Driving BlueTech Innovation: San Diego's Stakeholder-Centric Approach to Building Regional Ecosystems

Presented by:
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Delawarde Consulting focuses on growth strategies for organizations that touch ocean, water and the environment.

About Chris Ward



Technical Experience

- B.S. Physics University of Delaware
- NOAA Commissioned Officer (8 years)
  - Served on Hydrographic Survey ship RAINIER, qualified 3rd mate
  - Tide & current monitoring operations
  - Coastal Ocean Program Support

Commercial Experience

- Sales/marketing/general management SonTek, YSI & Aanderaa (12 yrs)
- VP of Strategy and Business Development for Xylem Analytics (6 yrs)
- **Principal Consultant, Delawarde Consulting (7 yrs)**
- **Executive in Residence at StartBlue UC San Diego (3 yrs)**







Presentation Outline

- Introduction
- Part I) The San Diego Case Study for regional Bluetech Innovation
- Part II) The Outreach process for honing a regional BlueTech Innovation program
- Closing thoughts

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Part I:
San Diego as a Case Study for Bluetech Innovation Programs





- 1.4 M population; 2nd largest city in California; 8th largest in US
- Rated #1 for concentration of military & defense assets
- Thriving tourism industry; millions of visitors annually
- Rated #4 for top life/biosciences location in 2015
- Culturally diverse; over 100 languages spoken
- Host of US Olympic Training Center
- Thriving sports and active lifestyle
- Robust startup ecosystem ~80 accelerator programs and incubators



San Diego & Bluetech

Recent report highlights San Diego as having one of the greatest concentrations of enterprise devoted to maritime science and technology in the world.

- In 2020, San Diego had 4,320 maritime, water, and BlueTech business establishments
- Generated $16.2B USD in economic impact
- Generated $36.6B USD considering multipliers
- Employs 146,000 people (9% of workforce)
- Employs 24,000 specific to BlueTech



Starting down the path of creating a cooperative Innovation ecosystem for Bluetech in San Diego

- Understand that this is a highly fragmented space with hundred if not thousands of players
- Consider the Context of the Triple Helix of Industry |Academia | Government
- Define meaning of “Bluetech” as appropriate for your region
- Find the handful of main players with commitment. Better if they carry brand recognition
  - Squarely focused 100% on Bluetech as local definition warrants
  - Sincere holistic interest. Long track record of commitment
  - Demonstrated ability to work with external organizations
- In San Diego’s case, the handful was:
  - **The Port of San Diego**
  - **Scripps Institute of Oceanography**
  - **TMA Bluetech**

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Just Some of San Diego's Bluetech Assets . .

UC San Diego | Scripps Institution of Oceanography

Port of San Diego — Waterfront of Opportunity

TMA BlueTech (Industry Cluster)

