

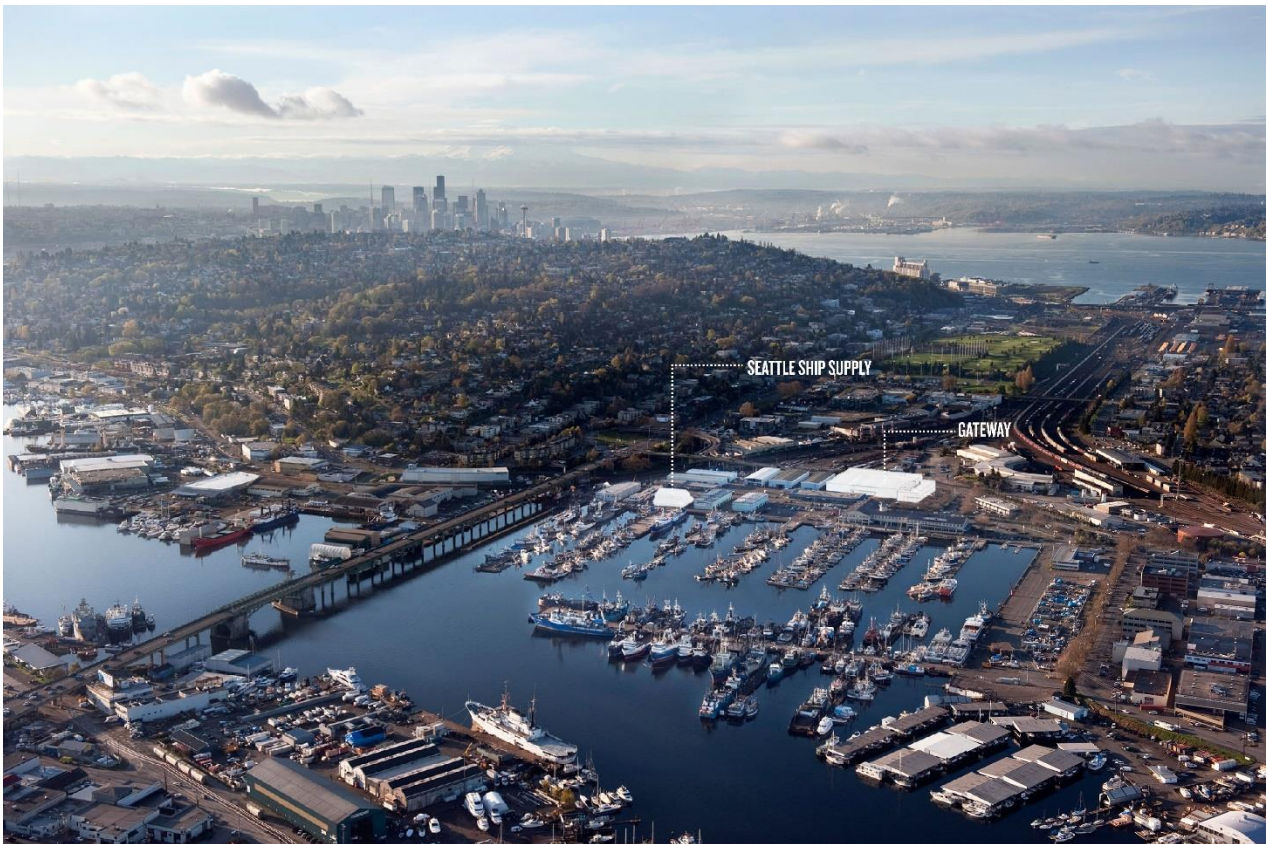
PORT OF SEATTLE

Maritime Innovation Center

BUSINESS PLAN

Report No.: Rev. A

Date: 2019-04-25



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1 EXECUTIVE SUMMARY

Introduction

The Port of Seattle contracted DNV GL to update and further develop a business plan for their proposed Maritime Innovation Center (hereafter referred as the MIC, or the Center). The work was facilitated by the Port of Seattle.

Purpose

The purpose of the MIC is to act as a catalyst and platform for maritime companies to grow and together create a common culture and environment for entrepreneurship. By fulfilling this mission, the MIC would meet the needs of distinct client communities, contribute to job creation, and provide for enhanced economic health to the region.

Description of the Maritime Innovation Center (MIC)

The MIC would support the launch and growth of selected new and emerging companies by providing a stronger and more cohesive entrepreneurial environment in Washington State. The MIC's primary focus would be on entrepreneurs building high-growth ventures. The MIC will also direct efforts towards supporting women, underserved communities, people of color and youth via a number of mechanisms, including specialized programs and events.

The proposed facility includes a variety of services such as facility space, common office equipment, direct business assistance and guidance, mentoring, networking to facilitate capital, and other technical resources. A network of existing resources in the community would be developed to support client needs.

Structure

Port of Seattle will act as a landlord and rent the MIC facility to a selected operating partner, who will then be in control of operating the Center.

A decision should also be made regarding the legal and governing structure for the MIC. Three broad options have been presented: For-profit corporation, Independent not-for-profit entity or an embedded entity. The options have further variations, each with benefits and limitations of their own. This business plan recommends the Center be structured as a not-for-profit entity.

The MIC Advisory Committee can be used as the basis of a governing board that will make strategic decisions, evaluate performance, and promote the MIC within the industry. Port of Seattle should also have representatives sitting in the committee.

Incubator and Accelerator Program Details

The incubator program will help early stage start-ups to grow by providing a space to work, legal counsel, mentoring, training and other benefits. Incubators will be allowed to base themselves in MIC for a three-year period. The Port has been approached by the Pacific Northwest Ocean House (PNOC) about operating this incubator. The PNOC would lease space within the Port's Maritime Industrial Center warehouse to start this new maritime incubator in 2019.

The accelerator program will help companies with a defined product or prototype grow the size and value of their company as fast as possible in preparation for an initial round of funding. It is a 3-month cohort-based program that provides tailored mentorship, education and guidance to help further grow their business and scale their technology. Two cohorts run in a year. An RFP or RFQ is being prepared to select an accelerator partner before launching the program on October 2019.



Proposed Facility and Site

The proposed facility would be 12,000 total square feet with a mix of working space for incubators, accelerators and anchor tenants along with fabrication and event space. This business plan has considered and ranked 3 site options for the facility: Seattle Ship Supply, Terminal 91 Uplands and Fishermen's Terminal (FT) Gateway Building.

After scoring across 6 selection criteria, Ship Supply Building is the front runner, followed by FT Gateway and T91 Uplands. However, it is important to note the selection does not include financial costs for the facility. More evaluation on the costs of the facility will need to be included to determine the final site selection.

Budget and Financial Estimates

The current plans in place propose that the Maritime Innovation Center will be funded partly by the Port of Seattle and the State. The Port has included \$10.5 million in its capital improvement plan for the MIC, and a state capital investment of \$5.0 million is currently included in the proposed 2019-2021 biennium budget from the Governor, the Senate and the House of Representative for the State of Washington.

It is anticipated that the Center will generate a net positive operating income for the POS as a landlord from Year 1 onwards. The proposed Maritime Innovation Center is anticipated to generate average annual net operating income of \$195,803 over the first 10 year period for the Port.

In line with the investment of \$5.5 million from the Port, the payback period for the capital investment is between 21-22 years with an average return of investment of 4.6% over that period.

From the MIC operator entity's perspective, it is anticipated that they will be able to cover 79% in year 1 (increasing to 97% coverage by year 7) of its operational costs from the rental revenue from the facility. The MIC's operating partner will also have to ensure a steady funding source to maintain and cover operational costs. The operating entity would need to secure external contributions of \$ 72,000 annually on average for the first 5 years to sustain its operations. The governance structure selected will impact the ability to gather and attract external funds/contributions. In total, for the first ten years of operation the Proposed Maritime Innovation Center is anticipated to generate an average annual revenue of \$452,095.

Success Criteria

Several factors have been identified as potential indicators of success for the Incubator and Accelerator program and for the Center as a whole. The criterion ranges across client demand and feedback, financial performance and regional and global awareness.

Next Steps

Once the business plan is finalised, several decisions need to be agreed up on and implemented. Details on the operational milestones and a roadmap for the years 2019 to 2022 has been included in the document.

The most immediate and critical components of progressing will be to finalize incubator and accelerator partners and to complete design work on the Historic Ship Supply building so the Port can determine a final location for the innovation center.

2 BACKGROUND AND STRATEGIC VISION

2.1 Background

The Port of Seattle contracted with DNV GL to update and further develop a business plan for their proposed Maritime Innovation Center (hereafter referred as MIC, or the Center). The Port of Seattle plans to develop a Maritime Innovation Center that will 1) act as an incubator and/ or business accelerator, 2) foster active connections between local industry and academia within a focused maritime innovation network, and 3) offer education and training resources that will serve the maritime community. The Center is envisioned to create a maritime epicenter that can help drive industry growth and entrepreneurship.

2.2 Vision

Puget Sound in Washington State becomes a world leading hub for sustainable maritime and ocean industries, by creating an ecosystem of innovation that drives productive collaboration among academia, industry and government.

When people think about sustainable BlueTech industries, we want them to think about Puget Sound in the same way the world equates finance with New York or technology with Silicon Valley.

Source: (The Maritime Alliance, Delawarde Consulting, and ECONorthwest, 2018)

2.3 Mission

The Port of Seattle's Maritime Innovation Center will provide support required by marine and ocean-oriented companies in their effort to modernize and/or innovate the maritime industry and create good-paying Blue Jobs. The Center will provide this support by making use of its own facility as an incubator and accelerator environment as well as by leveraging on local assets, resources and network to ensure the collective strength of various initiatives in Washington State is benefitted from.

2.4 Objectives

To achieve its mission, the MIC's needs to meet the strategic objectives described below:

- **Be the focal point for the local hub-and-spoke model as well as a global collaboration ecosystem** – In a *local* setting, the MIC must strengthen existing relationships and build new linkages with all relevant stakeholders (including non-maritime industries) to leverage the region's orientation towards environmental sustainability, technology innovation and maritime heritage. Maritime companies will benefit from this hub-and-spoke model of collaboration, since regional expertise in high-tech software and data companies will be easily accessible for the introduction of disruptive technologies in the maritime field. At a *global* level, the MIC must play a similar role in maintaining a detailed understanding of the global ecosystem of startups, organizations and research institutions, and reciprocate with knowledge-sharing of activities from the MIC. Being part of this global collaboration ecosystem will ensure that the MIC's clients have access to many invaluable resources, including;
 - awareness of incubator and accelerator programs tailored to ocean impact technology,
 - success stories and events happening in other parts of the world,

- top global subject matter experts, serial entrepreneurs, business leaders and investors with potential to get their entry and scaling in the US.
- **Become centralized information source to BlueTech sector** – The MIC must become a repository of all relevant information to support new entrepreneurs in the BlueTech sector. Information to be made readily available at the MIC includes overview and means of access to all relevant services such as business development assistance and advisory services, professional networking with the hub-and-spoke representatives, education programs, etc.
- **Offer incubator and accelerator environment** – The MIC must ensure that physical facility-based services are available to new entrepreneurs. This can be enhanced by leveraging existing work spaces offered by the various stakeholders within the hub-and-spoke network.
- **Attract investment** – The MIC must identify and attract funding sources to support qualifying start-up companies and new technologies in the BlueTech sector. This will promote the retention of local companies and talent. The MIC must also initiate competitions within the BlueTech sector, where viable solutions developed by individuals or teams to address specific issues faced by the maritime industry in Washington State might subsequently secure further funding from investors.
- **Offer learning services** The MIC will offer the community “general awareness” sessions about the various aspects of the maritime industry to people of all ages, backgrounds and professions. The MIC will also have dedicated knowledge-booster programs for the younger generations, offered up to high school students. The MIC will also collaborate with the Youth Maritime Center to provide internships and events tailored towards guiding the youth towards maritime related careers.

2.5 Benefits to Stakeholders

It is expected that the MIC, if successful in meeting its strategic objectives thereby achieving its mission, will benefit several key stakeholders in Washington State.

- **Incubator and accelerator companies:** These companies are more likely to succeed if they are to receive the right type and amount of support during their early development years, such as:
 - **Reduced barriers to entry** – the MIC’s environment will allow start-up companies to benefit from affordable office space, access to shared equipment, and meeting facilities, thereby reducing their overhead and operating costs during the critical formative years.
 - **Networking and mentoring** – by leveraging local resources and networks, the MIC would allow companies to connect with the relevant mentors, suppliers, and funding agents.
 - **Increased visibility and stature** – the MIC’s incubator role will increase the visibility and presence of its tenant companies in the marketplace and advance their success potential. Admission to the incubator would imply an endorsement that enhances stature of new companies and increases their chances to secure funding.
 - **Increased company valuation:** The MIC’s accelerator role will provide tenants with support to scale their businesses and offer opportunities to meet the most active investors to grow the value of their company.

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- Community: The overarching benefit to the community is increased economic health and vitality through:
 - **Job creation** – Incubator and accelerator companies would create new employment opportunities for area residents and introduce young people to exciting new careers. Technology companies typically create higher wage and higher skill jobs. The Youth Maritime Collaborative (YMC), formed to increase awareness regarding opportunities in the maritime industry especially for low income youth, will also benefit from the MIC.
 - **Enhanced image** – An innovation center is an important element to enhance Puget Sound’s image as a progressive, future-thinking place that encourages and supports technology business development for sustainable maritime and ocean industries.
 - **Increased entrepreneurialism** – Business incubators and accelerators create awareness of entrepreneurs and stimulate confidence among individuals to consider business and product creation opportunities.
 - **Business development** – Established area businesses, especially those that develop relationships with early-stage companies, create long-term business opportunities as incubator and accelerator companies grow and expand.
 - **Increased tax revenue** – New jobs and new businesses in the Center and those businesses that graduate from the Center and spin-out into the community would generate a larger, more diverse tax base to support public services and contribute to many facets of community livability and health.
 - **Workforce Development:** An innovation center’s initiatives would help nurture the next generation of diverse, inclusive and representative maritime workforce with technological expertise and access to clean, healthy, living wage jobs.

3 ORGANIZATIONAL STRUCTURE

Based on an assessment of various operational and governance structures summarized in this chapter, the Port of Seattle has defined its role in the MIC as a landlord, hosting the physical space while a partner will be assigned as an operating entity to ensure the MIC is working effectively and concentrates on the broader public and private interests in the maritime industry.

An organizational diagram that depicts the relationship of all entities is presented below in Figure 2.

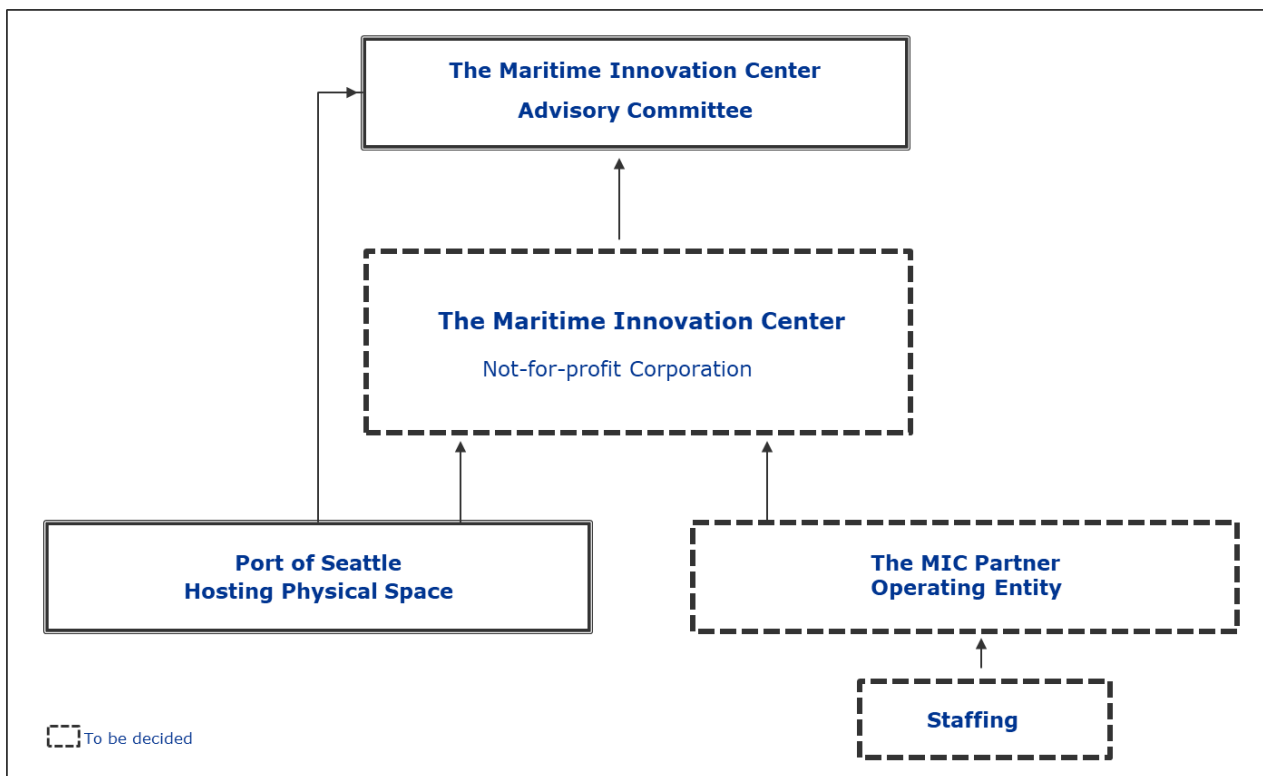


Figure 1: Organizational Diagram

Port of Seattle will provide the facility for the MIC and support setting it up and bringing it to an operational stage after which the operating partner will take over to run the program and the MIC as a whole. The operating partner will be responsible for the staffing recruitment as well.

There are four general options of legal and governance structures for the MIC with variations, benefits and limitation on each. A structure will have to be decided upon, taking into account the flexibility for the innovation center’s operations and ability to change with market dynamics and needs in the future. This business plan recommends the Center be structured as a not-for profit to facilitate access to low cost capital, minimizes operating costs (is tax exempt and able to achieve economies of scale on the operations side) and is mission driven and accountable to stakeholders.

The MIC Advisory Committee can be used as a governing board that will make strategic decisions, evaluate performance and promote the MIC within the industry. Port of Seattle should also have representatives sitting in the committee.

For the MIC facility’s site alternatives and recommended location, please refer to Chapter 6.

3.1 Governing Board/Advisory Committee

3.1.1 Board/ Committee Composition

The Committee should consist of individuals and organizations that share the vision for the MIC and provide expertise that would contribute to the ability of the MIC to fulfill its mission. As it currently stands, the Maritime Innovation Center Advisory Committee is comprised of approximately 20 members. This can be leveraged as the basis for the official Governing Board. Along with resource partners, the Committee should consist of representatives from the private sector with notable expertise relevant to the incubator clients and critical public sector economic development groups.

An Executive Committee of that Board, approximately three members, would be responsible for ongoing oversight and management.

