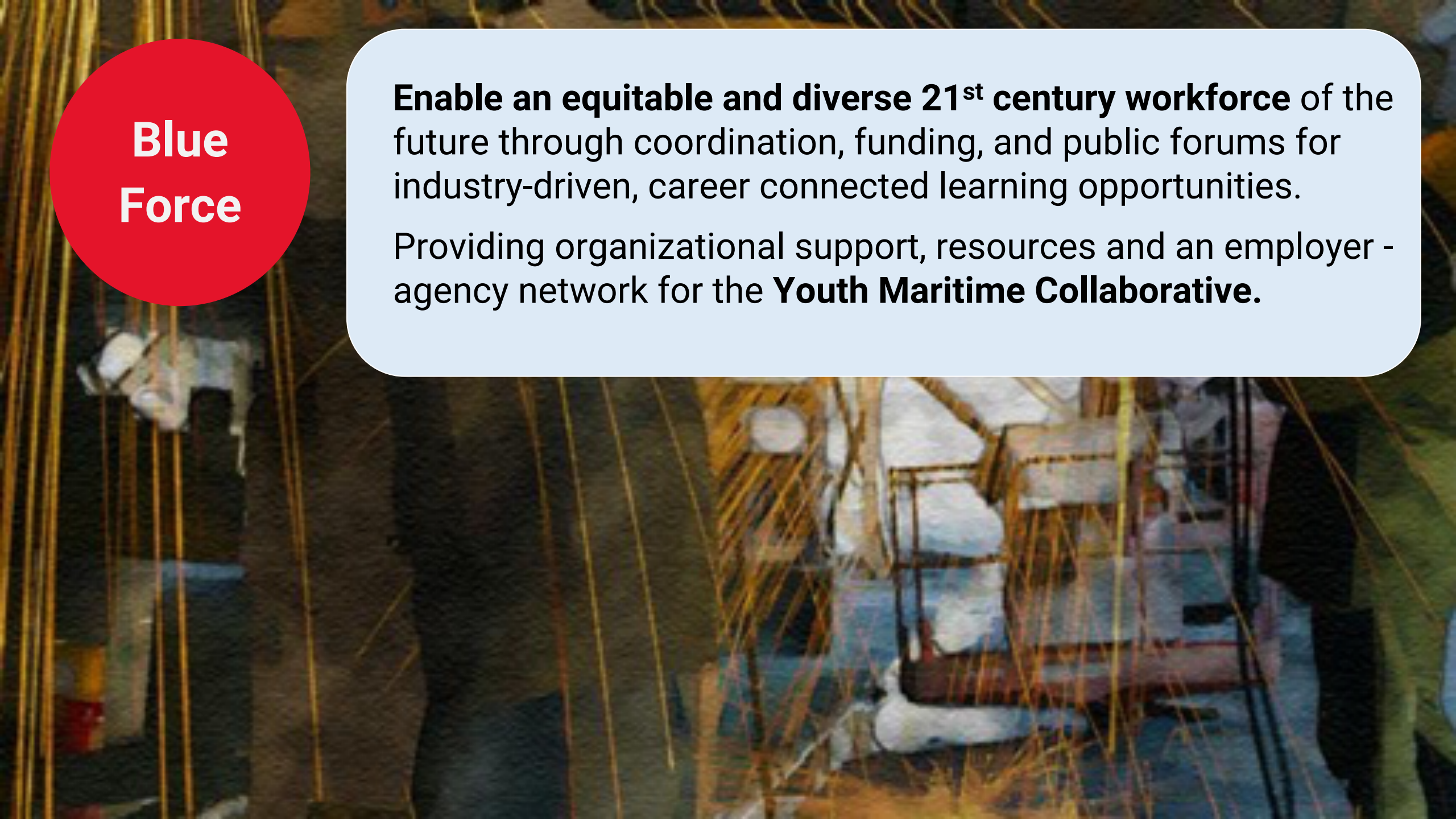
Blue Forums

Networking and strengthening of the knowledge base: host events, workshops, and public forums on key topics and critical discussions utilizing member expertise and outside thought leaders.