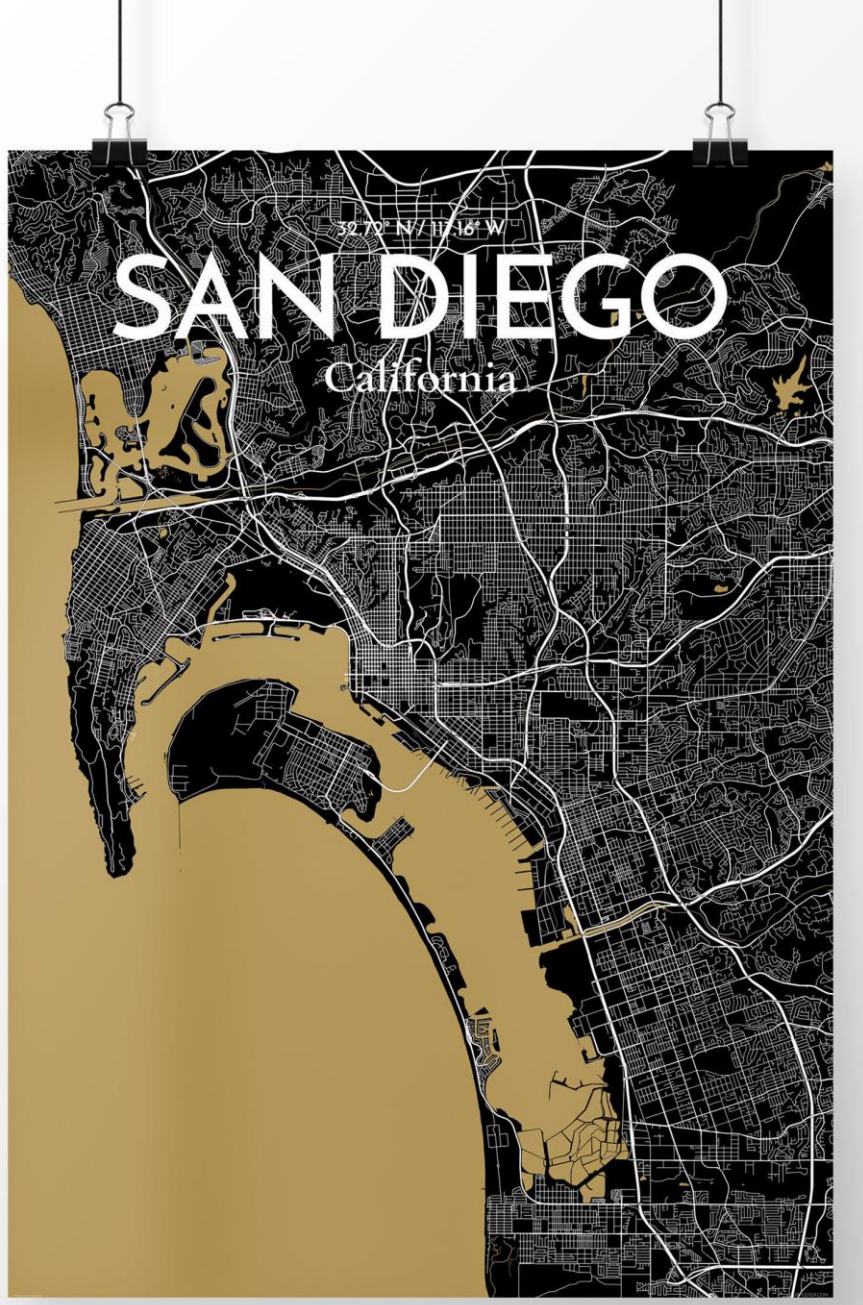
US Coast Guard Bluetech Center of Excellence

Hubbs Sea World Research Institute

SW Fisheries Science Center

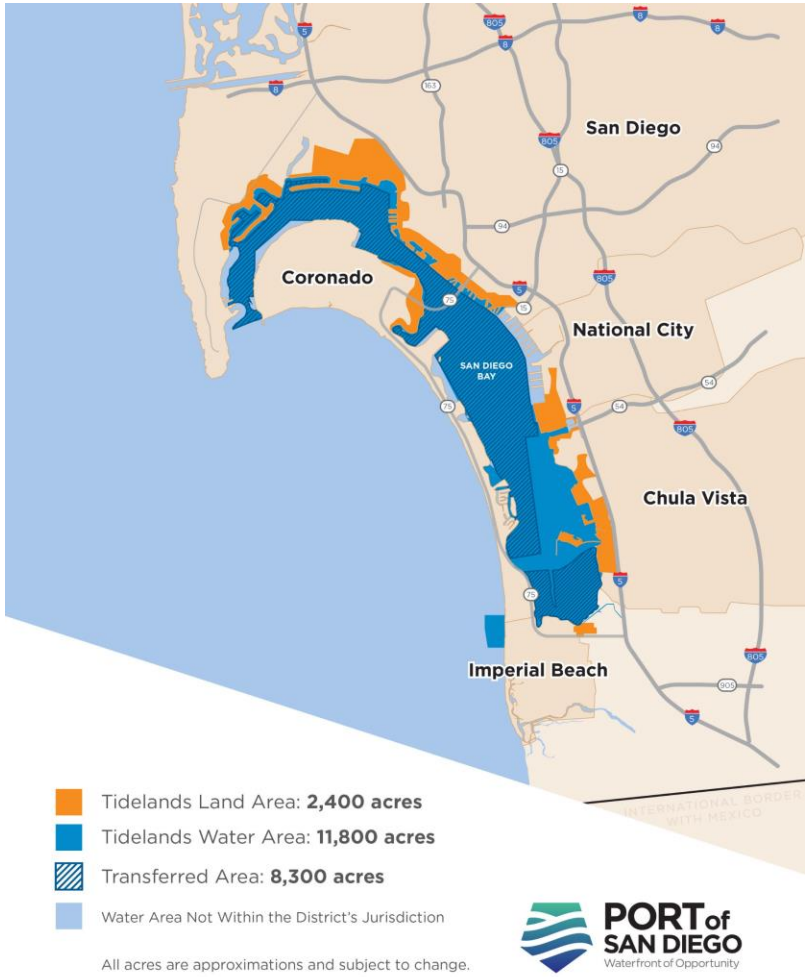
Naval Station San Diego

Naval Information Warfare Systems



Port of San Diego “Blue Economy Incubator”