A list of the current Maritime Innovation Center Advisory Committee is included below:

Maritime Innovation Center Advisory Committee	
<u>Name</u>	<u>Position/Company</u>
Amy Sahlin	Burke Center for Entrepreneurship
Andy Stewart	University of Washington Applied Physics Laboratory
Berill	Sailor's Union
Brock Mansfield	Salmon Fund
Christian Meinig	NOAA
Commissioner Fred Felleman	Port of Seattle
Commissioner Peter Steinbrueck	Port of Seattle
Cosmo King	I/O Currents
David McFadden	Port of Seattle
Ed Paulsen	Bering Sea Crabber
Elizabeth Scallon	WeWork Labs
Jennifer States	DNV GL
John Lockwood	Systems Integrated
Joshua Berger	WA State Maritime Lead
Justin Van Emerick	Vigor
Kenny Lyles	Port of Seattle
Kristian Alcaide	Pingle
Lara Petursdottir	Pacific NW Ocean Cluster

Larry Brown	WA State Labor Council
Mike White	PNNL
Rocque Deherara	City of Seattle
Sandy Kilroy	Port of Seattle
Stephanie Harrington	UW Fisheries/Environment
Stephanie Moreland	Trident Seafoods

3.1.2 Board/Committee Duties

The Board/Committee will play an important role in ensuring the MIC is able to fulfil its objectives and create value for all stakeholders. They will provide direction for the MIC by establishing policy guidelines and offer feedback during the screening phase of prospective incubator/accelerator clients. The Board/Committee members should have a broad industry network that would help the MIC’s Director create links to investment and professional resources that support the success of clients. The Board would be instrumental in promoting the MIC programs and services in the community and generating awareness and understanding of the MIC as an important, forward-thinking economic development tool for the area.

The Board/Committee would also be responsible for hiring the Director position and ensuring the overall financial viability of the MIC and its programs.

In performing their duties, boards of successful incubators and accelerators are characterized by a more entrepreneurial versus administrative approach to managing the programs. They “allow the Center to run like a business” which allows staff to provide timely responses to the decisions that come up day-to-day.

3.2 Operation and Governance Alternatives

There are different operational and governance structures under which the MIC could operate, including formal partnerships with either public or private organizations. Deciding upon the appropriate model requires an evaluation of the model’s tradeoffs with respect to several key criteria related to executing the Center’s mission. The key criteria to consider include:

- Facilitate access to funding: different types of entities (i.e., public, private, nonprofit) will have different sources of funding and capital that they can access at different costs and legal limitations.
- Financial exposure: tax exempt status and ability to realize economies of scale or leverage in-kind contributions are both factors which influence the financial viability of the proposed Center and differ among ownership and operating models.
- Operational flexibility: ability to deliver Center activities via contracts, partner with other academic and peer institutions, and engage in a mix of public and private activities.
- Accountability: each entity will have unique success metrics and accountability mechanisms.

The best model will be one that facilitates access to low cost capital, minimizes operating costs (is tax exempt and able to achieve economies of scale on the operations side), and is mission-driven and accountable to stakeholders.

The Port of Seattle has determined it is not the right entity to take on the formal role of operating the MIC. Therefore, the preferred options are to have the Center operated as a:

- For-Profit Corporation
- Independent, Not-For-Profit Corporation [(501(c)(6) or 501(c)(3))]
- Embedded Entity [under an existing 501(c) or university]

An overview of each alternative is presented below and further described in the following section.

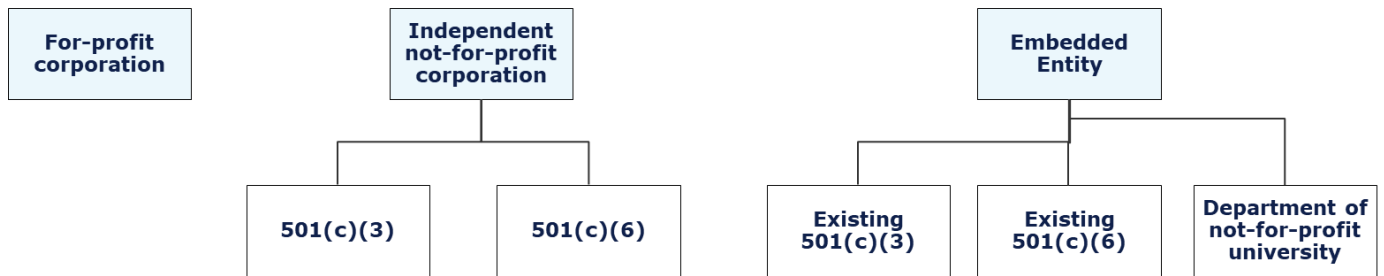


Figure 2: Overview of all operation structures for the MIC

	For-Profit Corporation	Independent not-for-profit Corporation	Not-for Profit in Embedded Entity
Who	Established with intentions of significant, short-term return on investment to corporate shareholders	Established with intentions of job creation and economic benefit to a region Can be structured as a: -501(c)(6) -501(c)(3)	Operated as an embedded entity under a host such as: -Existing not-for-profit entity -Department of a university
Pros	Easily established relative to a not-for-profit entity Good access to sources of equity capital	Exempt from some federal income taxes based on chosen option Not overshadowed by the host’s operations and culture	Strong host provides instant credibility to the Center Access to a large human resources pool
Cons	High tax burden Investment criteria for investors is focused on return on investment only	Difficult to attract investors Time consuming to establish	Added layers of bureaucracy Potential for conflict between the management of the two entities

Table 1: Comparison of operation structures

3.2.1 For-profit Corporation

For-profit incubators or accelerators are usually established by venture capitalists or private corporations with the purpose of providing significant, short-term return on investment to corporate shareholders.

A for-profit structure is well-suited to fast growth sectors that provide high-returns in a short period of time. This structure may be more attractive to sophisticated venture capitalists and angel investors which can increase the corporation's ability to attract new ventures due to improved access to sources of equity capital. A for-profit structure is also easily established (relative to a not-for-profit structure).

A for-profit structure may not be best suited for an innovation center whose overall mission is to provide for broader economic benefit to a region. With such a mission, ventures that would grow stable small and medium size businesses may not meet the investment criteria typically sought by investors involved in a for-profit incubator.

Moreover, this type of structure can also have serious tax implications when the project becomes profitable and must bear the tax burden.

3.2.2 Independent, not-for-profit Corporation

Incubators, accelerators or innovation centers are often set up as independent not-for profit entities that are not driven by return on investment to shareholders. This structure is well-suited to serve promising ventures that would provide for job creation and economic benefit to a region.

Not-for-profit entities offer the benefit of exemption from some federal taxes which is an integral part of an incubator or accelerator's identity. There are two types of not-for-profit tax status that can apply to such a corporation: 501(c) (3) and 501 (c) (6). The details of these structures will be explained below.

Regardless of the tax status chosen, being established as an independent, not-for-profit has its own benefits and challenges. By operating independently, the corporation is not overshadowed by operations and culture of the host operation. If established as a 501(c)(3), this structure can also allow for access to charitable donations and public funds.

However, a non-profit corporation may also experience greater difficulty in attracting investors and professional service providers to the program who want to see proof that an independent organization can be effectively run to promote the growth of new business ventures. Another challenge this structure poses is that the time required to establish a new independent entity can be long.

3.2.2.1 501(c)(3)-Charitable Entity

Such corporations typically operate for the purpose of a charitable, religious, educational, scientific or literary action or one that performs testing for public safety; e.g.: a university foundation, community foundation, or economic development corporation.

Contributions made to a 501(c)(3) can be deducted by taxpayers as charitable deductions on their federal income tax returns.

3.2.2.2 501(c)(6)-Business League

Non-profit corporations organized as a 501(c)(6) are usually business leagues or associations operated primarily to promote the common business interests of its members. Such corporations must demonstrate that their general purpose is to improve business conditions. The improvement of business conditions should relate to one or more "lines of business", rather than the performance of "particular services" for individual persons.

	501(c)(3) Charitable Entity	501(c)(6) Business League
Who	Entity organized exclusively for charitable, religious, educational, scientific, literary or testing for public safety purposes	Entity organized as a business league that is operating to promote the common interests of its members
Pros	Donation contributors can receive a charitable contribution deduction from the IRS.	Operational flexibility to enter into public-private partnerships.
Cons	Must be dedicated permanently to a charitable purpose.	Donation contributors cannot claim any deductions from the IRS.

Table 2: Comparison of independent not-for-profit options

3.2.3 Embedded Entity

Incubators, accelerators or innovation centers are frequently established under the umbrella of an existing corporation. To be successful, the center must be operated independently so that it is not overshadowed by operations and culture of the host operation. Independent operations can be accomplished by establishing an incubator advisory board that acts in the capacity of a board of directors to provides strategic oversight to the incubator and accelerator program while the host organization serves as the fiscal agent. The advisory board includes one or two representatives from the host corporation, and representatives from the investment and business communities who are experienced in new business start-ups.

A hosted incubator and accelerator allow for rapid roll out of the innovative projects (compared to an independent not-for-profit structure). A strong host can also provide instant credibility to a program.

A key concern with a host structure is the potential for conflict between the board and management of the host and that of the incubator. Such conflict can occur if the institutional culture of the host is not compatible to entrepreneurial enterprises. Careful attention to creating a governance structure that allows the center to operate autonomously with its own advisory council and management staff can help alleviate this concern.

An embedded entity has various options however, this business plan has narrowed it to following options that would be suitable for the MIC. The MIC can be hosted under an existing not-for-profit entity with either a 501(c)(3) or 501(c)(6) tax status or it could be hosted as a department of a not-for profit university.

3.2.3.1 Hosted under an existing not-for profit 501(c)(3)

The MIC can be an embedded organization that operates within the context of larger 501(c)(3) organization. If affiliated with an existing entity, the MIC can share the tax status of their sponsoring organization along the benefits and limitations it comes with (refer to Table 2).

3.2.3.2 Hosted under an existing not-for profit 501(c)(6)

The MIC also be hosted under the umbrella of an existing 501(c)(6) organization.

Cluster organizations are emerging as a new tool to enhance and further develop economic opportunities for global maritime sectors in designated regions. The European Union defines cluster organizations as “structures or organized groups of independent parties designed to stimulate innovative activity by promoting sharing of facilities and exchange of knowledge and expertise and by contributing effectively to

knowledge transfer, networking, information dissemination and collaboration among the undertakings and other organizations in the cluster.”

Potential partner: **Washington Maritime Blue Cluster (WMBC)** – Launched in January of 2019, this cluster organization was envisioned through the State of Washington’s Maritime BLUE Strategy. Clusters can be the bond that keeps partners working together, engaged, and able to cooperate and compete internationally. The WMBC could be a potential operator of the MIC where the cluster organizer would be actively engaged and ideally co-located with the MIC. With WMBC as the operator, the MIC’s employees will be the full-time employees of the WMBC.

3.2.3.3 Hosted as a department of a non-profit University

Another option is to have the Center operated as a department of a university that operates as a non-profit. The department would be an extension of the university and will continue to establish itself as a leading innovation center in the Washington State. In such structures, the university will assume some responsibility and ensure the Center’s employees are their own staff.

Nonprofit university affiliated corporations enjoy the same tax exemptions as a standalone nonprofit corporation and also have access to a large pool of human resources that can advance the Center’s operations. Another positive aspect of this structure is that, as a public institution, the university selected would most likely be an eligible applicant for potential funding sources that appear most promising for facility development.

However, a major drawback of this option is the added layers of bureaucracy and competition with funding for other parts of the university and the possibility of changing funding levels as university priorities and administrative personnel change. Another possible issue is related to fundraising. University innovation centers can often receive grants and contracts, but not private donations, unless they come through the university’s private foundation. Lastly, the Center’s staff could be pulled into other University initiatives that would distract from the necessary attention required for operation and optimal success of the Center.

Potential partner: **University of Washington (UW)** – The University of Washington is a governmental tax-exempt entity. The University’s activities are generally free from federal tax. The UW is not a 501(c)3, although for tax purposes it is quite similar. The MIC could be organized as a department of the UW, where the MIC’s employees will be the staff of the UW. The MIC’s mission and organization will have to be aligned with that of the UW. As a public institution, the UW is an eligible applicant for potential funding sources that might directly or indirectly benefit the MIC.

	501(c)(3) Charitable Entity	501(c)(6) Business League	Department under a not-for-profit university
Who	Entity organized exclusively for charitable, religious, educational, scientific, literary or testing for public safety purposes	Entity organized as a business league that is operating to promote the common interests of its members	Operate as an embedded entity under a university
Pros	Donation contributors can receive a charitable contribution deduction from the IRS.	Operational flexibility to enter into public-private partnerships.	Access to a large human resources pool Use the university's potential funding sources
Cons	Must be dedicated permanently to a charitable purpose.	Donation contributors cannot claim any deductions from the IRS.	Added layers of bureaucracy No private donations; has to come through university Staff can be used for other University initiatives

Table 3: Comparison of independent not-for-profit options

3.2.4 Proposed Operating Structure

To keep in line with the proposed mission and objectives, operating as a not-for-profit will improve the Center's attractiveness to prospective clients and sponsors. However, to choose a specific type of not-for-profit, the Port will need to decide on the preferred operating model.

The not-for-profit structure provides the greatest flexibility for incubator and accelerator operations and positions it to be able to adapt to changing market dynamics and needs into the future. It would also allow for access to public funding and private donations that would support operation of a new Center.

4 SERVICE OFFERINGS

A key component of the Center will be the business incubator and accelerator programs. The **incubator** will cater to entrepreneurs developing early stage business ideas and technologies in search of viable business ideas. The **accelerator** program will cater to businesses with defined products and business plans trying to scale their efforts.

These incubator and accelerator services and programs are designed to increase a client's likelihood of successful development and growth beyond what the client company could achieve on its own. Offering value-added services is key to the MIC's ability to successfully generate jobs and wealth in the region. Thus, the MIC service offerings are divided into six categories:

- Direct business development assistance
- Professional network and relationship support
- Educational programs
- Out-reach services
- Facility-based services
- Virtual services

Incubator and accelerator clients would have access to all core programs and services as part of their monthly lease agreement. Per unit service fees would be required for additional office services and special programs that may require client support fees.

The MIC will work to develop cooperative agreements and referral relationships with existing resource partners throughout Washington State who provide services that support the growth of early stage technology businesses. Such cooperation will avoid redundancy and redirect valuable time/resources toward services that address specialized and unmet needs of the MIC's clients.

Brief descriptions of the MIC's offerings are described in the following sections. **Note that the MIC's service offerings need to be aligned with the Maritime Blue Strategy, as shown in Appendix 4.**

4.1 Business Development Assistance

Business development assistance is the direct support provided to clients from the time of acceptance through graduation. The incubator's Executive Director will provide oversight and facilitate access to resources that meet client needs as those needs arise over the course of their incubation.

- **Business Assessment** – This is the ongoing process of evaluating client business plans, identifying areas of need, developing a work plan to address those needs including identifying expertise and services needed to move the business plan forward, and timeframes for major tasks to be completed. The initial assessment will occur upon acceptance to the MIC and follow on a monthly basis or as business issues dictate. The final assessment will be a graduation transition plan that links the young company to appropriate resources in the community. While the Executive Director would rely on a variety of resources and partners to assist the client in implementing the work plan, assessments and monitoring overall progress against the plan are key functions the Executive Director performs.

4.2 Professional Network and Relationship Support

Networking and relationship support describe the active role the MIC takes to develop connections to resources that incubator and accelerator clients might not otherwise have access to as small, emerging businesses.

- **Mentoring** – The MIC’s Executive Director will develop a pool of volunteers willing to serve as mentors and business counselors for client companies. Mentors will be selected based on their experience with the client’s industry sector and stage of development. The Executive Director will meet with mentors on a routine basis to stay abreast of the company’s development and suggest resources that will help the mentor best serve the client business. Feedback mechanisms will be in place to ensure the mentorship is providing good value to the client.
- **Professional Network** – From its role in the hub-and-spoke model, the MIC will develop a broad-based pool of high-quality professionals that have the technical and business skills needed to support client businesses. Services for such a network must be negotiated on a pro-bono or reduced fee basis with guidelines for qualifications and level of service provided. The MIC will screen service providers, facilitate the interaction between the service provider and the client, and establish means to assess client progress and satisfaction.
- **Capital and Financing Network** – The MIC will establish and maintain relationships with a network of banks, angel investors, venture capitalists, and corporate equity investors through capital networks, brokers, and personal contacts. The MIC will provide introductions between its clients and appropriate investment resources, including government loans.
- **Advisory Boards** – The MIC will also develop pools of professionals, technologists, and business owners that are willing to volunteer as advisory board members for client businesses. Such advisory boards are usually composed of three or four people who have experience and expertise in the technology/industry of the incubator and accelerator business. The advisory boards agree to meet with MIC’s clients on a regular schedule and provide counsel at various stages of the client businesses’ development. The MIC will screen board members, meet with them to monitor client progress, and establish means to assess client satisfaction.
- **Program Referral Service** – The MIC will maintain up-to-date knowledge of and relationships with established resources and programs in the area and provide referrals and information to the MIC’s clients.
- **Intern Network** – Interns at the neighboring universities and educational institutions provide a talented, affordable work pool to support the MIC and its clients’ special projects on an ad-hoc or ongoing basis. Areas of interest/use to MIC’s clients include, but are not limited to, graduate level technology, law school/legal clinic, accounting, marketing, and journalism/communications. The MIC will identify internship directors and establish a process that provides clients with the means to identify, screen, and recruit interns.
- **Hiring Support** – the MIC will facilitate the hiring process of entry-level employees or experienced professionals.

4.3 Industry Awareness & Educational Programs

Industry awareness and educational programs include hosted, on-site seminars of interest to technology start-ups and MIC's clients. This plan envisions that general business topics may be provided through the excellent resources of Washington State, ranging from leading companies, NGO's, research institutions, universities, technical and professional colleges or other available community resources. The MIC's conference room will be used for on-site educational offerings and could be made available for other educational offerings that are consistent with the MIC's mission if practical.

- **Hot Topic Seminars** – Seminars emphasizing topics of special interest to emerging technology businesses will be provided on a regular basis. Many incubators and accelerators host such seminars on a monthly basis. The Executive Director will identify topics based on an understanding of the MIC's client needs and invite guest speakers with expertise in the topic area, by leveraging on its hub-and-spoke network as well as aligned with the topics under the Maritime Blue Strategy.
- **Business Topics Trainings** – The MIC will work with UW to provide its clients with access to a range of general business-related topics that are applicable to any start-up operation including financial, legal, organizational, marketing, insurance, commercialization and licensing etc. Depending on client demand and needs these offerings could be provided on-site at the incubator or off-site at the UW.
- **Resource Library** – The MIC will build and maintain up-to-date information resources for technology start-ups including resource directories, business form templates, and checklists. The MIC staff must be aware of UW and other area libraries that can provide additional resources to clients.