- Uptown Tech Meets the Working Waterfront
- R&D Pathways for Maritime Energy Solutions

Upcoming…

- Investing in the Blue Economy
- Equity in a 21st Century Maritime Workforce
- Maritime Battery Safety Forum
- Technology Innovation for Marine Conservation



Blue Force

Enable an equitable and diverse 21st century workforce of the future through coordination, funding, and public forums for industry-driven, career connected learning opportunities.

Providing organizational support, resources and an employer - agency network for the **Youth Maritime Collaborative.**

Youth Maritime Collaborative

A partnership between service providers, educational institutions, and employers to make maritime an accessible option for young women, low-income youth, and youth of color. The YMC creates career pathways through experiential events, mentorship and internships.

YMC Youth Internships

Secured 12 private sector employers for summer internship programs for 26 King County youth:

- City of Seattle & Workforce Development Council providing stipend for interns
- CTE Interns earned High School credits
- Goodwill designed and implemented Equity Training for maritime employers hosting interns
- City of Seattle funded programs for college-bound students interested in STEM and Maritime

Blue Finance

Conduit for public and private funding opportunities for a diverse and varied financing approach to the Blue Economy, including fund pipeline development and establishing common impact metrics.

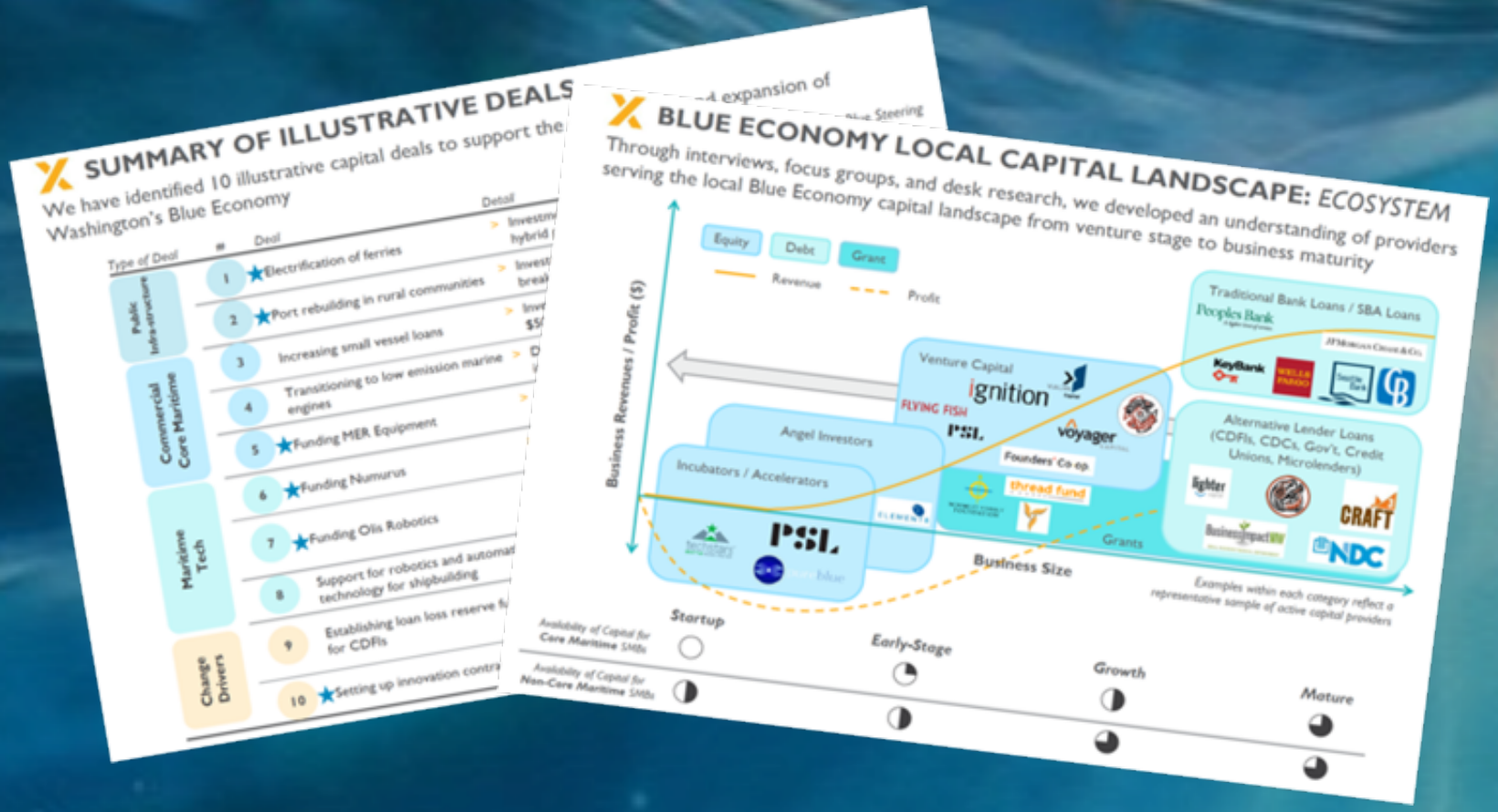
Capital Landscape Study

There is a particular need for early-stage capital.

Venture Capital is NOT seeking out Maritime.

Government and philanthropic grants can help de-risk investments.

Clusters, incubators, & accelerators can support pipelines of new deals and demonstration projects.



Funding and Investing in the Blue Economy

Increasing Global Market and Consumer Demand

Converging Ocean Sectors increasing tech transfer

Global Regulation from UN to Regional pulling markets

Reducing Technology Costs

Increasing Global Cooperative Approach

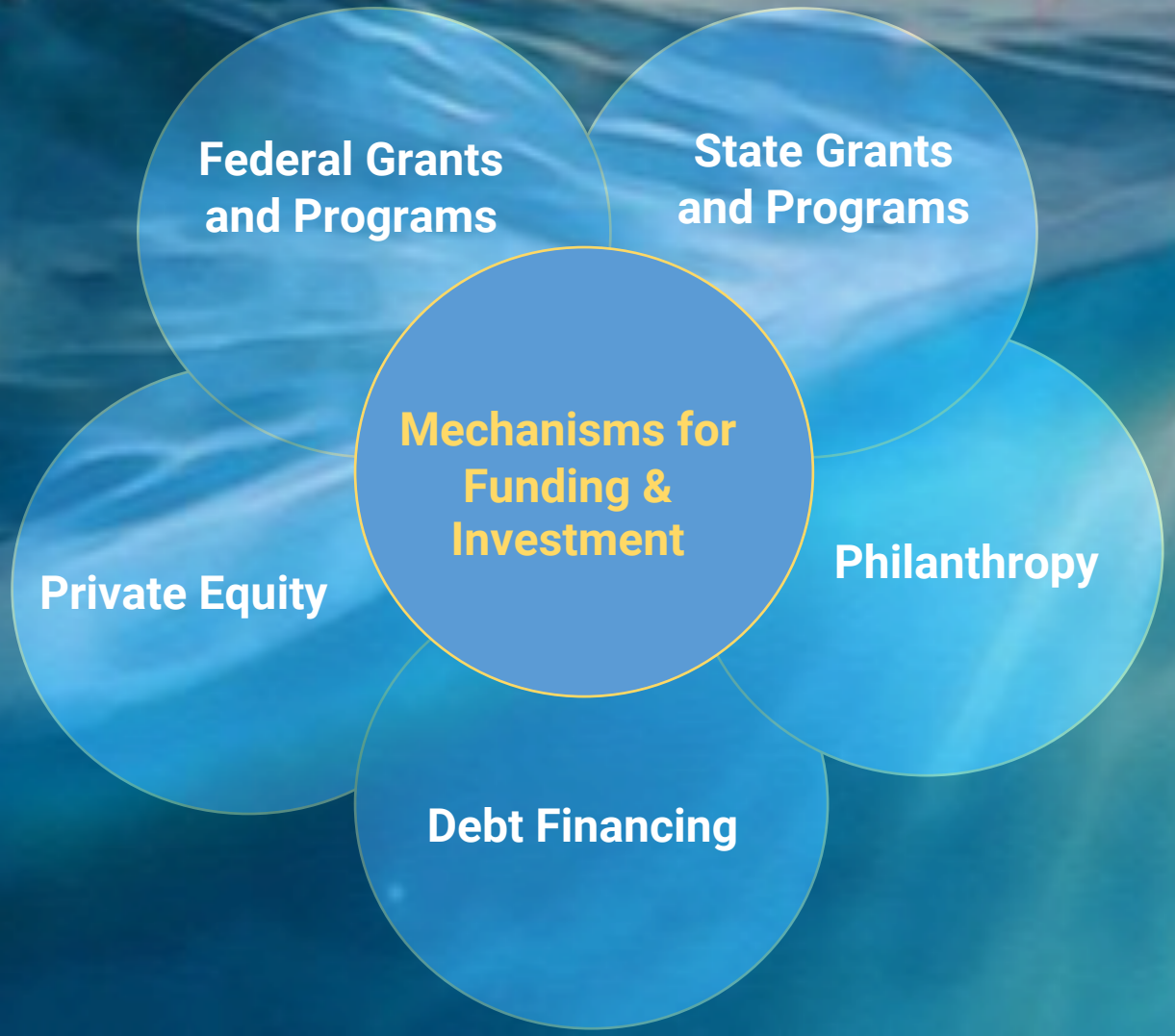
Hybrid Funding and Investment Opportunity

