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Maritime Blue Annual Report

Advancing Washington State's Maritime Industry



Building a Blue Economy: A Progress Report

Port of Seattle has strong partnership with Washington Maritime Blue:

- Maritime innovation accelerator
- Maritime Youth Collaborative
- Joint Industry Projects
- Organizational Development and Leadership





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*



Thriving,
Low
Carbon
Industry

Global
Innovation
Hub

Growing
Gateways

21st
Century
Workforce

World-
Class
Cluster



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.

Industry Members



Organizational Partners



Startups



Research Institutions



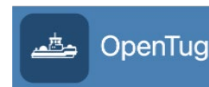
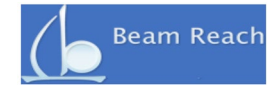
Public Partners





Maritime Blue Innovation Programs

- 4 Month Mentor-based Innovation Accelerator (no equity)
- One Year Innovation Incubator in Partnership with Port of Tacoma (focus on Port Operations)
- Hub and Spoke Model Creating Partnership Programs with PNW Organizations in Newport, OR and Bellingham, WA





Innaugural Cohort Wins, Deals, & Stats

115 Startups applies - 11 Chosen

- 10 from US, 9 from WA State, 7 from King County
- 4 Women, 4 POC founders/co-founders

Wins and Deals

- \$73M in Private Capital Investments
- \$12M in Business Sales
- Several Demonstration Projects & Customer Acquisitions
- Combined reports of over %500 increase in revenue
- At least 50 jobs created



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**



Second Wave Notable Events/Stats

100+ Startups Applied

- 60% from WA State, 40% from King County
- 11 startups chosen
- 9 from US, 7 from WA State, 5 from King County
- 3 women founders, 2 POC founders

Wins and Deals

- Silverback Marine landed large contract with Port of Lopez w/ 1st wave company, Pure Watercraft
- Allosense secured non-dilutive funding from DoD
- MM-Seas launched their platform during the program
- Puget Buoy won Alaska Airlines Innovation Challenge
- Pending results of current funding rounds

A screenshot of a news article from The Seattle Times. The title is "Taking the lead to advance Washington's maritime economy". The article is categorized under "Editorials". It includes a date and time stamp: "May 12, 2021 at 3:15 pm | Updated May 12, 2021 at 4:54 pm". There are social media sharing icons for Facebook, Email, and Twitter. The article features a video player with four frames showing three individuals: Robert Brown, Jocelyn Daniels, and Karina Martija-Harris. The video frames include logos for "blue", "YOUTH MARITIME COLLABORATIVE", and "Project Youth Maritime Accelerator".

The Seattle Times Editorial Board

Editorials

Taking the lead to advance Washington's maritime economy

May 12, 2021 at 3:15 pm | Updated May 12, 2021 at 4:54 pm

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Robert Brown, Jocelyn Daniels and Karina Martija-Harris of the Youth Maritime Collaborative, which creates awareness about maritime career and... (Youth Maritime Collaborative) [More](#) ✓



Mentors Make This Program Special!

- Weekly CEO roundtable with industry leading experts
- HUNDREDS of hours of individual mentor meetings
- Shared contextual experiences





Where do we go from here?

- Third Wave of the Maritime Blue Innovation Accelerator Q1 of 2022
- Rolling Admission into Maritime Blue Innovation Incubator in Partnership with the Port of Tacoma
- Launch of Bellingham, WA Clean Tech/Blue Tech program
- Building Collaborative Programming with Alaska and Oregon in 2021/2022





**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.



Strategic Vision & YMC Partners



We aspire for the Youth Maritime Collaborative to be a partnership that makes maritime an appealing career option for low-income youth and youth of color. To achieve this, we propose a system that is grounded in career connected learning and equity. By guiding today's youth toward career pathways, experiential events, internships and apprenticeships, the Collaborative works to connect employers with the next generation of skilled workers.

WASHINGTON MARITIME **blue** Internships

Youth Maritime Accelerator Project (YMAP)

11 diverse interns, ages 18-24 from South King County
6 Maritime Employers (Fishtail, TOTE Marine, Pacific Marine Group, MMSEAS, YMC, WA Maritime Blue)
8-week paid internship
\$2,000 stipend
Includes curriculum and experiential learning events

Launch206

12 interns from Seattle Public Schools
4 Maritime Employers (Argosy, Western Towboat, Boat Setter, CETS LLC, Center for Wooden Boats)
4-week paid internship and .5 HS credit
\$1,000 stipend
Includes class instruction and experiential learning events





Expanded Cohort Model

Increase opportunities for youth to experience on-the-water programming and maritime/ocean learning activities, education and training with YMC program partners

Expand partnerships with community-based organizations

Provide wrap-around support for both youth and employers





Funding Model Structure

2019 – 2021

Port of Seattle: \$199,999

Port of Seattle, South King County Fund: \$99,995

City of Seattle, Office of Economic Development: \$50,000

Workforce Development Council of Seattle & KC: \$10,000

2021-2023

Private Funding Match: The Builders Initiative: \$350,000

Seeking further match funding for full program planning





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)



Quiet Sound is a collaborative program to better understand and reduce the cumulative effects of acoustic and physical disturbance from large, commercial vessels on Southern Resident Killer Whales in Washington waters.





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:

President/CEO - Joshua Berger, Maritime Blue

Vice-Chair - Lauren Offenbecher, SSA Marine

Vice-Chair - Eleanor Kirtley, Green Marine

Secretary - Simon Geerlofs, PNNL

Treasurer - Deloitte Wolfe, Impact Washington

Joe Allen, Jamestown S'klallam EDA

Ann Avary, NW Center of Excellence for Marine

Comm. Fred Felleman, Port of Seattle

Jason Jordan, Northwest Seaport Alliance

Cosmo King, ioCurrents

Vesa Koivumaa, Wärtsilä

Dennis McLerran, Cascadia Law Group

Bob Miyamoto, University of WA - APL

Barbara "b.g." Nabors Glass, Seattle Goodwill

Patty Rubstello, Washington State Ferries

Andy Stewart, Amazon



2019 – 2020 Sponsors

Catalytic Sponsors



Impact Sponsors



Sustaining Sponsors





Funding Facts and Figures

Projected 2020-21 Revenue



- Membership/Sponsorship 10%
- Program Revenue (JIPs) 7.7%
- Philantropy 7.7%
- Events 6.4 %
- Federal 31%
- State (18% PoS) 19%
-

Annual Budget = \$1.94M

Port Funding = \$250,000

Appendix



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



Kitsap Transit
Connecting Communities



PORT OF BELLINGHAM
Washington State
Building A Strong Community

Port of Skagit

EDASC
Economic Development Alliance
of Skagit County



Joint Innovation Project (JIP) - DRAFT

Zero-Carbon Maritime Hydrogen Ecosystem through Formic Acid Storage Pathways

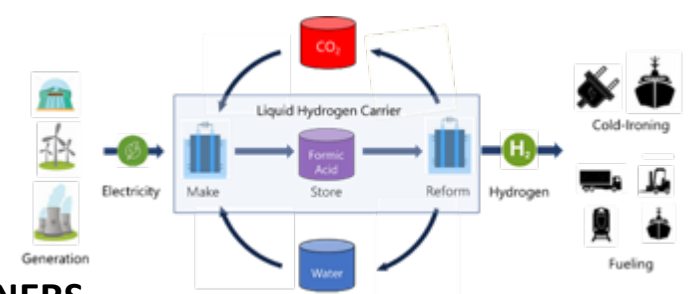
CHALLENGE

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.

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 CO₂. 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.

PARTNERS



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



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 sightings 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



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



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