4.4 Out-reach Services

One of the MIC's objectives is to offer various out-reach services. Some potential examples are described below:

- **General Awareness Sessions** – Similarly to providing hot topic seminars, the MIC will leverage on its hub-and-spoke network to deliver "general awareness" sessions about the various aspects of the maritime industry to people of all ages, gender, backgrounds and professions. This will also encompass the MIC's contribution to the Youth Maritime Collaborative (YMC) to promote opportunities in the maritime industry to youth from a low-income background.
 - **Ocean Robotics Display** – Displaying AUVs/ROVs to students of all ages for educational purposes
- **Knowledge Booster Programs** – The MIC will also have dedicated learning services for the younger generations, offered to school children up to high school. These will be primarily targeting students between the ages of 12 and 18, through the set-up of field trips, team exercises and projects to boost their knowledge and understanding of the maritime industry, through the interaction with subject matter experts and from working on real-life, maritime-related problems.
- **Maritime Exploration Programs** – The MIC will also have special out-reach programs targeted towards providing equitable access for women and people of color to maritime careers. While the Knowledge Booster programs will be aimed towards ensuring a future talented workforce by inspiring children, this program will concentrate on encouraging women and people of color into the industry. Currently, white males have been the predominant group of maritime workers and

now the industry is suffering from the increasing age of its workers and the impending “retirement cliff” (also known as “silver tsunami”). Based on Tressa Arbow’s paper on “Workforce Sustainability in the Washington Maritime Industry” (2019), industry leaders have expressed the need to have stronger linkages to develop an inclusive maritime culture. This is what MIC will offer by providing training, job experience and educational sessions to ensure the creation and retention of a diverse workforce. MIC will concentrate on telling the story of maritime that reflects the success of an inclusive and diverse industry.


- **Maritime Blue Outreach** - MIC will also collaborate with Washington Maritime Blue to communicate with the right communities and highlight opportunities for all to work within the industry. Maritime Blue’s strategic goal of Workforce Development through inclusivity, support and outreach programs align with MIC’s exploration programs. Moreover, MIC can also collaborate with the cluster organization to help the strategy of Blue Focus, Forum and Blue Force. Blue Focus works to raise the visibility of the maritime industry and its benefits to a broader audience. Blue Forums will provide events that help to connect start-ups, SME’s, and product developers to resources, research, and capital. Blue Force will help to enable the workforce of the future through programs such as Youth Maritime Collaborative, and linkages to scholarships, internships, apprenticeships, mentors and more.
- **Virtual Simulations** – Another learning service that could be promoted by the MIC is the development of navigational skills for teenagers (of a suitable age), and/or university students seeking to train and qualify as seafarers. The MIC could leverage on existing facilities offering maritime simulation and virtual training programs (as per the example in Appendix 2).

4.5 Facility-based Services

Facility-based services will involve flexible leases and other site-based services that are included in the basic rental package. Fee-for-service administrative support could also be considered.

Note that the Board and Executive Director will determine the rental policy, for example, rent below or at the low-end of market rate during the initial phase. Escalating rental rates could be considered to foster clients’ orientation toward growth and graduation at a predetermined point in time.

- **Work Spaces** – The MIC will provide 24/7 access to office and co-working spaces that include telephone, local area network, high-speed Internet access, and basic office furniture. MIC’s clients will have access to shared conference rooms, collaboration rooms, restrooms and a kitchen/lounge. It is anticipated that this work space area will be flexible to allow for easily reconfigured office furniture, rolling doors, cubes, private “phone booths,” etc.
- **Event Space**– The event space is a venue for the Center and industry groups to host events. The space will be flat and open, allowing for a variety of uses including meetings, audio/visual events, and gatherings. The specific design of the event space will also allow for double duty as flex space for MIC’s clients.
- **Fabrication Space**– The MIC will provide a small workshop space which will be used for building prototypes. For access to testing facilities, MIC can act as a “prototype gateway” and connect its clients to nearby venues (See Appendix 2)
- **Shared Office Systems Support** – All tenants would have access to a common copier, fax, and postage meter, and be billed a usage charge only. This business plan assumes a part-time



receptionist would provide central reception and switchboard. This person may also provide secretarial support for client requests on a user-fee basis.

- **Externally Shared Resources** – The MIC will collaborate with other organizations such as research centers, universities and private companies, whose testing facilities with water/marine infrastructure and general equipment could be used by the MIC’s clients, either for free or at a subsidized rate.

4.6 Virtual Services

Other than its physical facility, the MIC also offers a virtual platform where the collaborative environment as well as business-critical information are kept available to the MIC clients as needed, or when the physical facility and its staff cannot be accessed.

- **Online Idea-Sharing Platform** – The MIC will buy a subscription to an Online Idea Sharing Platform, which is then made available to its clients and their mentors from academia and the industry to further promote the constant collaborative environment required for the success of their work, on a private virtual platform. Achievement of key milestones from the various incubation and accelerator programs at the MIC could then be posted on the MIC’s website for the general public’s awareness. An overview of potential platform providers is provided in Appendix 2, but the MIC must further investigate on other solutions which could be a better fit for its clients.
- **Online Information Repository** – The MIC’s webpage will be well-structured and updated on a weekly basis to ensure that all relevant and recent information which is critical to its clients’ business operations, and to its other public users is available. This will effectively be a repository of all the service offerings of the MIC (as defined in sections 4.1 to 4.5).

5 INCUBATOR AND ACCELERATOR PROGRAM

The incubator program will specialize in growing new and early stage entrepreneurs with a business plan while the accelerator program will be a tool for rapid growth companies with a business model and defined products.

The purpose of the incubator could be to help start-ups at a very early stage to grow. It will be a collaborative program which helps companies solve problems associated with launching a startup by providing a space to work, legal counsel, mentoring, training and other benefits. Incubators will be allowed to base themselves in MIC for a three-year period.

The accelerator program, on the other hand, will concentrate on companies with a defined product or prototype that they want to develop more. The program will help selected companies develop a business model and grow the size and value of a company as fast as possible in preparation for an initial round of funding. It is cohort-based program that provide tailored mentorship, education and guidance to help further grow their business and scale their technology.

5.1 Incubator Program Details

The MIC will provide valuable support programs for select entrepreneurs at stages of early development. During this programmatic and timely progression, clients will receive support in ideation, business planning, marketing and organizational structure.

The Port has been approached by the Pacific Northwest Ocean House (PNOC) about operating this incubator. This group is affiliated with the Iceland Ocean House, an established incubator and accelerator that has spurred significant innovation within Iceland's fishing industry. The PNOC would lease space within the Port's Maritime Industrial Center warehouse to start and work with the Port to pilot this new maritime incubator.

To ensure this initiative is both impactful to the community and valuable to the entrepreneur, milestones will be set for each company operating in the incubator. The Company's progress will be monitored through scheduled progress meetings on a quarterly basis.

In addition, The MIC's tenant lease agreement should include graduation policies where the following are specified:

- **Time Limits** – A maximum duration when the client is to receive services from the MIC. Based on the approach adopted by other innovation centers around the world, this could be a maximum of three years, on a month-to-month lease. However, allowance must be made for businesses which require longer time to get their products approved and ready for market. Such customized lease agreements can, for example, offer extended leasing on a month-to-month basis for an agreed number of additional years.
- **Value** – The MIC will self-assess its ability to provide continuing value to a client. Clients who have progressed beyond the MIC's ability to provide sufficient value must therefore graduate and begin using private sector providers. Ongoing business development assessments between the MIC's management and the clients, as well as the month-to-month lease structure facilitate this value assessment.
- **Resource Commitment** – The MIC must establish resource commitments as part of the tenant lease agreement and clarify expectations and responsibilities.

5.2 Accelerator Program Details

The Maritime Accelerator Program (or Maritime Innovation Challenge) is a concentrated program designed to accelerate early stage businesses within 12 weeks. It will seek to resolve industry challenges through innovation.

Entrepreneurs will be accepted into the program out of a pool of applications. The focus is to help these companies gain traction and hit their milestones. These businesses should commit to this program for 3 months. During that period, there will be extensive work to articulate and hone the business product, refine their operational plan, create a marketing strategy, generate initial sales, launch the company and develop their pitch to investors or banks. The company’s progress will be monitored on a weekly basis to ensure they are on track. The program culminates into a pitch day when the entrepreneurs present their companies to a carefully selected, invite-only audience. Following this program, MIC’s network and alumni will continue to help entrepreneurs through the early life of the company.

The program will accelerate two cohorts per year moving along the following timeline:

Cohort 1		Cohort 2	
October	Applications Close	March	Applications Close
November, 15	Accelerator Program Starts	April, 15	Accelerator Program Starts
February, 15	Accelerator Program Ends	July, 15	Accelerator Program Ends
March 1 st week	Pitch Day	August 1 st week	Pitch Day

Table 3: Accelerator Cohort Timeline

Currently, the Port is working on developing a RFP or RFQ to select potential partners who can operate the accelerator program.

5.3 Application & Review Process

The selection and graduation of incubator and accelerator clients are a critical part of the MIC’s success whilst ensuring that these selected clients can benefit from the MIC’s services.

The application process for both prospective incubator and accelerator clients are similar, however the accelerator program will be more selective when finalizing clients. The application and review process for prospective accelerator clients involves three steps (with an additional fourth step if required), as illustrated below. For incubator clients, steps 1 and 2 can be combined as they need to send a detailed application to start with the process.

Once the application opportunity closes, MIC should aim to finalize its review and decision process for accelerator clients within 15 days and announce the companies selected for the program.

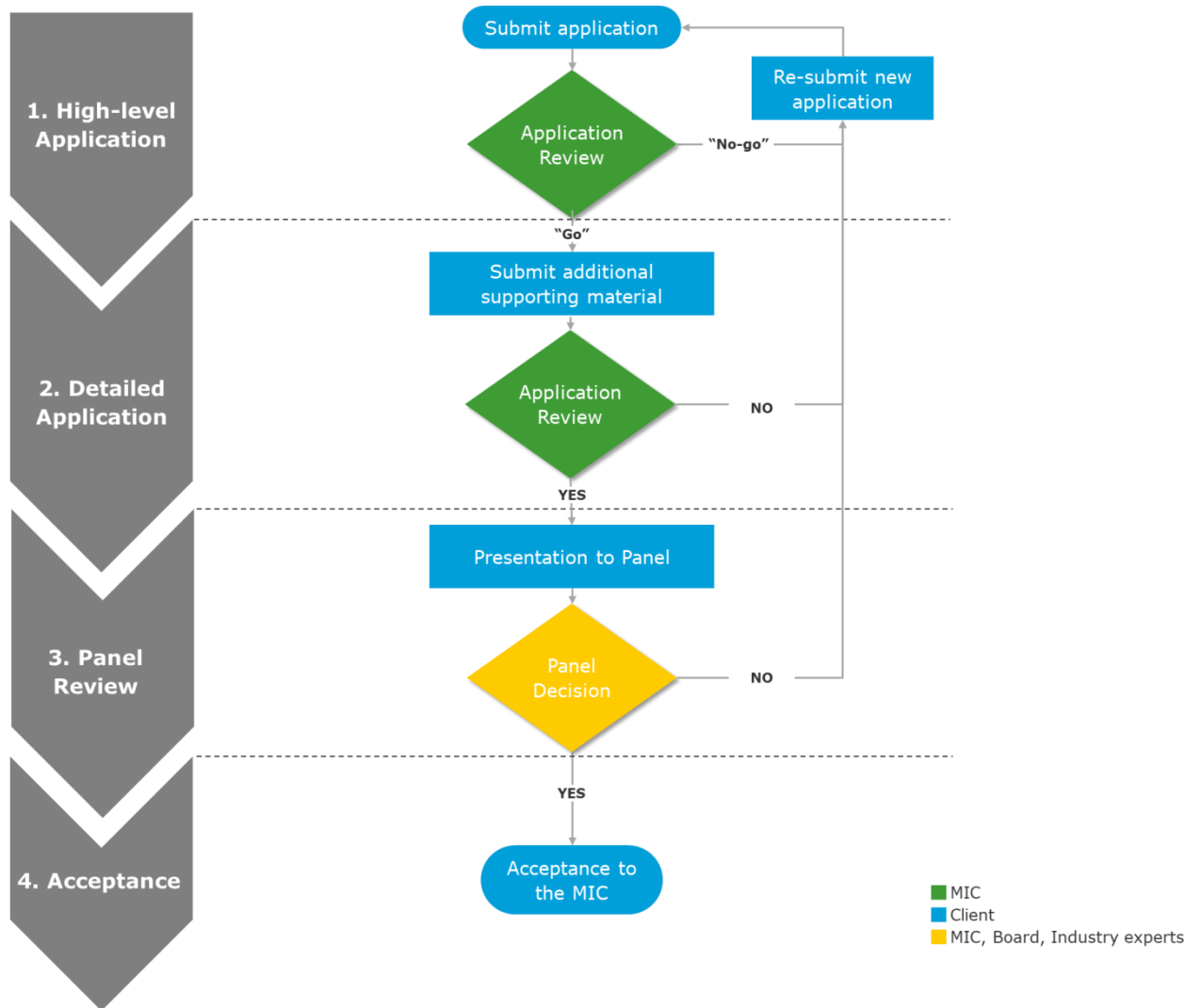


Figure 3: Application Process

Step 1: High-level Application


All prospective clients must complete a brief application form that will provide a description of the applicant’s proposed solution, the pain-point addressed by the proposed solution, the applicant’s current business status and its requirements in terms of resources and services that the MIC could offer.

The application form can either be downloaded from and submitted to the MIC’s webpage, or directly completed and submitted online.

The MIC will review the applications and decide on “go/no-go”.

Step 2: Detailed Application

Following Step 1, potentially eligible clients are requested to support their application further, with a business plan or written business description. This must provide more in-depth information about the stage of business development, stature of the management team, market potential, and overall potential for success.



The MIC's Director and an individual with maritime expertise will review and evaluate this detailed application document.

At this point, if the business description or business plan adequately addresses screening criteria pre-established by the Board/Committee, the Director will approve the prospective client to proceed to the following step of the approval process, which is to formally present their business plan and products to a small panel.

Step 3: Presentation to Incubator / Accelerator Panel

The prospective client is requested to present its business case and product to a small panel of 3 to 4 people comprised of Board/Committee members, appropriate industry experts, and the MIC's Director.

The panel's role is to understand the business case and determine if the applicant can be approved for acceptance into the MIC.

Step 4: Acceptance to the MIC

Once approved and accepted by the panel, the Director will identify the new client's specific needs in order to properly coordinate the services programs, funding, and facilities that will best assist the client in successfully establishing and growing their venture. These needs will be different depending on the client's particular stage of development.

5.3.1 Evaluation Criteria

The criteria used to evaluate prospective clients throughout the application process must be aligned with the MIC's mission and objectives.

Basic evaluation criteria for both **incubator** and **accelerator** applicants are:

- Applicant must offer a technology-related solution that can be commercialized within three years.
- Applicant must show ability to pay the MIC's rents while they develop positive cash flow.
- Applicant must have a well-rounded team that can handle both the technical and market aspects of the business. The team must have entrepreneurial business acumen or be willing to accept advice from the MIC's established advisory board.
- Applicant must demonstrate willingness to take advantage of and be able to benefit from the value-added services, advice from the professional network and/or the Executive Director, and general guidance of the MIC.
- Applicant's business must demonstrate its capacity for growth and provide economic benefits to the area including creating new jobs and opportunities for area suppliers and vendors.

Program specific criteria includes:

- **Incubator** applicant's business must be in early stages of development. Early stage usually means within the first two years of business operations, but small companies involved in a significant change in direction or launching a new business product may also apply.
- **Accelerator** applicant's business must be well into the development stage, with defined products and with business plans to scale their efforts.

6 FACILITY

Research of incubation and accelerator programs around the world shows that co-location of like-minded businesses or startups with collaboration from partners in academia, industry, and policy is critical to facilitate innovation.

For the MIC to be successful in providing a culture of innovation for the maritime industry, it needs to provide a facility for this collaborative environment. The facility needs to include six programmatic components:

- Incubator office space
- Accelerator office space
- Anchor office space
- Event space
- Fabrication space
- Shared tenant space; conference rooms, and Center administrative office space

The Port of Seattle has completed a preliminary space and design concept to map out the potential program space with a facility concept at 12,000 square feet. The location for the Center is critical in ensuring it meets the need for new and emerging businesses in the maritime industry. Site alternatives are summarized below, followed by approximate space allocation.

6.1 Site Alternatives

For the Center's facility in the Seattle area, there are three basic sites being explored as options:

- 1) Seattle Ship Supply Building
- 2) Terminal 91 Uplands
- 3) Fishermen's Terminal Gateway Building

Each of these alternatives is briefly described below with the approximate locations illustrated as well.

6.1.1 Site Alternative 1: Seattle Ship Supply Building

The Port of Seattle owns the Seattle Ship Supply building at Fishermen's Terminal (FT) and has plans to renovate the 12,000 sq. ft. structure as part of a broader redevelopment effort at FT. The Port of Seattle has an unrealized opportunity to renovate the existing property into a Maritime Innovation Center which would include incubator office space, fabrication space, and event space for workforce development programs and public outreach. The renovation effort would support the region's and state's efforts to grow the maritime sector.

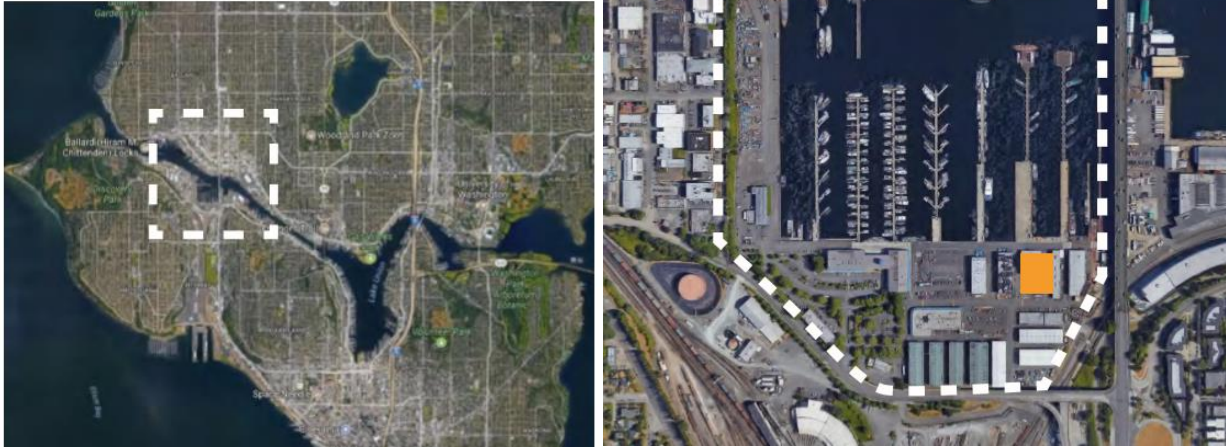


Figure 4: Site 1 Location Illustration

The Port of Seattle’s preliminary space and design concepts envisioned the Seattle Ship Supply building at FT as the future Maritime Innovation Center. A design charrette was held to identify test fit layouts that made best use of the space in this building (see “Summary Report and Conceptual Drawings” by Miller Hull in the Appendix 3 for more details).

The building also has potential for LEED (Leadership in Energy and Environmental Design) and ILFI (International Living Future Institute – Living Building Challenge) design certification. These are green building certification programs and sustainable design frameworks that visualizes the ideal for the built environment. Attaining these certifications demonstrates environmentally responsible building practices which will align with Washington’s aim of building a sustainable maritime industry.