May need to buy down risk for developing new technology

Various forms of private capital. In both debt and equity forms

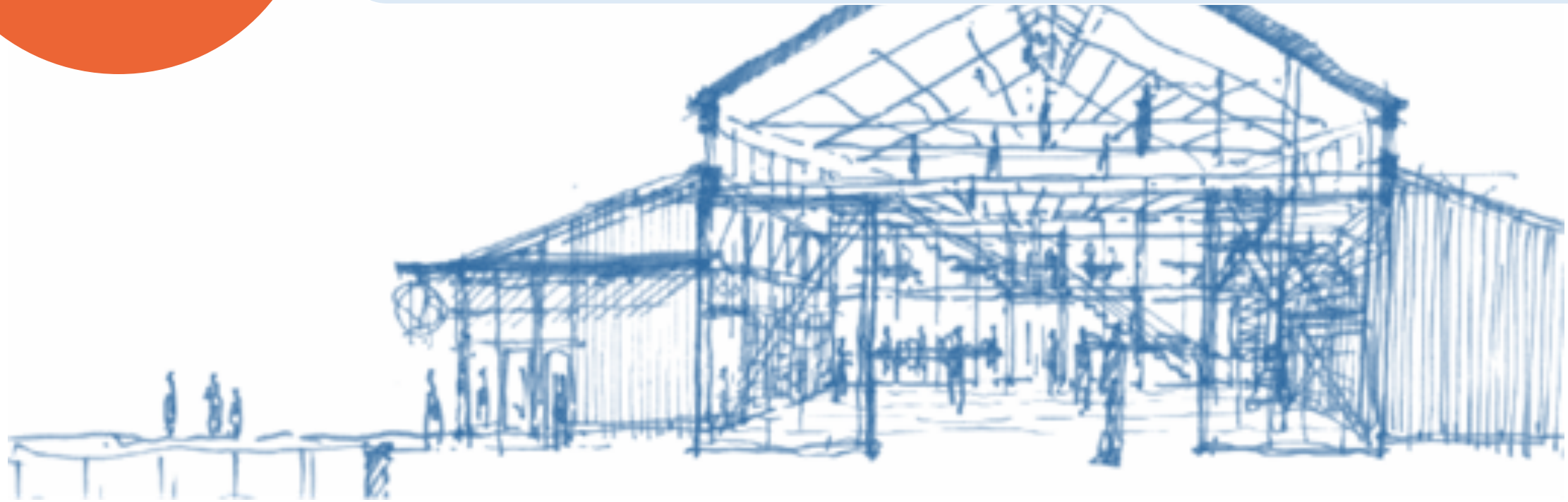
Economic Recovery is looking for news ways to deploy capital and fund infrastructure

Growth in “Impact Investing” form both individuals and institutional giving



Blue Founders

Entrepreneurship and start-up incubation, acceleration, mentorship, coworking, and public meeting spaces as a hub to the many spokes of maritime communities across the state.



Maritime Blue Innovation Accelerator

Four-month Accelerator program taking no equity

Diverse stages and sectors

Mentors from business development and maritime/ocean

Attracting diverse funding and capital; public, debt, equity, VC, Impact, grants etc.