6.1.2 Site Alternative 2: Terminal 91 Uplands

The Port of Seattle recently approved \$4 million capital budget for the Terminal 91 (T-91) Uplands Development Phase 1, in support of the Port’s development of the T-91 area located north of the Magnolia Bridge. Phase 1 proposes to design and build two 50,000 square foot planned light industrial buildings at northeast end of Terminal 91 Uplands as a part of the 2019-2023 Capital Improvement Plan.

The construction of the buildings is scheduled to be completed by Q2 of 2023. The Port of Seattle can use a part of the new facilities to set up the Maritime Innovation Center.

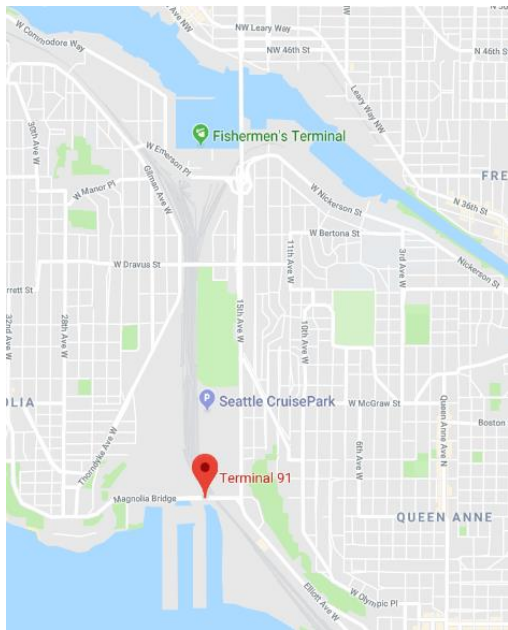


Figure 5: Site 2 Location Illustration

6.1.3 Site Alternative 3: Fishermen’s Terminal Gateway Building

As part of a new five-year budget blueprint, the Port of Seattle's commission has approved the development of a new marine sales and services warehouse building near the main entrance of the Fishermen’s Terminal. To make way for the Gateway Building, the former bank building, Net Shed 7, and Net Shed 8 will be demolished and, in its place, a 60,000 square foot light industrial building will be built.

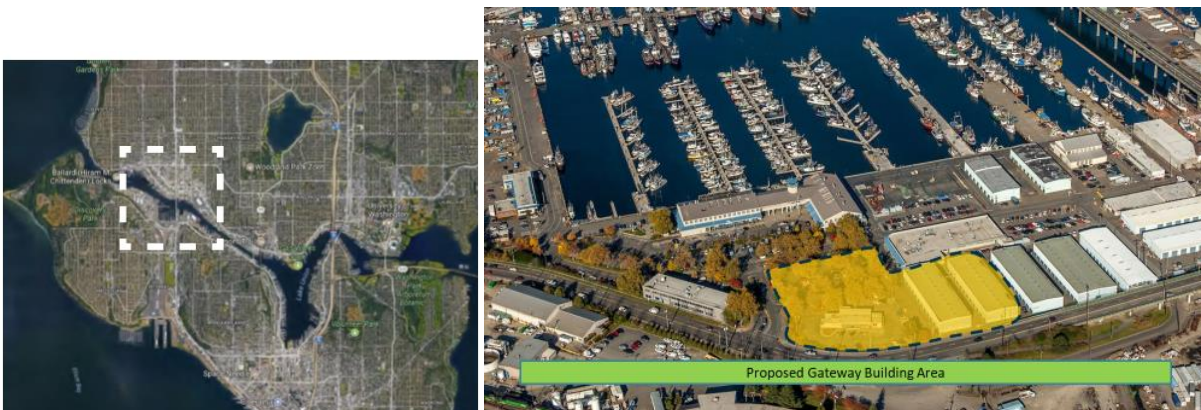


Figure 6: Site 3 Location Illustration

The construction of the building is scheduled to be completed by Q2 of 2022. The Port of Seattle can use a part of the new facilities to set up the Maritime Innovation Center.

6.2 Site Selection

To select the new facility location for MIC from the 3 options mentioned above, a matrix measuring the needs of the new facility against the potential locations was developed.

All of these alternatives would proximate the innovation center with companies (fishing & maritime supply chain companies) who can all collaborate to grow and modernize operations, thus advancing maritime innovation. The matrix below provides more details to examine the relative advantage and disadvantage of each location in comparison to one another.

6.2.1 Selection Criteria

Site selection process is most successful when it is a methodical search of the site alternatives that best meet established criteria. Prior to initiating the site review, or while reviewing an opportunity to acquire a site, it is essential to carefully define the appropriate criteria for the proposed project by considering the following:

Public transportation access: Accessibility to the Center is important since it serves to be an important decision for tenants. Each site is given a public transit range as follows:

- 4 = Served by bus, light rail and other forms of public transit
- 3 = Served by bus with stop at property entrance
- 2 = Served by bus with stop within 1/4 mile of innovation center
- 1 = limited public transportation with no proximate service

Access to water: An assured water supply of sufficient quantity and quality is an important factor to consider when deciding the suitability of a location. Sites are scored with respect to the following factors:

- 4 = Facility is on fresh or salt water with moorage capacity
- 3 = Facility is within 1/4 mile of fresh or salt water - limited moorage capacity
- 2 = Facility is within 1/2 mile of fresh or salt water - no moorage available
- 1 = Access to fresh or salt water difficult or not optimal

Access to laydown area for staging: Development and testing of new maritime technologies often require space to stage the devices before going into water or on board for deployment. Laydown areas can provide this critical staging space for deployments. These scores are given as follows:

- 4 = Facility provides a laydown area
- 3 = Facility is within 200 yards of a laydown area
- 2 = Facility is within 1/4 mile of a laydown area
- 1 = Access to laydown area is difficult or not optimal

Proximity to Maritime Suppliers and Manufacturers: It is also advisable to locate closer to maritime suppliers and manufacturers as their services would be required quite often. Sites are scored as follows:

- 4 = Facility is within 1/2 mile of machine shops and maritime suppliers (inc. chandlery)
- 3 = Facility is within 1 mile of machine shops and maritime suppliers (inc. chandlery)
- 2 = Facility is within 3 miles of machine shops and maritime suppliers (inc. chandlery)
- 1 = Facility not located in proximity to maritime supply chain

Visibility: This is important for marketing image and identity. The visibility range is identified as follows:

- 4 = Visible from Seattle arterials and surrounding streets
- 3 = Visible from property entrance
- 2 = Visibility possible from property entrance with signage or other building improvements
- 1 = Not immediately visible

Historic preservation, aesthetics, and ability to leverage partner capital: When evaluating potential MIC sites, the importance of the location should be considered in terms of historical significance and the capital it can leverage. The score is established as follows:

- 4 = Facility is historic and can leverage other capital \$
- 3 = Facility is new and can leverage other capital \$
- 2 = Facility is new, but it may not leverage other capital \$
- 1 = Facility not located in proximity to maritime supply chain

6.2.2 Ranking Instructions

The selection criteria allow for each to be rated and assigned a point value based on the scale defined above. A score of 1 is the least favorable and a score of 4 the most. Each criterion is also assigned a weight, the total of which adds up to 100%. When total point values for a criterion are multiplied by the weight factor, a weighted score will be determined for that criteria. The total of the weighted scores result in the final location's score and subsequent ranking. The highest weight assigned is 20% each and allocated to public transportation access, access to water, access to laydown area for staging and proximity to maritime suppliers and manufacturers. These are all factors that will have a major impact on MIC's operational capabilities. Visibility along with historic preservation, aesthetics, and ability to leverage partner capital are also criteria that have been considered and given a weightage of 10% which reflects a lesser degree of importance in making a location attractive.

6.2.3 Evaluation Results and Recommendation

Based on the site matrix rating and subsequent ranking, Ship Supply Building is the front runner, followed by FT Gateway and T91 Uplands.

However, it is important to note that The Ship Supply Building received the highest scoring based upon the known evaluation criteria. These criteria do not include financial costs for the facility. More evaluation on the costs of the facility will need to be included to determine the final site selection.

6.2.4 Evaluation Matrix

Based on the site matrix rating and subsequent ranking, Ship Supply Building is the front runner, followed by FT Gateway and T91 Uplands.

No	Site Selection Criteria	Weight	Site 1: Ship Supply Building		Site 2: T91 Uplands		Site 3: FT Gateway	
			Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
I	Accessibility 4 = Facility is within 200 yards of public transit and within 20 minute commute from partners (UW Applied Physics Lab, Maritime Blue, etc.) 3 = Facility is within 1/4 mile of public transit and within 20 commute from partners 2 = Facility is within 1/2 mile of public transit and within 30 minute commute from partners 1 = Facility is more than 30 minutes drive from partners	20%	3	0.6	1	0.2	4	0.8
II	Access to water 4 = Facility is on fresh or salt water with moorage capacity 3 = Facility is within 1/4 mile of fresh or salt water - limited moorage capacity 2 = Facility is within 1/2 mile of fresh or salt water - limited moorage available 1 = Access to fresh or salt water difficult or not optimal	20%	4	0.8	2	0.4	3	0.6
III	Access to laydown area for staging 4 = Facility provides a laydown area 3 = Facility is within 200 yards of a laydown area 2 = Facility is within 1/4 mile of a laydown area 1 = Access to laydown area is difficult or not optimal	20%	4	0.8	4	0.8	3	0.6
IV	Proximity to Maritime Suppliers and Manufacturers 4 = Facility is within 1/2 mile of machine shops and maritime suppliers (inc. chandlery) 3 = Facility is within 1 mile of machine shops and maritime suppliers (inc. chandlery) 2 = Facility is within 3 miles of machine shops and maritime suppliers (inc. chandlery) 1 = Facility not located in proximity to maritime supply chain	20%	4	0.8	3	0.6	4	0.8
V	Historic Preservation, Aesthetics & Ability to Leverage Partner Capital 4 = Facility is historic and can leverage other capital \$ 3 = Facility is new and can leverage other capital \$ 2 = Facility is new but it may not leverage other capital \$ 1 = Facility not located in proximity to maritime supply chain	10%	4	0.4	3	0.3	3	0.3
VI	Visibility 4 = Visible from Seattle arterials and surrounding streets 3 = Visible from property entrance 2 = Visibility possible from property entrance with signage or other building improvements 1 = Not immediately visible	10%	3	0.3	1	0.1	3	0.3
Total Scores		100%	3.7	3.7	2.3	2.4	3.3	3.4
Site Ranking			1		3		2	

Table 4: Site Selection Matrix Results

6.3 Size and Space Allocation

The size for MIC is assumed at 12,000 square feet and a suggested space allocation is provided below:

- **Accelerator Client Office Space:** This component includes a mix of co-working, independent stations, and dedicated office space needed to support the individuals and firms in the Center’s program. **1,500 sq. ft**
- **Incubator Client Office Space:** This component is similar to the accelerator office space with a mix of co-working, independent stations, and dedicated office space needed to support the individuals and firms in the Center’s program. **1,000 sq. ft**
- **Anchor Tenants:** This component includes office space for additional tenants that would benefit from co-location within the Center. These tenants might include other more established businesses in the maritime sector that can lend advice and guidance while having access to innovations and startups. **5,000 sq. ft**
- **Event space:** The event space is a venue for the Center and industry groups to host events. The space should be flat and open, allowing for a variety of uses including meetings, audio/visual events, and gatherings. The specific design of the event space should also allow for double duty as flex space for tenants. **1,500 sq. ft**
- **Fabrication Space:** This component is a workshop space for the tenants. The area allows for development and assembly of prototypes. **1000 sq. ft**
- **Common space:** The space includes the office space for Center administration offices, meeting and conference rooms, kitchen, lounge, and reception area. **2000 sq. ft**

A suggested and important feature of MIC’s design should be flexibility. Flexibility is necessary to provide modest sized spaces for new clients but allow for internal expansion and contraction as client business needs change during tenure in the Center. Movable walls and cubicle set ups allow for flexibility in space utilization, with an ability to alter the space utilization on a temporary basis.

6.4 Anchor Tenants (Maritime and Technology)

The Center will also offer access to anchor tenants from existing maritime sector businesses that want to co-locate with and support early stage innovations. Unlike incubator clients who use the value-added services of the incubator and may receive below-market rents, anchor tenants are traditional research, development, and technology-based companies or companies providing professional services to tenants within the building. Anchor tenant rents contribute to the incubator’s financial stability and these tenants lease agreements should be set for a term of three to five years. Anchor tenants will be selected and admitted based primarily on their compatibility with the incubator’s community of clients and their ability to reliably pay the monthly rental fees for the term of the lease.



6.5 Prototype Gateway

The MIC's fabrication space will provide clients and external users with a tooling and fabrication area to develop an idea into a basic prototype. However, if the workspace does not have specific equipment, testing facilities or laboratory capabilities which a client needs for their innovation invention, then MIC can also act as a "prototype gateway." MIC will review the need of the clients and ascertain the R&D value of the request being made. MIC can guide them to other resources or facilities in the region to further the progress of their prototypes. A few such facilities have been captured in Appendix 2.

Acting as a "prototype gateway" will ensure that the MIC will effectively act as a one-stop-shop for the development of new prototypes, with the modelling carried out at its premises before affiliated resources (from its hub-and-spoke network) are called upon if requested by clients.

7 OPERATIONAL MILESTONES AND ROADMAP

7.1 Operational Milestones

This section highlights the detailed milestones the MIC should aim to achieve within the years of 2019 to 2022. Number of activities have been planned with their individual timelines to ensure smooth progress.

Number	Activities	Quarter	Months
2019			
1	Provide detailed information about MIC	Q1-Q2	
	Brief Commission on Maritime Blue plan and Maritime innovation Center		Jan-19
	Effort to start briefing legislators on innovation center if in Gov's capital budget		Jan-19
	Seek design authorization for Ship Supply building		May-19
2	Finalize Business Plan and Organization	Q2	
	Revise maritime innovation center business plan completed with modified site selection criteria, financial assumptions and proformas		April-19
	Develop MOU with Washington State to formalize collaboration		May-July-19
3	Maritime Innovation Center Advisory Group Meetings	Q1-Q3	
	Kickoff Meeting		March-19
	Becomes subcommittee of Maritime Cluster Nonprofit Board		May-19
	Fall Planning Meeting		June-19
	Meeting		Sept.-19
4	Conduct three factfinding trips	Q2-4	
	Factfinding trip to Alta Sea @ Port of LA/Long Beach	Q2	
	Factfinding trip to COVE (Halifax Innovation Center/SUNY Maritime Technologies Global Technologies Innovation Center	Q4	
	Maritime Alliance conference/field trip to San Diego	Q4	
5	Host Networking Events (3)	Q2-3	
	Emerging Maritime Company event (cohosted by Commerce and Port of Seattle)	Q2	
	Maritime Innovation BBQ featuring Pacific NW Ocean Cluster	Q3	
	Reverse Pitch Event: Industry Problems and Opportunities event	Q3	
6	Finalize partnership to operate incubator initiative	Q3	July 19
	Prepare space at Maritime Industrial Center for incubator		August 19
	Launch maritime incubator with selected partner		Sept.
7	Finalize Accelerator Partner to operate the program	Q2-Q3	
	Develop RFP or RFQ for potential accelerator partners		May-19
	Finalize partner and sign agreement with partner		July-19
8	Finalize maritime mentors for the program	Q2	
	Develop a plan to approach mentors		Aug-19
	Finalize mentors		Sept-19
9	Maritime Accelerator Program (or Maritime Innovation Challenge)	Q4	
	Publish website for the Programs		Aug-19
	Launch Accelerator Program with partner/s		Oct-19

10	Cohort 1: Maritime Accelerator Program (or Maritime Innovation Challenge)	Q4	
	Application open for Cohort 1		Oct-19
	Application closed for Cohort 1		Oct-19
	Acceptance announcement for Cohort 1		Nov-19
	Nov 15th: Accelerator Program starts		Nov-19

Number	Activities	Quarter	Months
2020			
1	Assist to grow investor network with Maritime Blue	Q1-4	
2	Location of MIC finalized & development begins	Q1	
3	Organize quarterly innovation events	Q1-Q4	
4	2-3 factfinding trips	Q1-Q4	
5	Quarterly advisory meetings	Q1-Q4	
6	Cohort 1: Maritime Accelerator Program (or Maritime Innovation Challenge)	Q1	
	Jan 15th: Accelerator Program End		
	Feb 1st week: Pitch Day for investors		
7	Cohort 2: Maritime Accelerator Program (or Maritime Innovation Challenge)	Q1-Q3	
	Applications open for Cohort 2		Mar-19
	Application closed for Cohort 2		Mar-19
	Apr 15th: Accelerator Program Starts		Apr-19
	June 15th: Accelerator Program End		Jun-19
	July 1st week: Pitch Day for investors		Jul-19
8	Cohort 3: Maritime Accelerator Program (or Maritime Innovation Challenge)	Q4	
	Application open for Cohort 3		Oct-19
	Application closed for Cohort 3		Oct-19
	Acceptance announcement for Cohort 3		Nov-19
	Nov 15th: Accelerator Program starts		Nov-19

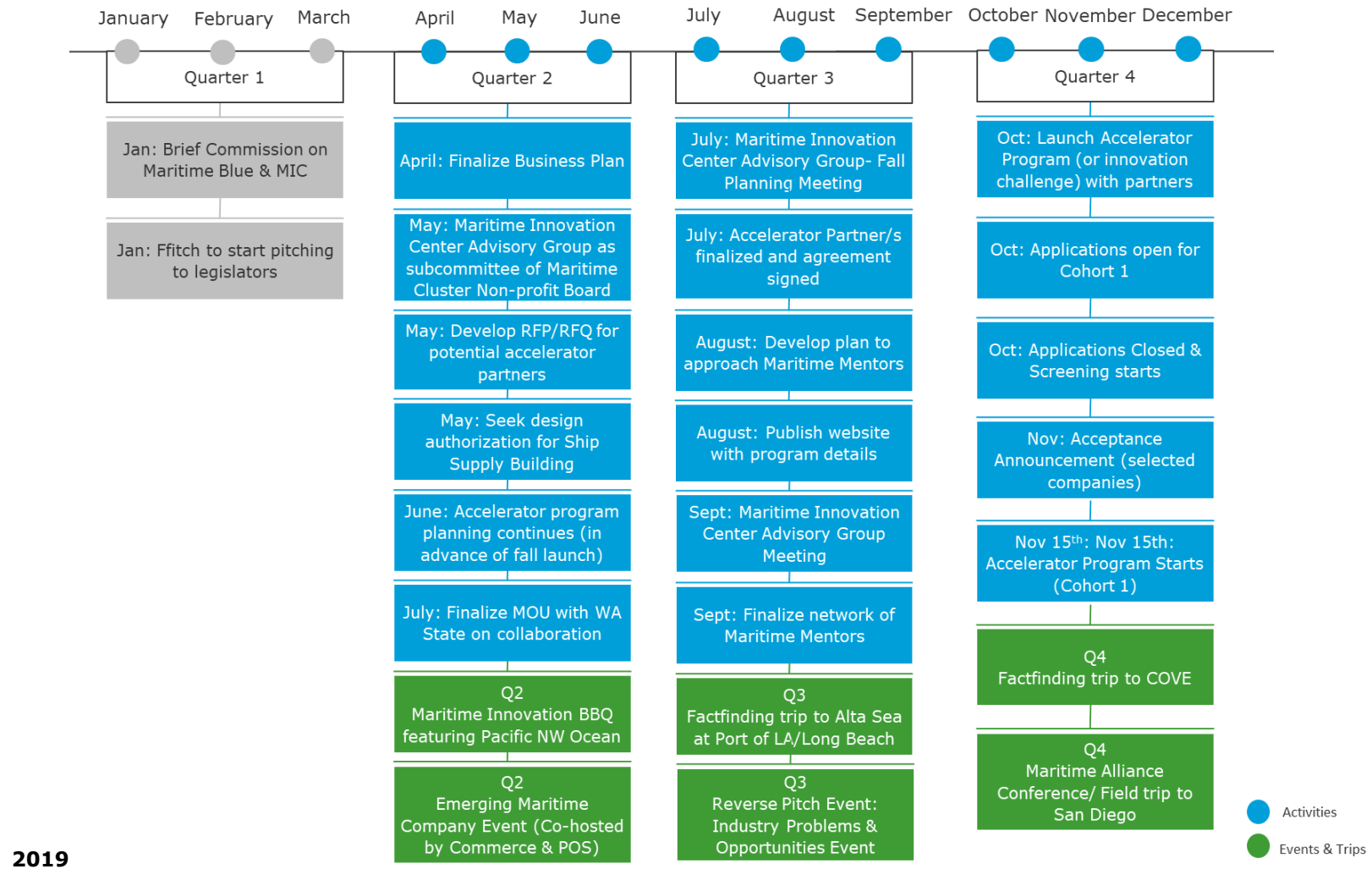
Number	Activities	Quarter
2021		
1	Maritime innovation center starts construction	Q1
2	Open applications for anchor tenants	Q1
3	Finalize anchor tenants	Q2
4	Sign agreements with anchor tenants	Q4
5	Complete Cohort 3 & 4: Maritime Accelerator Program (or Maritime Innovation Challenge)	Q1-Q4
6	Quarterly innovation events	Q1-Q4
7	Host Maritime Innovation Summit	Q4
8	Quarterly advisory meetings	Q1-Q4
9	3 innovation events	Q1-Q4

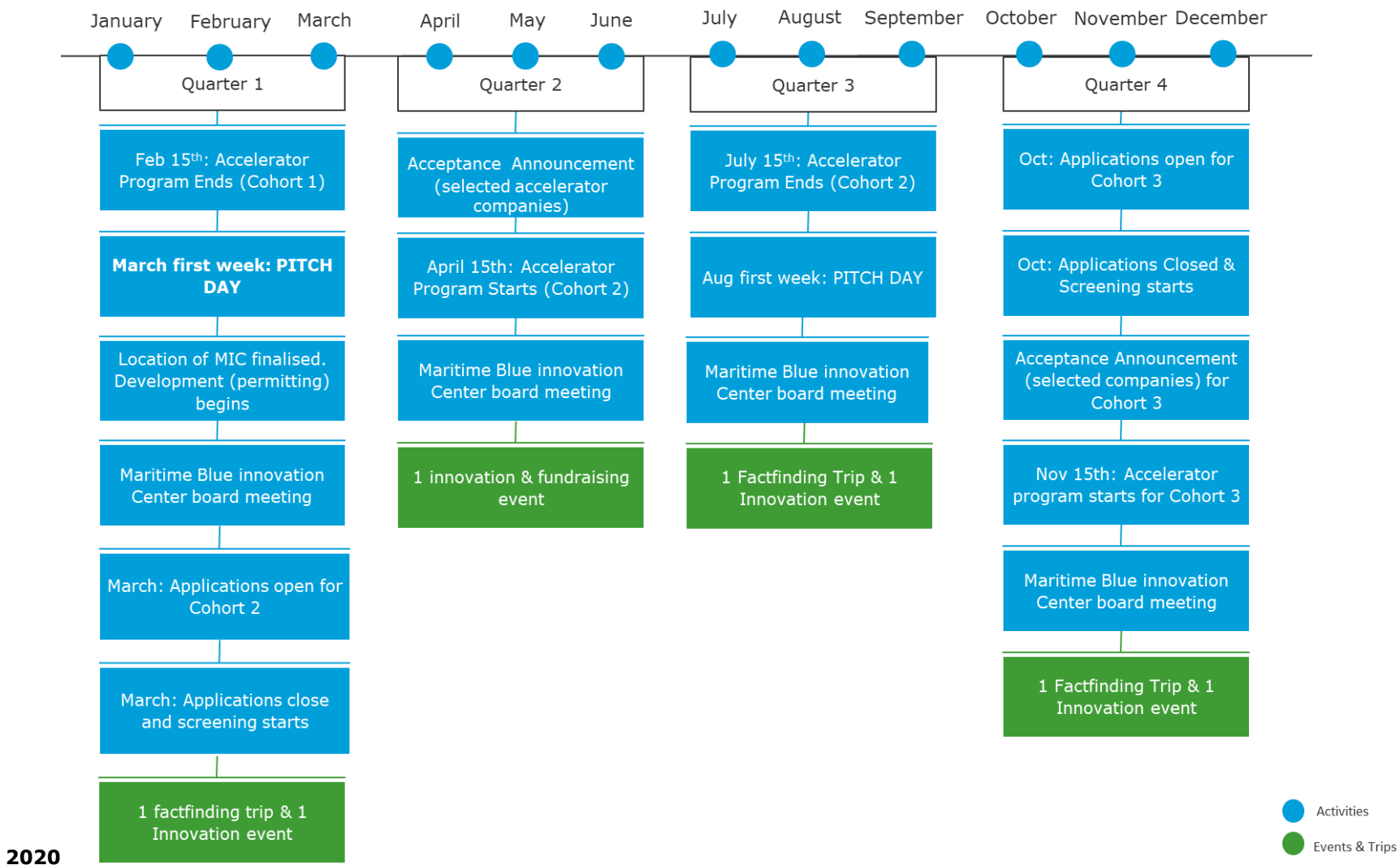
Number	Activities	Quarter
2022		
1	Maritime innovation center facility open	Q1
2	External affairs strategy implemented to highlight innovation center purpose/possibilities	Q1
3	Host 3 Innovation Events	Q2-Q4
4	Complete Cohort 5 & 6: Maritime Accelerator Program (or Maritime Innovation Challenge)	Q1-Q4
5	Quarterly advisory meetings	Q1-Q4

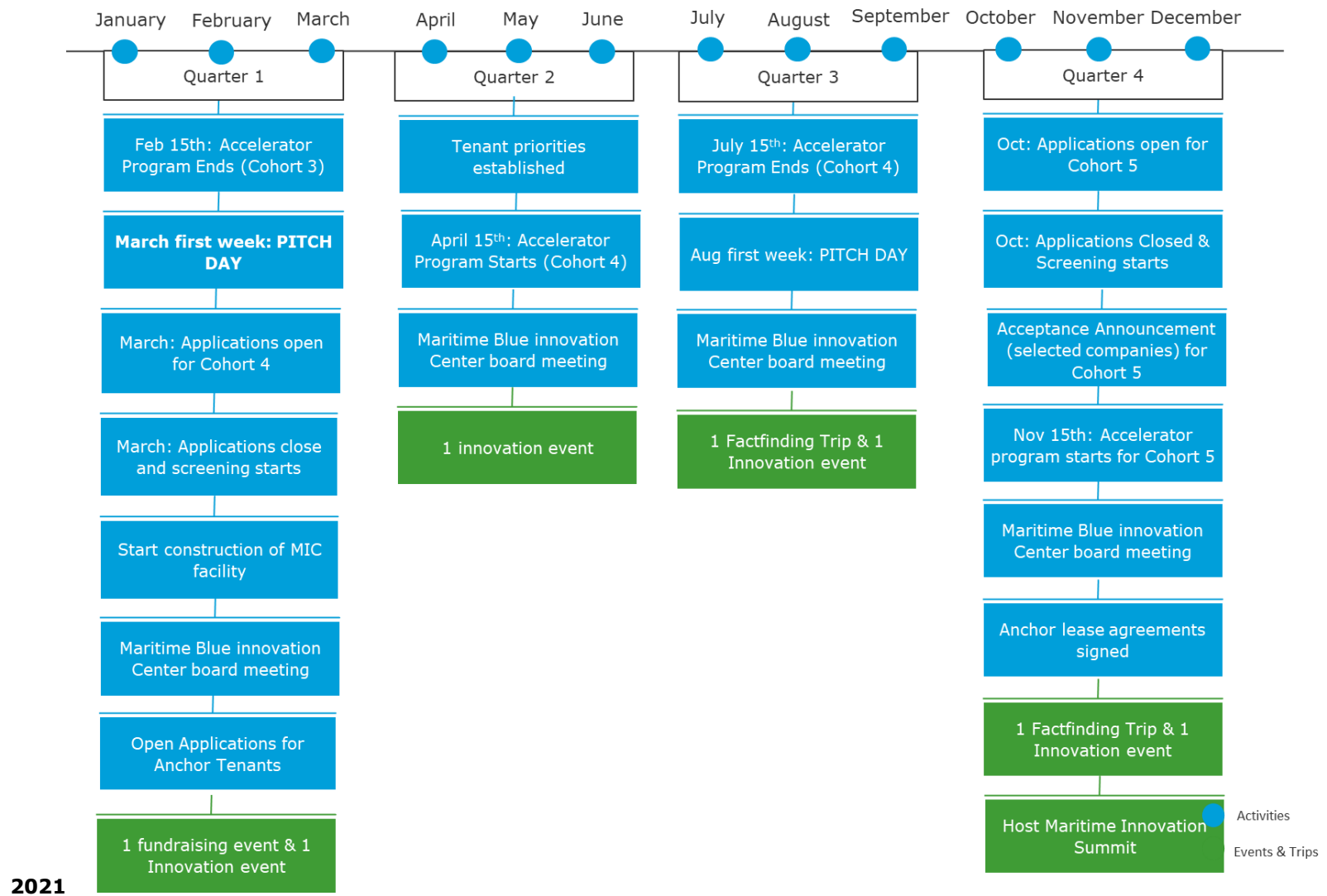
7.2 Roadmap for 2019-2022

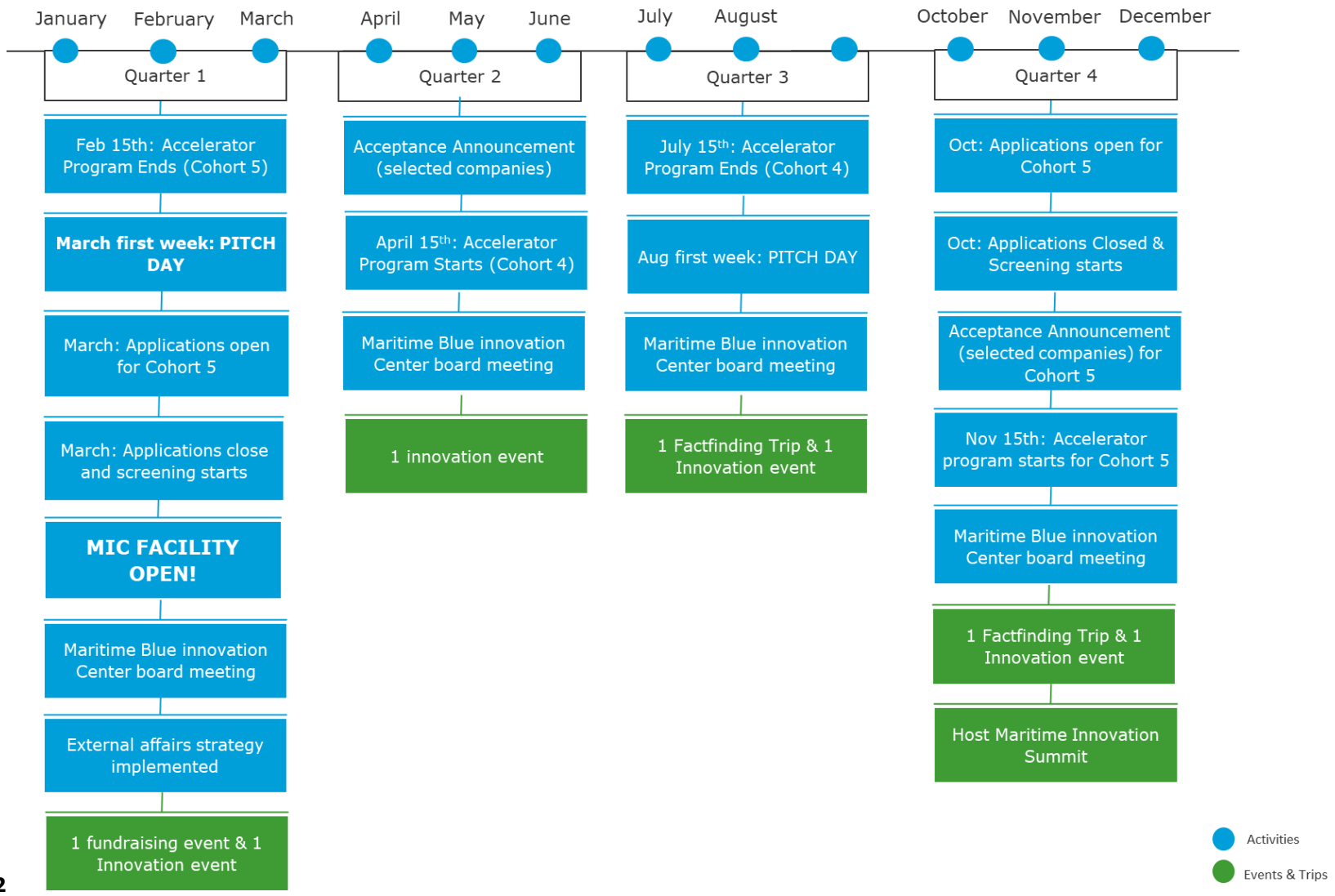
The following pages visually represents the actions needed to be taken by the MIC to ensure it achieves its goals for success.

Timeline for Years 2019- 2022









8 BUDGET AND FINANCIALS

8.1 Rental financial operating plan

This section presents a rental operating forecast for the Port of Seattle regarding the Maritime Innovation Center. The plan considers revenue from renting the MIC property and the associated expenses of being a landlord. It does not include investment items (e.g. capital costs) or finance items both of which factor into the feasibility of a project.

For a robust business plan, an operating forecast for the operating entity of the MIC has also been considered. It details the revenue segments and expenses related to the successful functioning of the Center and has been documented in Appendix 1.

The forecast is built upon:

- The operating plan from “*The Economic Case for the Maritime Center at Fishermen’s Terminal*” study done by The Maritime Alliance, Delawarde Consulting, and ECONorthwest for the Port of Seattle.
- Data gathered on performance benchmarks, models and best management practices and an inventory of specialized equipment from other similar incubators or innovation centers
- Real estate market data
- Information on comparable facilities
- Consultation with industry associations, private companies and educational institutes

8.2 Revenue segments


The following lists the possible revenue generating channels for the MIC and the assumptions associated with each.

Anchor Tenants

- Revenue estimates assume that anchor tenants will pay rents per square feet rather than a program fee. This allows established companies to co-locate and help to support early stage innovations.
- Anchor tenants will rent office space at a rental rate of \$26 per square feet per year (\$2.16 per square feet per month) in Year 1. The rent increases by an annual inflation rate of 3%.
- Assuming the anchor space will be in high demand we estimate the occupancy to be 100% from Year 1 onwards.

Port Rent

- Revenue estimates assume that the selected operating partner will pay an annual rent to POS for the facility.
- Estimates assume the operating partner pays a rent rate significantly lower than the market rate for the first 4 years of operations. From year 5, the port receives rent equivalent to the market rate, assumed to be between \$27-\$32 per square feet per year).



In total, for the first ten years of operation the Proposed Maritime Innovation Center is anticipated to generate an average annual net operating income of \$195,803 to the POS.

8.3 Operating expenses

This section summarizes the operating expense assumptions used in the financial forecast. First, the program will likely need to run on a very lean budget at start up and make choices about enhancing its services as the center and its programs mature. The Port will contract with an entity to operate the facility with specialized staff who are knowledgeable about business startups in the maritime sector. The analysis also assumes that the Port will use:

- 1) its existing staffing and operating capacity in the Fishermen's Terminal area to provide gap coverage for events and other building maintenance, and
- 2) rely on in-kind contributions from project sponsors to supplement basic operations of the Center—outside of any firmer financial commitments.

Table 6 lists the operating expense categories and their annual estimated expenses. Each category is discussed in more detail as follows.

The operating expenses are:

- Utilities: The Proposed Maritime Innovation Center utilities were estimated on a per square foot basis at its current location and applied this cost to the number of square feet at the new location that are not leased to tenants
- Maintenance/Janitorial/Grounds: The model segments this expense item into three sections: the fabrication space, event space and office space. The fabrication additional professional service assistance which will be needed
- Leasehold Excise Tax: The leasehold excise tax starts at \$24,700 in Year 1 and increases by approximately 3.5% every year.

8.4 Financial forecast—net operating income

An operating forecast shows revenues and expenses associated with operations only. It does not include investment items (e.g. capital costs) or finance items, both of which factor into the feasibility of a project.

Table 6 shown below outlines the financial performance of the proposed Maritime Innovation Center when rented out by Port of Seattle. The forecast is for the first 10 years of operations allowing time for ramp up. It is anticipated that the Center will generate a net positive operating income for the Port from Year 1 onwards.

The proposed Maritime Innovation Center is anticipated to generate average annual net operating income of \$195,803 over the first 10 year period for the Port. In line with the investment of \$5.5 million from the Port, the payback period for the capital investment is between 21-22 years with an average return of investment of 4.6% over that period. Financial forecast for the operating entity has been captured in Appendix 1.

Financial Forecast for Port of Seattle

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rental Revenue										
Anchor Tenant Rents (5000 sq.ft)	\$ 130,200	\$ 133,800	\$ 138,000	\$ 142,200	\$ 146,316	\$ 150,706	\$ 155,227	\$ 159,884	\$ 164,680	\$ 169,621
Rent per square feet	\$ 26.04	\$ 26.76	\$ 27.60	\$ 28.44	\$ 29.26	\$ 30.14	\$ 31.05	\$ 31.98	\$ 32.94	\$ 33.92
Port rent (7000 sq.ft for operating enti	\$ 70,000	\$ 100,000	\$ 140,000	\$ 170,000	\$ 190,000	\$ 200,000	\$ 209,000	\$ 215,000	\$ 221,000	\$ 228,000
Rent per square feet	\$ 10	\$ 14	\$ 20	\$ 24	\$ 27.1	\$ 28.57	\$ 29.86	\$ 30.71	\$ 31.57	\$ 32.57
Revenue Total	\$ 200,200	\$ 233,800	\$ 278,000	\$ 312,200	\$ 336,316	\$ 350,706	\$ 364,227	\$ 374,884	\$ 385,680	\$ 397,621
Operational Expenses										
Utilities	\$ 30,000	\$ 30,600	\$ 31,200	\$ 31,800	\$ 32,500	\$ 33,100	\$ 33,800	\$ 34,500	\$ 35,100	\$ 35,900
Maintenance	\$ 60,000	\$ 61,200	\$ 62,400	\$ 63,700	\$ 64,900	\$ 66,200	\$ 67,600	\$ 68,900	\$ 70,300	\$ 71,700
Leasehold Excise Tax	\$ 24,700	\$ 25,600	\$ 26,500	\$ 27,400	\$ 28,400	\$ 29,400	\$ 30,400	\$ 31,500	\$ 32,600	\$ 33,700
Port contribution to MB innovation center										
Operations Total	\$ 114,700	\$ 117,400	\$ 120,100	\$ 122,900	\$ 125,800	\$ 128,700	\$ 131,800	\$ 134,900	\$ 138,000	\$ 141,300
Net Operating Income	\$ 85,500	\$ 116,400	\$ 157,900	\$ 189,300	\$ 210,516	\$ 222,006	\$ 232,427	\$ 239,984	\$ 247,680	\$ 256,321

Table 5: Financial Forecast for POS



9 FUNDING SOURCES

9.1 Current funding sources for the Facility

The current plans in place propose that the Maritime Innovation Center will be funded partly by the Port of Seattle and the State. The Port has included \$10.5 million in its capital improvement plan for the MIC, based on the initial facility cost estimates. A state capital investment of \$5.0 million is currently included in the proposed 2019-2021 biennium budget from the Governor, the Senate and the House of Representative for the State of Washington. The Port will plan to tap into the state resources that are made available, in combination with their own capital, in order to cover the full facility costs.