Wins, Deals, Stats and Media

11 Startups Chosen (from 100 + applications)

- 9 from US, 7 from WA State, 5 from King County
- 3 Women founders, 3 POC founders/co-founders

Showcase Event

- 500+ Registered
- 350 Unique attendees

Wins and Deals

- $32M in Private Capital Investments
- $6M in Business Sales
- Several Demonstration Projects & Customer Acquisitions
- Combined reports of over %500 increase in revenue
- At least 50 jobs created

GeekWire NEWS JOBS EVENTS RESOURCES ABOUT

Trending: This governor alarmed professors 22 years ago with his vision for distance learning in 2020 – here's what he says today

Gov. Inslee helps launch Washington's first maritime startup accelerator in Seattle

BY TAYLOR SOPER on January 22, 2020 at 8:01 am

The Seattle Times

Port of Seattle partners with coworking company WeWork on maritime business incubator

The Maritime Executive

INTELLECTUAL CAPITAL FOR LEADERS

Washington Maritime Blue Picks First Innovation Accelerator Cohort

Blue Focus

Creating a world-class cluster through a sustainable organization rooted in values of equity and resilience.

- Growing membership and leadership
- International recognition and speaking engagements
- Cluster to Cluster relationships

Part of a Global Enterprise for the Blue Economy

Organizational Development & Leadership

Founded in October 2018, the organization has taken significant steps towards organizational sustainability by diversifying revenue, increased operational capacity and Board leadership. Current Board of Directors include:

Chair - Joshua Berger, WA Commerce
Vice-Chair - Lauren Offenbecher, SSA Marine
Vice-Chair - Eleanor Kirtley, Green Marine
Secretary - Simon Geerlofs, PNNL
Treasurer - Deloit Wolfe, Impact Washington
Ann Avary, NW Center of Excellence for Marine
Kurt Beckett, Northwest Seaport Alliance
Comm. Fred Felleman, Port of Seattle
Kyle Johnson, Jamestown S'klallam EDA
Cosmo King, ioCurrents
Vesa Koivumaa, Wärtsilä
Dennis McLerran, Cascadia Law Group
Bob Miyamoto, University of WA - APL
Barbara "b.g." Nabors Glass, Seattle Goodwill
Amy Scarton, Washington State Ferries
Andy Stewart, Amazon
Ex-Officio, Rep. Gael Tarleton, WA State Legislature

2019 – 2020 Sponsors

Catalytic Sponsors

Washington State Department of Commerce
Port of Seattle
Seattle Office of Economic Development
IMPACT WASHINGTON
WÄRTSILÄ
SSA Marine
A Carrix Enterprise
Pacific Northwest NATIONAL LABORATORY
Schwabe WILLIAMSON & WYATT
LAVLE

Impact Sponsors

TOTE Maritime
PugetLNG
SPEAR POWER SYSTEMS
THE NORTHWEST SEAPORT ALLIANCE
Gateway to Solutions
CROWLEY
People Who Know
Glosten
ABB
Washington State Ferries

Sustaining Sponsors

Port of EVERETT
Elliott Bay Design Group
Architectural & Engineering Services for the Marine Industry
KONGSBERG
VIGOR
DNV·GL

2020 Annual Membership/Sponsorship Options

Benefits	Catalytic Sponsorship	Impact Sponsorship	Sustaining Sponsorship	Industry Membership*	Organizational Partnership
Annual membership fees (calendar year)*	$10,000 +	$5,000	$2,500	$250 - $1,500	In-kind
Membership for all employees	X	X	X	X	Limited
Invitation to VIP only events	X	X	X		
Website logo recognition	X	X	X	Limited	Limited
Highlighted in marketing and e-news	X	X	X	X	X
Features, Executive Q&As, and Stories	X	X			
Committee participation opportunities	X	X	X	X	X
Forum sponsor recognition / topic choice	All	2	1		
Preference for trade shows and delegations**	X	X	X		
Business Development Services	X	X	X	X	n/a
Access to grants & Joint Industry Projects	X	X	X	X	X
Access to incubation/accelerator mentorship	X	X	X	X	X
Access to co-working space (coming soon)	X	X	X	X	X

**Membership fees are assessed as $250 for 1-7 employees, $500 for 8-14; $1,000 for 15-24; $1,500 for 25 or more employees.*

***WMB will follow all public health advisories when determining event schedules and modalities.*

Joshua Berger
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Governor’s Maritime Sector Lead
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www.maritimeblue.org
#WaMaritimeBlue, #BuildBackBlue