9.2 Other funding sources for the operating entity

Other funding considerations

The Port plans to provide a contract for services to the operator of the MIC. By selecting a non-profit partner, the Port is looking to leverage their additional resources to cover some portion of operating costs. Many incubator and accelerator facilities are governed in such a way that allows outside revenue support from government and industry sources. Given their unique mission, finding opportunities for corporate sponsorship, government grants, philanthropic, or industry support is a potential basis for additional funding.

10 PERFORMANCE EVALUATION AND SUCCESS CRITERIA

The MIC's suggested mission and objectives provide a touchstone for desired outcomes - job creation, real growth of marine and ocean-oriented businesses in Washington and contribution to the economic health of the region.

We recommend that a formal progress evaluation be completed every six months and reports be provided to the Board and all stakeholders. Suggested performance indicators for the project are distributed over 3 areas as seen below:

Suggested performance indicators for the Incubator and Accelerator program include:

- Number of applications
- Number of women applicants
- Number of applicants from underserved communities and people of color
- Application acceptance rate
- Evaluation of services by all clients
- The percentage of graduates that stay in business
- The number of patents applied for and received by accelerator clients
- The capital raised by companies being served

Suggested performance indicators for the Maritime Innovation Center include:

- The number of tenants within the Center
- The number of jobs created on an annual basis within the Center
- Percentage of operational funding secured
- Mentions in major media stories focused on entrepreneurship and innovation in the maritime industry
- Invitations to participate in regional and national events
- Number of participants in MIC-organized events and programs
- Number of partner events and programs supported by MIC
- Support for Fishermen's Terminal tenants and customers

Relevant performance measures should be applied now, and further measures should be added and modified as the program/Center evolves and matures over time.

11 RECOMMENDED NEXT STEPS

The Port of Seattle should consider these findings and deliberate on the following set of decision points.

- Develop RFP or RFQ for potential partners, finalize and sign agreements before the launch of the Maritime Accelerator Program (or Maritime Innovation Challenge).
- Identify, select and sign agreements with maritime mentors
- Evaluate potential operating partners for the MIC.
- Confirm partnership with Incubator partner and prepare the Maritime Industrial Center for operations before launching the Maritime Incubator Program in September 2019.
- Develop commitments from public and private project sponsors. The Port has signaled its commitment to support innovation in the maritime sector. Other regional and state economic development interests, and maritime industries, have shared interests. Additional work should be done to identify which groups would like to be directly involved in sponsoring the innovation center, including determining levels of financial and other in-kind support necessary to launch the facility.
- Further refine an inventory of existing facilities and equipment available in WA State to determine what can be made available as part of a hub and spoke model, versus what is needed within the MIC facility.
- Based on the proposed space allocation, refine conceptual drawings for the layout and requirements of the proposed Maritime Innovation Center including architectural renderings, site layout, and office and workshop components.
- While the Ship Supply Building received the highest scoring based upon the known evaluation criteria, these criteria did not include financial costs for the facility. More evaluation on the facility costs for the MIC will be needed to determine the final site selection.
- Based on three alternatives provided in the refined business plan, finalize the site location for the MIC.
- Based on information provided in the refined business plan, finalize the governance and operating structure.
- Revisit assumptions within this business plan annually to evaluate progress against key benchmark and highlight beneficial changes to plan or overall maritime innovation strategy

12 REFERENCES

- AltaSea. "AltaSea unique model for ocean-related solutions" Accessed April 1, 2019. <https://altasea.org/what-we-do/>
- Cambridge Innovation Center. "What we do." Accessed April 1, 2019. <https://cic.com/about-us#whatwedo>
- CoMotion. "Comotion Labs Home." Accessed April 1, 2019. <https://comotion.uw.edu/what-we-do/comotion-labs/home/>
- CoveOcean. "Centre for Ocean Ventures & Entrepreneurship." Accessed April 1, 2019. <https://coveocean.com/>
- David Nikeel, 2017. "Opening the doors to innovation." Accessed April 1, 2019. <https://www.2wglobal.com/news-and-insights/articles/features/opening-the-doors-to-innovation/>
- DNV GL & Department of Commerce, 2019. "Washington State's Strategy for the Blue Economy". Accessed April 1, 2019. <http://maritimeblue.org/>
- FederalLabs, 2016. "Coast Guard debuts new rapid prototyping center." Accessed April 1, 2019. <https://www.federallabs.org/news/member-labs/coast-guard-debuts-new-rapid-prototyping-center>
- Kathy Smith, 2004. "Business Plan for a Technology Incubator, Lane County, Oregon", Accessed April 1, 2019. <https://pages.uoregon.edu/front/pdf/businessplan-report.pdf>
- Lincoln Arneal, 2015. "The Differences Between a 501(c)(3), 501(c)(4) and Other Tax Exemptions", Accessed April 14, 2019. <https://nonprofithub.org/starting-a-nonprofit/differences-501c3-501c4-tax-exemptions/>
- NewLab. "Our Members." Accessed April 1, 2019. <https://newlab.com/entrepreneurs/>
- RDM Rotterdam. "About Us." Accessed April 1, 2019. <https://www.rdmrotterdam.nl/en/about-rdm-rotterdam/>
- Tressa Arbow, 2019. "Workforce Sustainability in the Washington Maritime Industry", Accessed April 1, 2019. <http://maritimeblue.org/>
- The Maritime Alliance, Delawarde Consulting, and ECONorthwest, 2018. "The Economic Case for the Maritime Center at the Fishermen's Terminal". Accessed April 1, 2019. https://www.maritimefederation.com/uploads/1/0/9/1/109194033/innovation_center_maritime_alliance_final.pdf
- PortXL. "Program." Accessed April 1, 2019. <https://portxl.org/program/>
- PureBlue. "Aqualyst." Accessed April 1, 2019. <https://www.pureblue.org/aqualyst>

13 APPENDIX

Appendix 1: Financial Forecast for the MIC's Operating Entity

Revenue

Anchor Tenants

- Revenue estimates assume that anchor tenants will pay rents per square feet rather than a program fee. This allows established companies to co-locate and help to support early stage innovations.
- Anchor tenants will rent office space at a rental rate of \$26 per square feet per year (\$2.16 per square feet per month) in Year 1. The rent increases by an annual inflation rate of 3%.
- Assuming the anchor space will be in high demand we estimate the occupancy to be 100% from Year 1 onwards.

Accelerator Tenants

- Revenue estimates assume that initial accelerator tenants will pay \$350 per month as program fees to use all facilities such as the office space, common space and all service offering such as mentors, interns, alumni network etc. for 12 weeks. These rents reflect that this is a new facility with state- of-the-art offerings. This rent also increases every two years to keep in line with the increase in the general price of goods and services in the economy.
- For the first year, accepted accelerator clients pay a fee of \$350 per tenant per month to use the facilities and services. This fee increases by \$25 every year to cover increasing costs.
- Since the Accelerator will have 2 cohorts per year, with each cohort using the facility for 3 months, we assume occupancy rate of 50% throughout.
- The number of accelerator tenants is fixed at 30 tenants per cohort assuming a team size, on average, to be between 3-5 people.
- Fabrication space rents are not included in the membership fee.

Incubator Tenants

- Revenue estimates assume that to start with, each incubator tenant will pay on average \$200 per month as program fees to use all facilities such as the office space, common space and all service offering such as mentors, legal counsel, business support etc. for the period of the lease agreement. These rents reflect that this is a new facility with state- of-the-art offerings. This rent also increases every two years to keep in line with the increase in the general price of goods and services in the economy.
- For the first year, accepted incubator clients pay a fee of \$200 per tenant per month to use the facilities and services. This fee increases by \$25 every year to cover increasing costs.
- It is assumed the allocated space of 1000 square feet for incubator clients can accommodate at least 40 tenants (100 sq.ft for 4 employees) at full utilization.

- To start with, we assumed an occupancy rate of 50% (20 clients) for incubator tenants which increases by 10% every year.

Fabrication Space

- Revenue estimates assume that to use the equipment related features in this space, per person rents are \$100 every month to start with. The rent then increases by \$20 every two years.
- We also assume the number of clients per month are constant over that year however, every year the number of tenants using this facility increases with the assumption that the facility provides for all needs. Every year the number of clients increase by 2-3 (maintained for all 12 months in that year).

Event Space

- Revenue estimates assume that the Center would generate revenue from 27 paid events to start with for event space in the area (it will also likely host unpaid events).
- \$600 per day is the price for renting an event space which increases by \$100 every two years.
- The estimated number of events also increase by 5-7 events every year.

Expenses

- Port Rent: The selected operating partner will pay an annual rent to POS for the facility, breakdown below.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rent Breakdown										
Anchor Tenant Rents (5000 sq. ft)	\$130,200	\$133,800	\$138,000	\$142,200	\$146,316	\$150,706	\$155,227	\$159,884	\$164,680	\$169,621
Rent per square feet	\$ 26.04	\$ 26.76	\$ 27.60	\$ 28.44	\$ 29.26	\$ 30.14	\$ 31.05	\$ 31.98	\$ 32.94	\$ 33.92
Port rent (7000 sq. ft for operating entity)	\$ 70,000	\$100,000	\$140,000	\$170,000	\$190,000	\$200,000	\$209,000	\$215,000	\$221,000	\$228,000
Rent per square feet	\$ 10	\$ 14	\$ 20	\$ 24	\$ 27.1	\$ 28.57	\$ 29.86	\$ 30.71	\$ 31.57	\$ 32.57
Rent Total	\$200,200	\$233,800	\$278,000	\$312,200	\$336,316	\$350,706	\$364,227	\$374,884	\$385,680	\$397,621

- Payroll and Benefits: Currently, it is estimated that the facility will need 1 full-time Director and limited hourly receptionist. The MIC would scale staffing based on need and economic conditions.
- Marketing: The analysis assumes that the proposed Maritime Innovation Center will need to have a budget for marketing the site to prospective tenants and to advertise events.
- Event/Programming: Our analysis assumes that the proposed Maritime Innovation Center will need to have a budget for hosting and programming events.
- Consumable Materials and Supplies: The proposed Maritime Innovation Center will need to purchase general office supplies to maintain its operations.

Table 7, shown below outlines the financial performance of the proposed Maritime Innovation Center for the operating entity. The forecast is for the first 10 years of operations allowing time for ramp up. It is anticipated that the Center will be able to cover 79% in year 1 (increasing to 97% coverage by year 7) of its operational costs from the rental revenue from the facility.

The MIC's operating partner will also have to ensure a steady funding source to maintain and cover operational costs. It is anticipated that the operating entity would need to secure external contributions of \$ 72,000 annually on average for the first 5 years to sustain its operations. The governance structure selected will impact the ability to secure external funding.

In total, for the first ten years of operation the Proposed Maritime Innovation Center is anticipated to generate an average annual revenue of \$452,095.

Financial Forecast for Operating Entity										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating Revenue										
Anchor Tenant Rents (5000 sq.ft)	\$ 130,200	\$ 133,800	\$ 138,000	\$ 142,200	\$ 146,316	\$ 150,706	\$ 155,227	\$ 159,884	\$ 164,680	\$ 169,621
Accelerator Client Rents	\$ 63,000	\$ 67,500	\$ 72,000	\$ 76,500	\$ 81,000	\$ 85,500	\$ 90,000	\$ 94,500	\$ 99,000	\$ 103,500
Incubator Client Rents	\$ 48,000	\$ 64,800	\$ 84,000	\$ 105,600	\$ 129,600	\$ 156,000	\$ 156,000	\$ 180,000	\$ 180,000	\$ 204,000
Fabrication Space	\$ 14,400	\$ 18,000	\$ 25,920	\$ 31,680	\$ 40,320	\$ 43,680	\$ 53,760	\$ 57,600	\$ 69,120	\$ 73,440
Events Rent	\$ 16,200	\$ 21,000	\$ 29,400	\$ 33,600	\$ 41,600	\$ 46,400	\$ 57,600	\$ 62,100	\$ 74,000	\$ 80,000
Revenue Total	\$ 271,800	\$ 305,100	\$ 349,320	\$ 389,580	\$ 438,836	\$ 482,286	\$ 512,587	\$ 554,084	\$ 586,800	\$ 630,561
Operation costs										
Port rent	\$ 200,200	\$ 233,800	\$ 278,000	\$ 312,200	\$ 336,316	\$ 350,706	\$ 364,227	\$ 374,884	\$ 385,680	\$ 397,621
Staffing	\$ 112,200	\$ 114,400	\$ 116,700	\$ 119,100	\$ 121,400	\$ 123,900	\$ 126,300	\$ 128,900	\$ 131,500	\$ 134,100
Supplies/Equipment/IT	\$ 20,000	\$ 20,400	\$ 20,800	\$ 21,200	\$ 21,600	\$ 22,100	\$ 22,500	\$ 23,000	\$ 23,400	\$ 23,900
Meeting and Event Expenses	\$ 2,500	\$ 2,600	\$ 2,600	\$ 2,700	\$ 2,700	\$ 2,800	\$ 2,800	\$ 2,900	\$ 2,900	\$ 3,000
Marketing	\$ 5,000	\$ 5,100	\$ 5,200	\$ 5,300	\$ 5,400	\$ 5,500	\$ 5,600	\$ 5,700	\$ 5,900	\$ 6,000
Professional Services	\$ 5,000	\$ 5,100	\$ 5,200	\$ 5,300	\$ 5,400	\$ 5,500	\$ 5,600	\$ 5,700	\$ 5,900	\$ 6,000
Operations Total	\$ 344,900	\$ 381,400	\$ 428,500	\$ 465,800	\$ 492,816	\$ 510,506	\$ 527,027	\$ 541,084	\$ 555,280	\$ 570,621
External contributions needed to sustain operating partner	\$ (73,100)	\$ (76,300)	\$ (79,180)	\$ (76,220)	\$ (53,980)	\$ (28,220)	\$ (14,440)	\$ 13,000	\$ 31,520	\$ 59,940
% of operations covered by rent	79%	80%	82%	84%	89%	94%	97%	102%	106%	111%

Table 7: Financial Forecast for Operating Entity

Appendix 2: Assets Inventory in the Region

When considering a plan to build an activity system and program for increasing the likelihood for innovation, it is important to take note of assets already in place within the region. Since the maritime sector is also quite complex with many subsectors, the supporting resources are equally complex with overlapping priorities in other areas. While by no means an exhaustive list, we make note of the following examples:

General Assets

1. Natural Resources

The physical and geographic attributes of the Puget Sound Region is an enormous advantage that is often overlooked in its ranking of importance, so we listed it first. Included in Puget Sound is: ▪ A large shoreline ▪ Deep water port ▪ Proximity to Alaska & Arctic ▪ Proximity to Asia/Pacific Rim/BC ▪ Protected freshwater harbour ▪ Sustainable fisheries ▪ Clean air and abundant energy and water resources It is important for any plan going forward to leverage and showcase these attributes.

2. Existing Entrepreneurial Assets

As one of the world's leading tech regions, Washington state is fortunate to have a well-established culture of innovation. This culture is supported by over 50 existing entrepreneurial hosting programs (incubators, accelerators and the like) in Puget Sound alone. While this is encouraging from the overall standpoint of having a start-up culture with the needed support structures across broad industries, there are no start-ups with a specific focus on the maritime/oceanographic industry, with the exception of the University of Washington's APL Collaboratory.

3. Shipbuilding, Marine Architecture, and Marine Transportation

While Puget Sound is not unique in the US for having shipyards and architects, it is unique in the variety of commercial activities supported. We note that not only are there existing skill sets and capabilities for well-known shipbuilders such as Vigor (Tacoma, Seattle, Port Angeles), shipbuilding expertise also extends to the Naval Shipyard, aluminium boats, and the local craftsmen in Port Hadlock skilled in traditional wooden boat building. Marine logistics companies such as Foss Maritime and Crowley Maritime have a large presence in the region. This large installed base can serve both as a needs source and where innovative technologies can be applied. In addition, Washington State operates the largest commuter ferry system in the country, which also creates opportunities of scale for clean alternative propulsion systems.

4. University of Washington

UW is not the only educational institution involved in maritime or ocean activities; however, it clearly stands out because of the number and size of programs it has that are either supporting or can support maritime/ oceanographic programs. This includes: ▪ Washington Sea Grant ▪ Applied Physics Lab (including the Collaboratory) ▪ School of Oceanography ▪ School of Marine and Environmental Affairs ▪ Pacific Northwest National Marine Energy Center ▪ Co-Motion Labs entrepreneurial hosting program

5. Other Educational or Institutional Assets

- Washington State University
 - Food Science and other relevant programs
- Western Washington University

- Programs in Marine Sciences, Energy, and Autonomous Vehicles
- Northwest Center of Excellence for Marine Manufacturing and Technology (housed at Skagit Valley College)
- Seattle Maritime Academy (Seattle Central College)
- Northwest School of Wooden Boat Building
- Schmidt Ocean Institute.

6. Federal Assets

- NOAA Western Regional Center—Houses the largest variety of NOAA programs at a single location in the United States (Includes National Ocean Service, National Marine Fisheries Service, Office of Oceanic and Atmospheric Research & National Weather Service). It employs the largest NOAA staff outside the Washington, D.C., metropolitan area.
- US Navy—The Navy has a large presence in the region including major facilities in Bangor, Bremerton/Keyport, Everett, and Whidbey Island. The Naval Undersea Warfare Center (NUWC) facility in Keyport has a large testing range for underwater vehicles and expressed willingness to cooperate with interested users (entrepreneurs in early proof of concept stages).
- US Coast Guard District 13—D13’s Area of Responsibility encompasses four states and the entire Pacific Northwest coast
- Pacific Northwest National Laboratory (PNNL)—Part of the Department of Energy, PNNL is headquartered in Richland, WA and has many locations in the Pacific Northwest including a Research Center in Seattle and the Marine Sciences Laboratory in Sequim. The Department of Energy, Water Power Program has an aligned initiative called “Powering the Blue Economy” that PNNL staff are deeply engaged in. There may be mutual opportunities for working on collaborative R&D and providing facilities to meet stakeholder needs.

7. Seafood & Fishing Industry

A significant portion of Alaska’s fishing fleet has been based in Seattle for over 100 years. As a consequence, there are highly experienced shipbuilding, repair and maintenance services in close proximity to Fishermen’s Terminal. The Chittenden locks allow fishing boats to spend their off season on fresh water, which means less corrosion of hulls and other equipment as well as unique opportunities for innovation and testing. After fishers harvest their catch the seafood must be processed, marketed, and delivered to consumers. Many of these companies are also present on the ship canal and elsewhere, as the catch is processed and exported, with opportunities for innovation at each stage of the supply chain.

8. Ocean & Marine Instrumentation Industry

Puget Sound is one of the leading parts of the country for underwater technology which includes robotics, sensors, and platforms for providing the necessary information for climate forecasters, ocean operators (industry), and public safety. While numerous, most of the companies in this segment are small and have close relationships with one or more of the groups listed above.

Assets specific to MIC's services

9. Facilities within 15 mins drive from POS offering marine testing facilities

- University of Washington has a wide range of facilities that can be used by the tenants to test their prototypes. The Harris Hydraulics Laboratory can be used for fluid mechanics research. They also have a plume basin, sediment/wave flume, rotating table, 15 m water tank and a wind tunnel.

10. Facilities within 15 mins drive from POS offering maritime simulation and virtual training programs

- Maritime Simulation and Virtual Training Programs has various capabilities that include simulators with audio and video recording systems, vessel's position and speed, under keel clearance and squat, use of accurate ship models (more than 100 models e.g. tugboats, tankers, ferries, cruise ships, naval vessels), simulation of realistic forces such as tides, currents, ship collisions, bottom effect forces, fog banks and local wind, etc.
- Seattle Maritime Academy: The new 24,000 square foot building is a hands-on professional/technical maritime center for training and education. The Centre has a full mission bridge and image simulators which, combined with 18 computer stations, allow companies and organizations to practice challenging scenarios under realistic conditions with their staff and to get valuable leadership, communications and technical feedback following the exercise.

11. Possible online sharing platforms to be adopted

An overview of potential platform providers is provided below, but the MIC must further investigate on other solutions which could be a better fit for its clients.

Ideascale, Hype Innovation and BrightIdea are all leading idea and innovation management software that employ the principles and practices of crowdsourcing. They allow for constant collaborative environment using the collective intelligence of all users.

12. Other relevant assets

- Washington Stormwater Center: The Center is a collaboration between Washington State University and the University of Washington, and therefore has two physical locations; in Puyallup & Tacoma. It provides stormwater management tools, educational workshops, videos, publication, webinars and also stormwater research.

Appendix 3: Size and Space Allocation for Recommended Site

On December 11, 2017, The Miller Hull Partnership hosted a design charrette to envision the future of the Seattle Ship Supply Building as a maritime incubation center. The session was intended to identify - at a conceptual level - attributes and goals for the Innovation Center and the types of spaces the Ship Supply building could provide to best support the future of Washington State's maritime industry. A diverse range of stakeholders representing various interest groups gathered for a half-day workshop to identify programmatic needs for the Maritime Innovation Center.

In order to gather information and inspiration for the development of design scenarios, the key goals for the workshop were:

1. To prioritize goals for the Maritime Innovation Center
2. To understand spatial constraints of the existing Seattle Ship Supply Building
3. To develop key programmatic elements and adjacencies
4. To understand overlaps for multi-use spaces
5. To identify accommodations required for specialized equipment.

1.1.1 Scheme 1

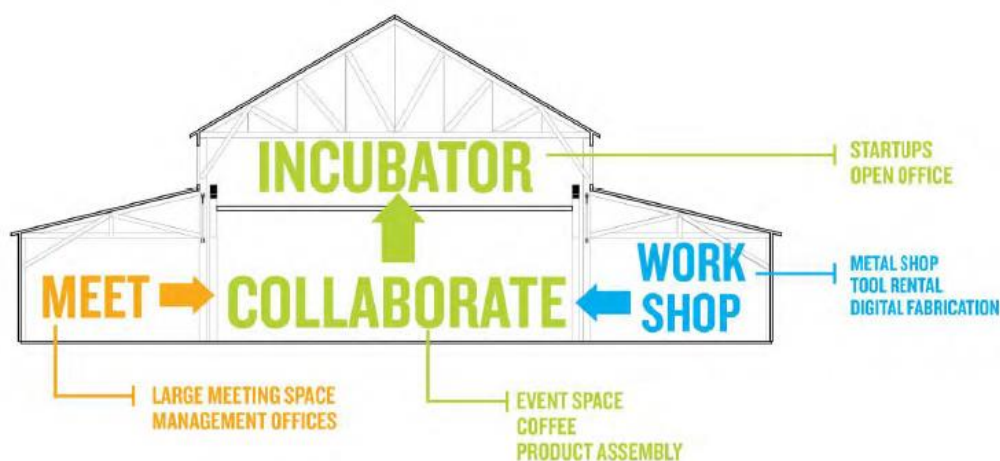


Figure 8: Scheme 1 for MIC

The first organizational concept keeps the first floor of the central bay open as a gathering space for different groups to come together and collaborate throughout the day. Large tables could be used for working and meeting and could be cleared out for large events that required clear floor space. The north bay at the water side would hold the large meeting space (800-100sf). This wing could also hold management offices or smaller conference rooms and classrooms as required. The south wing was considered the most logical location for a workshop space, as it provides easy truck loading access from the existing parking lot to the south and the ability to provide isolated ventilation and segregate the space acoustically from the rest of the building. In this scheme, the 2nd floor would be used for startups and accelerators with open workstations. This would eliminate the need for walls and ceilings that might otherwise interrupt the dramatic high bay space.

PROS:

- Side wing spaces (with lower utilized most effectively for enclosed rooms)
- No ceilings or walls required on upper floor

- Workshop space visible from central bay, but able to be acoustically and spatially separated from the rest of the space.
- Central bay kept clear for collaboration space and event space

CONS:

- Large meeting room not on upper floor where it could take advantage of the view, and upper floor would not be utilized for the larger clientele of Fishermen's Terminal.
- Limited space for enclosed offices and small meeting rooms most of North wing is taken up by large conference room.

1.1.2 Scheme 2

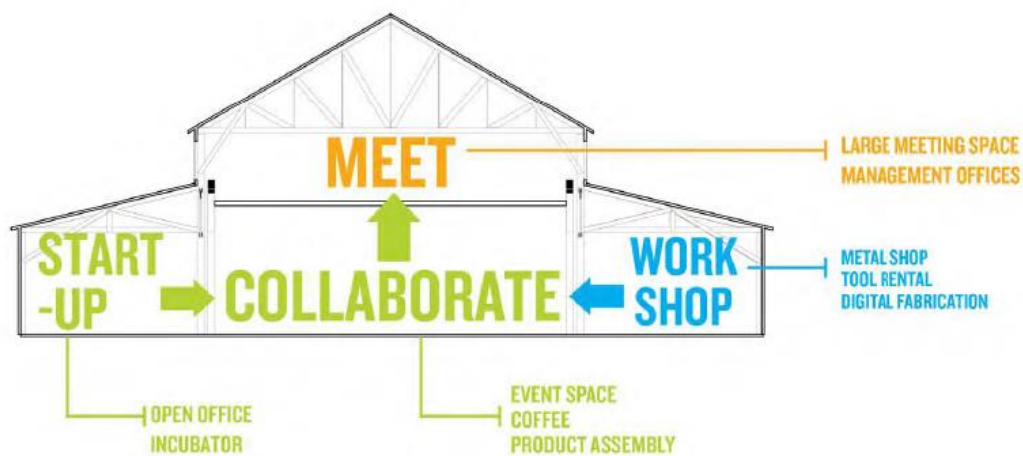


Figure 9: Scheme 2 for MIC

Like scheme 1, the second organizational concept keeps the first floor of the central bay clear for gathering and event space. Likewise, the south wing is utilized as a workshop space to provide truck access and visibility of the maker space program from the central collaboration space. The north wing is used for startup space, providing visibility of that program from the entry at the north and activating the collaboration space in the central bay, allowing for interactions between the “hardware” and “software” programs of the startup and workshop spaces. The large meeting space is placed on the 2nd floor, taking advantage of the views out to Salmon Bay and the dramatic roof structure of the upper level.

PROS:

- Large meeting room located on upper floor where it can take advantage of the view out to Salmon Bay
- Workshop space visible from central bay, but able to be acoustically and spatially separated from the rest of the space.
- Central bay kept clear for collaboration space and event space
- Startup workspace visible from main entry, location on North wing activates central collaborative space, allows for interaction with workshop space

CONS:

- Locating enclosed meeting rooms and offices on the upper floor requires placing walls and ceilings that will diminish the visibility and impact of the roof structure.

1.1.3 Scheme 3

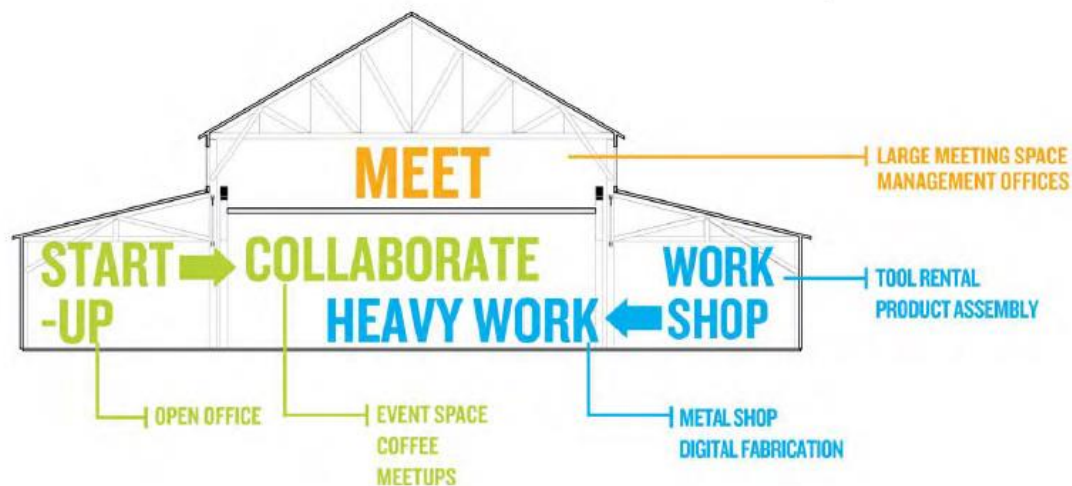


Figure 10: Scheme 3 for MIC

The final scheme discussed at the design charrette places a portion of the workshop in the central bay, with “heavy work” including much of the fabrication equipment occupying the high bay space on the ground floor, while “light work” including assembly and tool rental occur in the South wing space. The main workshop space faces out to an open collaborative space that can be cleared out for large events. Open office space for startups and accelerators are located in the North wing and spill out to the central work/collaboration space, while the large meeting room is on the upper floor.

PROS:

- Placing workshop in visible
- Startup workspace visible from main entry, location on North wing activates central collaborative space, allows for interaction with workshop space
- More workshop space - will help to activate central bay and facilitate collaboration between “hardware” and “software.”

CONS:

- Locating enclosed meeting rooms and offices on the upper floor requires placing walls and ceilings that will diminish the visibility and impact of the roof structure.
- Locating workshop in central bay on first level cuts down on floor area available for open collaborative/event space.
- “Heavy” workspace will be difficult to keep acoustically separated from rest of space, ventilation of that central space will be more difficult.

Appendix 4: Aligning with Maritime Blue Strategy

The Washington Maritime Blue project and the Maritime Innovation Center are projects that have evolved and progressed under intertwined planning efforts by Washington State and the Port of Seattle. These two projects unfolded in similar timespans. Some of the stakeholder outreach sessions conducted earlier for the Innovation Center helped form and focus the Blue effort. Blue stakeholder engagement has also helped to further shape the understanding of the facility and services offerings needed for the Innovation Center.

Port of Seattle kicked off the efforts to investigate and plan for the maritime innovation center in August 2017. Department of Commerce helped fund Ship Supply Design Charrette and outreach sessions with Anacortes and Port Hadlock maritime communities to understand the opportunities and challenges in this industry. This project is more narrowly focused on possible innovation center developments, the services and operational plans.

State of Washington, through the Department of Commerce, kicked off Maritime Blue planning efforts in December 2017. The Port of Seattle helped provide match funds for Maritime Blue planning funds. This project is more broadly focused on longer term strategies for the cluster.

Early into the start of these projects, it was clear that Washington is already a leader in environmental practices, but there are opportunities and challenges to further utilize and overcome. To bring that together the Maritime Blue Initiative was formed in 3 parts:

- Create a **Strategy** for accelerating the BLUE economy, technology innovation and sustainability in Washington’s maritime industry.
- Formalize the **Cluster** as a focal point for coordination, incubation, capital investment & commercialization.
- Establish a **Maritime Innovation Center** for R&D and commercialization of innovation technology through public/private partnerships.

Utilizing the Maritime Blue Strategy Framework, the image below provides a visual representation of how the two projects are aligned in their efforts and end goals.





Growing Gateways

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

Maritime Blue Initiative

MIC's Involvement

MIC Services

Initiative 1.3
Attracting & Training
the Future
Workforce of our ports

Maritime Workforce Summits
MIC to collaborate with Maritime Blue to offer hot topics based on its client needs

MIC can offer:
Educational Programs Services (Hot Topics)

Maritime Workforce Summits
Once the facility is built, host such summits in the event space on behalf of Maritime Blue

MIC can offer:
Facility Based Services



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.*

Maritime Blue Initiative

MIC's Involvement

MIC Services

Initiative 1.2 Mapping career pathways in & through the industry

K-12 Curriculum
Learning services for younger generations to boost their knowledge and understanding of the maritime industry

MIC can offer:
Learning Services (Awareness & Knowledge Boosters)

Initiative 1.3 Career-connected learning

Internships and Opportunities for students
Collaborate with YMC and provide clients with interns

MIC can offer:
Professional Network & Relationship Support (Intern Network)



Cluster Coordination: A formal Cluster Organization will drive implementation of the Maritime Blue strategy & collaboration to ensure a strong maritime industry founded on competitive maritime companies and an attractive business environment.

Maritime Blue Initiative	MIC's Involvement	MIC Services
<p>Blue Focus</p> <p>Implement a communications and marketing campaign plan in conjunction with partner organizations, to raise visibility & connect with opportunities.</p>	<p>Highlight MIC as means of future opportunity Blue Focus is meant to highlight opportunities in maritime innovation thus use this campaign to promote MIC</p>	<p>MIC can use: Maritime Blue's marketing campaigns</p>
<p>Blue Forum</p> <p>Networking and strengthening of the knowledge base: Host workshops, provide market data.</p>	<p>Provide market data MIC's resource library to be used as source of data to discuss emerging technologies</p>	<p>MIC can offer: Educational Programs (Resource Library)</p>
<p>Blue Forward</p> <p>Incubation to drive early stage innovation to commercialization. Guidance and mentoring for start-ups & businesses looking to expand into the Blue economy.</p>	<p>Drive innovation commercialization Offer all of MIC's Professional Network & Relationship Support services to the Cluster Office's Blue Forward efforts towards driving early stage innovation to commercialization.</p>	<p>MIC can offer: ALL Professional Network & Relationship Support services</p>
<p>Blue Force</p> <p>Cooperation to enable the workforce of the future through coordination, funding & public forums.</p> <p>Scholarships for workforce development. Job board. Fostering internship & apprenticeships. Mentor-mentee relationships. Hands on learning for K-12.</p>	<p>Be the bridge for the Blue Force efforts: Use the Center and its services to offer internships and hands on learning to the youth</p>	<p>MIC can offer: Professional Network & Relationship Support services</p>
<p>Blue Facility</p> <p>Conduit for public and private funding opportunities. Attract investors and connect the dots on the value proposition for innovators.</p> <p>Establish Maritime Innovation Fund for capital investment in innovation-based startups with a potential for high growth and job creation</p>	<p>Assist in securing funding Cluster organization is to build Blue Finance opportunities for the industry. MIC to offer its Capital and Financing Network services to help secure such funding.</p>	<p>MIC can offer: Professional Network & Relationship Support services (Capital and Financing Network)</p>
<p>Blue Facility</p> <p>The Maritime Innovation Center houses incubation, acceleration, co-working, and public meeting space. It acts as a hub to the many spokes in rural maritime communities across the state.</p>	<p>Maritime Innovation Center MIC to house co working space, incubation and support commercialization of technology</p>	<p>MIC can offer: ALL services</p>

Figure 11: Aligning Maritime Blue & MIC's services

Appendix 5: A Glance at other Maritime Innovation Centers

Various ports and regions worldwide are focusing on promoting ocean technology innovations and entrepreneurship in ways that fit their own unique set of circumstances. A few of these accomplishments are highlighted below to provide Port of Seattle with options to build a network with other innovation centers globally and learn from them. It is invaluable to see what other companies and Port districts are doing to advance maritime innovation because it enables Port leaders to forge productive relationships with other maritime innovators and to focus on their models to advance The Maritime Innovation Center.

	Services Offered							
	Physical Facility	Event Space	In house Prototype Facilities	In house Testing Facilities	Professional Network	Intern/Hiring Support	Workshops/Seminars	Funding/Equity
AltaSea	✓	✓	✓	✓			✓	✓
Wilhelmsen Maritime Innovation Lab					✓	✓	✓	
RDM Rotterdam	✓	✓	✓	✓	✓	✓	✓	
Port XL					✓		✓	✓
Coast Guard's Science and Technology Innovation Center	✓		✓	✓			✓	
New Lab	✓	✓	✓	✓	✓	✓	✓	✓
Center for Ocean Ventures and Entrepreneurship (COVE)	✓		✓	✓	✓	✓	✓	
Cambridge Innovation Center	✓	✓	✓		✓	✓	✓	
Co-Motion Labs	✓	✓	✓		✓	✓	✓	
Aqualyst, PureBlue					✓	✓	✓	✓
Katapult Ocean Accelerator					✓	✓	✓	✓
Cascadia Clean Tech Accelerator					✓	✓	✓	✓

Figure 12: Overview of services offered by Innovation Centers and Accelerators globally

1.1.4 AltaSea- Los Angeles, CA



Structure

Public/Private Partnership between the Port of Los Angeles and Alta Sea with a 50-year lease.

Facility

AltaSea is creating an urban, ocean-based campus at the Port of Los Angeles. The 35-acre waterfront site that includes space for a planned Engagement Center or Event Space, Science Hub for classes and education providers, and a Research Hub and Business Incubator (~10,000 sq.ft). The campus will initially focus on with space available to start-ups as well as large companies that want to locate adjacent to the water.

Services

AltaSea brings together challenges from 3 hubs; Science, Business & Education to generate innovative solutions to global challenges.

It allows for combined research, co-working/incubator, education, and public event space. AltaSea is focused on aquaculture and BlueTech sectors, including remotely operated vehicles (ROVs), autonomous underwater vehicles (AUVs), and autonomous surface vehicles (ASVs).

Costs

Port provides extensive rent credits in return for educational programming. Rent credits lower the cost for tenants, which would pay:

- \$9/SF/Yr for incubator tenants
- \$18/SF/Yr for medium-sized tenants
- \$22/SF/Yr for large-sized tenants

1.1.5 Wilhelmsen Maritime Innovation Lab- Norway

Structure

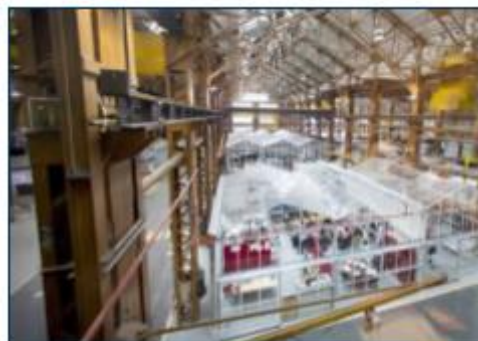
Wilhelmsen established a Maritime Innovation Lab, which is a unique collaboration between partners, startups and ventures within maritime. It provides a community of members with an innovative space where they can connect, share and build tomorrow's solutions.

Services

Startups accepted into the lab will be provided office space, and access to skills and experience both in the Wilhelmsen global network and from global companies like Aker BP, and the Kongsberg Group. Startups will also get to pitch their products to industry experts at regular demo days.

Wilhelmsen and Ivaldi Group are collaborating to explore in-port 3D printing opportunities for marine products and parts.

1.1.6 RDM Rotterdam- Rotterdam, The Netherlands



Structure

Supported with funding from the European Commission, the Port of Rotterdam, and other sponsors.

RDM is part of Rotterdam University of Applied Science Education and the Albeda College for vocational education giving access to over 38,000 students spaced all over the city. RDM pulls university talent from across the city around specific projects (they have no permanent faculty at RDM). University requires student thesis so be in conjunction with a private company. This gives university students practical experience embedded throughout their 4-year program.

Facility

Converted from a defunct shipyard into a new interdisciplinary space. Co-located with a senior secondary vocational school and a higher professional educational program.

Services

Focused on maritime technologies and other ocean related verticals including innovative housing concepts over water and design.

Business Space: The tenants company becomes part of an enterprising network of start-ups and R&D branches of established multinationals

Office Space: Former Shipyard of the Rotterdamsche Droogdok Maatschappij used as office space

Prototype and Testing Facilities: RDM has a variety of modern and hi-tech equipment available to outside parties for both short- and long-term projects

Partnership with the Educational Sector: Internships and practical assignments

Event Space: RDM Rotterdam offers its facility for events.

Costs

Almost all universities are public, and every university costs the same (\$200 Euros/year)

Port owns facility and doesn't charge for common spaces

- Goal – gets kids into maritime jobs with the skills needed for success (ex. train in IT for maritime employers)

1.1.7 Port XL- Rotterdam, The Netherlands

PORTXL
World's 1st Port & Maritime Accelerator



Structure

“World’s first Port Accelerator,” spun out of the Port of Rotterdam, runs as an independent accelerator. It is supported by private industry and the Port of Rotterdam. Port XL is global – they have 11 employees with two in Antwerp, five in Singapore, and 4 in Rotterdam.

Services

Port XL scans the world each year scouting for promising maritime start-ups. In the months leading up to their annual acceleration initiative staff will do research on hundreds of emerging firms targeting those with most potential in the maritime industry. Port XL uses private sector sponsors to screen the most promising firms down to 20-25 start-ups who participate in their “Selection Day” evaluation process where 10-15 companies are selected for the accelerator program.

Selected start-ups then go through an intensive 3-month program to build and launch their business. At a final event called Shakedown, start-ups showcase their innovations and progress. Highlights include:

- Start-ups must provide 8% stock or \$150,000 Euro
- 14 Corporate sponsors put in \$50,000 with gold sponsors paying more – they effectively pay for everything
- Port of Rotterdam sponsors Port XL to identify firms and technologies they need
- XL staff makes cut from 1000 suspects to 200 promising ventures before they bring the sponsors in to evaluate these enterprises and further reduce the field to 20-25 candidate firms
- Participating start-ups get contract with one of the sponsors (provides early cashflow)

- Port XL has facilitated 84 contracts on behalf of 36 accelerator clients.

Costs

In return for the program and the cash, the start ups have two deals they can sign with PortXL:

The equity deal: Start-ups give away 8% of the shares to PortXL Furthermore, there is an anti-dilution clause that is capped at Euro 4million.

The convertible note: The start-up accepts to pay back Euro 115,000. - plus interest to PortXL after 4 years. When the start-ups wish to convert, PortXL will receive 8% of the shares. When PortXL wishes to convert, PortXL gets 4% of the shares. In both cases the loan will be cancelled.

1.1.8 US Coast Guard Science and Technology Innovation Center- New London, Connecticut



Structure

It is a collaborative effort between The Coast Guard Research and Development Center (RDC) and the Department of Homeland Security (DHS) Science and Technology. The Center has adopted a joint staffing approach recommended by a Memorandum of Understanding between the DHS Science & Technology Deputy Under Secretary and the Coast Guard Deputy Commandant for Mission Support.

Facility

Under this approach, RDC will provide the Center with physical space, and its team will consist of dedicated RDC full-time members, as well as experts from across DHS, Coast Guard operations, and other government agencies, who will join the team to work on specific projects for varying durations.

Services

The Center is dedicated to the leveraging of innovation, prototyping, and the rapid integration of high technology readiness solutions to operational challenges. It is focused on speeding access to technologies that will help Coast Guard and Department of Homeland Security (DHS) operators in the field complete their mission more effectively and efficiently.

The Center will develop risk-reducing prototypes, conduct maritime demonstrations, and run field experiments of technology systems to address enterprise-wide DHS and Coast Guard capability needs to counter emerging threats.

In addition to prototyping, the Center will also perform rapid triage to determine which needs take highest priority and which can be addressed—at least temporarily—with existing off-the-shelf solutions. The speed at which technology penetrates the market continues to accelerate, and the Center will allow the Coast Guard and DHS to capitalize on that speed, putting technology to work to counter potential threats as quickly as possible.

1.1.9 Cambridge Innovation Center



Structure

The Cambridge Innovation Center (CIC) is designed to be a well-connected home for entrepreneurs. Despite its name, CIC has expanded beyond its Cambridge roots and now has campuses in Boston, Cambridge, Miami, Philadelphia, Providence, Rotterdam and St. Louis. Founded out of Cambridge, Massachusetts in 1999 as Cambridge Incubator, the organization was originally more of a startup accelerator. But in 2001 the company shifted focus to become a shared working space for technology startups and changed its name to the Cambridge Innovation Center.

Services

CIC provides high-quality, flexible office and coworking spaces, as well as stocked community kitchens, unmetered access to conference rooms, enterprise-grade internet services, printing and copying, phones, high-end furniture, operational and technical support, concierge services, perks and wellness offerings, and much more.

Clients have access to hundreds of diverse entrepreneurs, service providers, investors, and mentors, while CIC-supported events draw thousands of innovators from across the global startup community to CIC.

They also have wet and prep chemical and biological laboratory space which ranges from 500–2,000 sq. ft. and can accommodate teams of two to ten people or more.

1.1.10 New Lab—Brooklyn Navy Yard, Brooklyn, NY



Structure

New York City Economic Development Corporation funded \$2.5 million to the private, for-profit company New Lab to operate the center for five years. Also includes corporate sponsors and a mix of startup and mature companies that pay rent

Facility

Converted 84,000 square feet from an old Navy Yard in Brooklyn into an urban innovation space.

Services

Community: New Lab's member community includes over 600 entrepreneurs, engineers, designers and technologists, as well as a wider network of city, corporate, and venture stakeholders.

Workshops & Programming: New Lab offers specialized programming including workshops, skill-based classes, networking events, and consultations with domain experts on topics ranging from navigating patent law to crowdfunding strategies.

Investment Opportunities: To date, New Lab has helped its member companies raise over \$450M in capital from 270+ investment partners, with over \$350M of successful exits and a current collective valuation of \$1.7B. In addition, New Lab has its own venture arm, which invests in select member companies and provides guidance through the fundraising process.

Pilot & Partnership Opportunities: New Lab's enterprise partnership programs facilitate opportunities for select members to engage with Fortune 500 companies through a defined methodology including workshops, product development sprints, and co-creation studios.

Intellectual Property: All member companies own and retain IP created or brought into the space.

Prototyping Labs: Onsite prototyping labs are an essential feature of New Lab's hardware-oriented support and mission. Managed and maintained by New Lab's specialized staff, each shop contains state-of-the-art equipment designed to facilitate product development workflow, from design to working prototype. The product realization staff also offers a modular curriculum in prototyping skills, full-service fabrication and free consultations. The site houses a 3D printing lab, laser cutters, wood and metal shops, a fabrication shop, an electronics shop, and casting and finishing equipment.

Source: <https://newlab.com/>

1.1.11 Center for Ocean Ventures and Entrepreneurship (COVE)—Halifax, Nova Scotia



Structure

The Centre for Ocean Ventures & Entrepreneurship (COVE) is a collaborative facility for applied innovation in the ocean sector. Located in what was once the Canadian Coast Guard facility on Halifax Harbour, this hub is home to local and global ocean technology businesses, post-secondary institutions, researchers, and marine-based and service businesses that support the ocean sector.

Facility

The COVE site features extensive marine facilities with two large, deep-water piers, office space, an incubator and space for shops and labs.

Key Stats:

- An 8-acre site, with a 13-acre water lot
- 2,850 feet of docks & 2 finger piers
- A water depth of 49 feet
- 16,000 square feet of office space
- 10,000 square feet of incubation space
- 16,500 square feet of shop and lab space

Services

The amenities available to tenants of COVE include electronics fabrication and testing facilities, mechanical fabrication space, office space, storage spaces, waterside marine services and shared services such as reception and a large multipurpose room for training and events.

Members have access to shared equipment and infrastructure, and the resources of the management team to nurture partnerships in forming technology leadership projects. As well, with initiatives and a site designed to encourage formal and informal networking, COVE members can connect with the people, companies, and opportunities essential to grow their business.

The advances that are developed through COVE will have practical, commercial and revolutionary applications in ocean tech. There is a global need for ocean tech solutions. The impact of what happens at COVE has local, provincial, national and international significance.

Source: <https://coveocean.com/>

1.1.12 Co-Motion Labs—Seattle, WA



Structure

CoMotion Labs, part of CoMotion, provides a multi-industry labs system hosting startups inside and outside the UW community in IT, Engineering, Life Sciences, Medical Devices, Clean Tech and AR/VR. They average between 60 to 90 startups in the incubators at any given time. Their startups range from pre-seed to Series A, employing 2 to 15 people each, and are variously headed by students, faculty, and community leaders, with both new and seasoned entrepreneurs represented. CoMotion Labs removes barriers and increases connections to ensure our startups' optimal success in taking their innovations to impact.

Facility

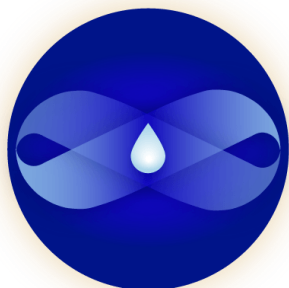
- Healthcare, Biotech, CleanTech, Engineering, and Hardware industries
 - Fluke Hall: 22 Startups, 29 desks, 8 private offices, 3 large closed offices, 24 lab benches, 8 lab rooms, Event Space for 75+
- Augmented and Virtual Reality industries
 - HQ: 20 Startups, 55 desks, 3 conference rooms, 2 mixed reality labs, Event Space for 150+, Community Kitchen
- IT and Software industries
 - Startup Hall: 26 Startups, 66 desks, 6 conference rooms, Event Space for 100+, Community kitchen
- IT, Software, Engineering, Health IT
 - Spokane: Startups, Event Space for 40+, Virtual Incubator program serving eastern Washington, providing connections to resources and networks in Seattle

Services

At CoMotion Labs, they partner with companies when the idea is in the pre-seed stage and stay all the way up to your scale up. There is office space, meeting rooms, as well as chemistry, biology, engineering, augmented and virtual reality labs. As part of the University of Washington, there is also access to thousands of first-rate minds doing cutting-edge research in hundreds of fields.

There is also access into Seattle's thriving innovation community with CEO roundtables, CoMotion Advisory Network and free workshops on everything from customer development to financing. They operate on a sustainability model, instead of a profit model.

1.1.13 Aqualyst PureBlue—Seattle, WA



Structure

PureBlue's Aqualyst is a business and technology catalyst that provides customized services to accelerate, commercialize, and scale high-impact water technologies and businesses. They have selected a trusted network of advisors, investors, and resources to drive water tech business development in the Pacific Northwest (WA, OR, ID, MT, BC, Alberta) and nationally.

Services

The program helps early to mid-stage water companies expand pilots, sales, licensing and/or an exit with less capital, time, energy and risk.

Aqualyst provides a network of resources that serve as a living laboratory for innovative water solutions to be developed, piloted and implemented in and around Puget Sound, Washington and abroad through PureBlue partners.

Aqualyst's core 14-week program, is a unique blend of in-person and virtual collaboration, during which each company collaborates with industry pioneers who continue to provide strategic advice for at least a year after the program. The core-program also features each company at WEFTEC, the world's largest water exhibition. Aqualyst alumni also have access to ongoing strategic support from Aqualyst and PureBlue's team.

Cost

There is no overhead cost for participating in Aqualyst however the company takes an equity of about 7% in exchange for funding up to 5 start ups per year.

Source: <https://www.f6s.com/aqualyst/about>

1.1.14 Katapult Ocean Accelerator- Norway



Structure

- Katapult finds, invest in and scale start-ups with positive impact on the ocean through the Katapult Ocean Accelerator and fund.
- They build a global ecosystem of start-ups, corporates, organizations, research institutions and thought leaders.
- They create awareness through sharing success stories, participating at events and through the Katapult Ocean Prize.
- Focus areas are Exponential technology, positive impact, energy, transportation, ocean health, harvesting and new frontiers.

Services

A 3-month intense program with a focus on growth, investor readiness, leadership development, exponential tech and introductions to the Norwegian and global ocean tech ecosystem. The sectors covered are transportation, ocean health, harvesting, energy and new frontiers. An intense accelerator program tailored to ocean impact tech

- Hands-on mentorship from top global subject matter experts, serial entrepreneurs, business leaders and investors
- Access to pilot customers, test environments and real data
- Investment in the company as well as access to further capital and investors to support the company
- Global network and program partners focused on entry and scaling in the US and Asia

Cost

The applicant will receive \$150,000 USD investment into their company as part of the program in exchange for 8% equity. There is a \$50K program fee that will be deducted from their investment.

Source: <https://katapultocean.com/>

1.1.15 WA Clean Tech Alliance – Cascadia Clean Tech Accelerator



Structure

Cascadia CleanTech Accelerator is a business accelerator program powered by the CleanTech Alliance and VertueLab (formerly Oregon BEST). The 15-week program delivers mentorship, curriculum, connections and funding opportunities designed specifically for early-stage cleantech startups.

Services

Powered by CleanTech Alliance and VertueLab, each Cascadia CleanTech startup receives:

- **Mentorship:** Match with cleantech industry mentors who have expertise tailored to your business needs. Mentors help with business planning, intellectual property protection, marketing, financing and more.
- **Connections that make a difference:** The CleanTech Alliance and VertueLab networks provide access to businesses, utilities, service providers and investors from across the region.
- **Hands-on business and financing workshops:** The workshops assist with business model creation, product development, market development and funding strategies.
- **Customer discovery assistance:** Connecting with potential partners and customers to sharpen a minimally viable product and go-to-market strategy.
- **Visibility for your company and brand:** Established CleanTech Alliance and VertueLab industry events, programs and marketing outreach provide top-level visibility with a targeted audience.
- **Compete for non-dilutive funding:** Accelerator teams will compete for cash (three prizes totaling \$10,000 or more), in-kind prizes, and up to \$25,000 for prototyping or proof of concept projects.
- **Specialized cleantech skill-building:** The curriculum is designed uniquely for cleantech companies, with lessons on cleantech funding pathways, manufacturing, and planning and marketing sustainability.
- **New Modules:** Accelerator is offering 2 new modules to the curriculum: Introduction to Manufacturing, and Sustainability.

Cost

Participation fees are \$775 per team and include:

- *Full accelerator program participation for all members of your company.*
- Two passes to the CleanTech Showcase in June.
- Two passes to VertueLab annual conference in September.
- Membership to the CleanTech Alliance.

Source: <https://cascadiacleantech.org/>

1.1.16 NYC Maritime Innovation Center (NYMIC)



Structure

Using its access to SUNY Research Foundation and other partners, NYMIC connects and catalyzes ideas from forward-thinking entrepreneurs and industry experts to identify and solve problems with new technology solutions. NYMIC seeks to catalyze ideas with a meaningful impact on ships, ports, terminals and other land logistics activity.

Services


- To elevate the marine industry as an engine for innovation and technology that will move the world.
- Spur development and serve as a bridge between the Tech, Maritime, Logistics, and Finance communities to connect startups to maritime interests globally.
- With all the resources of the SUNY system at its disposal and operating under the auspices of SUNY Research Foundation, NYMIC is well-suited to host multiple events related to Maritime technology development in New York City.
- NYMIC provides events, small workshops/seminars, assistance to startups, access and connections to customers, investors, and the maritime industry.
- Helps connect early stage start-ups to the right mentors, bootcamps and accelerators.
- Provides mentorship and guidance to developers and entrepreneurs to generate the future of the maritime sector.
- VC's and maritime industry experience are combined with global companies to form an unparalleled network.

1.1.17 Iceland Ocean Cluster House- Iceland



Structure

Iceland Ocean Cluster started as a project at the University of Iceland but is now a full running company which facilitates networking opportunities for ocean related industries in Iceland and worldwide. Its partners consist of leaders in well established, as well as cutting edge firms in ocean related industries. The Iceland Ocean Cluster is located by the old harbor in the Ocean Cluster House at Grandagardur 16,



101 Reykjavík along with 60 other companies working in the marine industry. The role of the Iceland Ocean Cluster is to connect people and businesses in the marine industry. Through stronger networks and cooperation new opportunities for business and innovation arise

Services

- **Networking:** They operate a powerful cooperation platform (business cluster) with select member businesses. Membership provides businesses with opportunities to interact closely with the industry, partake in events, global projects, new projects and spin-off business development.
- **Incubation:** The Ocean Cluster House operates in Reykjavík, home to entrepreneurs, startups and growing businesses in the marine industry. They also assist new businesses by offering business plan advice, helping them expand their networks and connecting them to investors.
- **Research:** Their business experts and economists use a business-oriented approach to gather data, harnessing its relevance and using it to create insights and guidance. The research has focused on seafood, byproduct utilization, marine biotech and other marine industries.
- **Consulting:** Building on deep industry insights, practical experience, knowledge of emerging trends, threats and opportunities our expert team delivers high quality analysis, findings and recommendations to marine businesses, startups and institutions.
- **Speaking:** Their team regularly speaks at industry events globally. We provide an original, motivational and engaging story to audiences interested in emerging marine trends, harnessing networks to create value, new seafood utilization methods, marine biotech and the future of seafood.
- **Tours:** IOC helps people and businesses in getting to know the Icelandic marine industries. They facilitate networking for foreign businesses in Iceland and organize group tours focusing on the uniqueness of the Icelandic seafood and marine industries.