- Port’s commitment to promote the development of a sustainable ocean economy
- Est 2016 and designed to remove barriers to early-stage companies and provide pilot project facilitation services
    - Funding
    - Key assets
    - Support services
    - Permitting assistance
    - SMEs
    - PR and media
    - Support to leverage other grants and investment
- Through pilot project facilitation, the BEI creates synergies with, and is informing, other Port environmental initiatives from coastal resilience and environmental protection



Port of San Diego "Blue Economy Incubator"

PORT of SAN DIEGO
Waterfront of Opportunity

To date, the Port Blue Economy Portfolio includes ten pilot projects including resilient shoreline infrastructure, shellfish and seaweed aquaculture, smart buoy technology and water and sediment remediation technologies. Through its BEI, the Port is seeking innovation opportunities that align with the Port Blue Economy priorities from coastal resiliency and environmental protection to decarbonization and nature-based solutions.



Innovation Opportunities

- Coastal Resiliency & Monitoring
- Environmental Protection & Remediation
- Maritime Decarbonization
- Nature Based Solutions
- Ocean Data
- Shellfish and Seaweed Aquaculture

Our impact in Numbers

$1.95 MILLION in funding to support the launch of sustainable aquaculture and blue tech pilot projects

Over 30 PARTNERSHIPS created as part of the BEI growth strategy

330+ INQUIRIES received from organizations seeking partnership and pilot project opportunities

500+ pounds of edible seaweed produced weekly by Sunken Seaweed's Humboldt shoreside tumble culture farm

$5.4 MILLION investment leveraged by Blue Economy Incubator Companies

$2.5 MILLION research and development funds leveraged by Blue Economy Incubator companies

44+ MILLION Impressions from local, national and global media coverage around BEI innovation and investment

5 Smart Buoy technology to be deployed across San Diego Bay, demonstrating real-time ocean monitoring platform developed by HyperKelp

10 innovative pilot projects supported through a port-wide collaboration process

20 MILLION juvenile-stage oysters expected to be produced annually when San Diego Bay Aquaculture's FLUPSY is fully permitted and operating at full capacity

$172,000 in royalty payments that can be re-invested in supporting new pilot projects

50+ DIFFERENT SPECIES including sessile species, mobile invertebrates, fish, and algae – found living on ECOncrete's bio-enhancing shoreline protection armor units

In Summary, the "Blue economy Incubator" is

- **A unique offering of a Port-managed Accelerator program**
- **Has no physical space**
- **Built around specific functional and technical needs that the Port's expertise can help fulfil**

UC San Diego Scripps Institution of Oceanography's Startblue Accelerator

- Joint program between UC San Diego's Rady School of Management and Scripps Institution of Oceanography
- Goals:
  - Focus on needs of new business formation
  - Provide better access to non dilutive funding
  - Transition ventures to later stage resources
- startBlue's Core components:
  - Formal classroom training with entrepreneurship curriculum
  - Providing networking and connections to greater industry
  - Technical support/access to facilities
  - Curated industry mentorship
  - Facilitated access to fundraising
- Diversity, Equity, Inclusion, Justice, and accessibility at the core
- Not a physical incubator





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startR BLUE
UC San Diego · Rady School of Management
Scripps Institution of Oceanography

UC San Diego Scripps Institution of Oceanography's Startblue Accelerator

- Have hosted 22 startups via 3 Cohorts
- Helped raised over $10M
- Bluetech sectors represented:
  - Environmental monitoring /Mitigation: (8)
  - Marine Robotics: (4)
  - Ocean based food & Beverage: (4)
  - Marine Renewable energy: (2)
  - Costal Resilience/Habitat restoration: (2)
  - Ocean pollution Solutions: (2)
- Awarded Phase 1 NOAA Ocean-Based Climate Resilience Accelerator Grant; Awaiting Phase 2 decision on final Award (would greatly expand the program)



startBlue is supported by:

OCEAN VISIONS

BEYSTER FOUNDATION for Enterprise Development

Sea Grant California

BUILDERS INITIATIVE

startR BLUE
UC San Diego · Rady School of Management
Scripps Institution of Oceanography

TMA Bluetech

Vision

TMA BlueTech envisions a world where thriving ocean ecosystems coexist seamlessly with sustainable, science-backed ocean and water technologies.

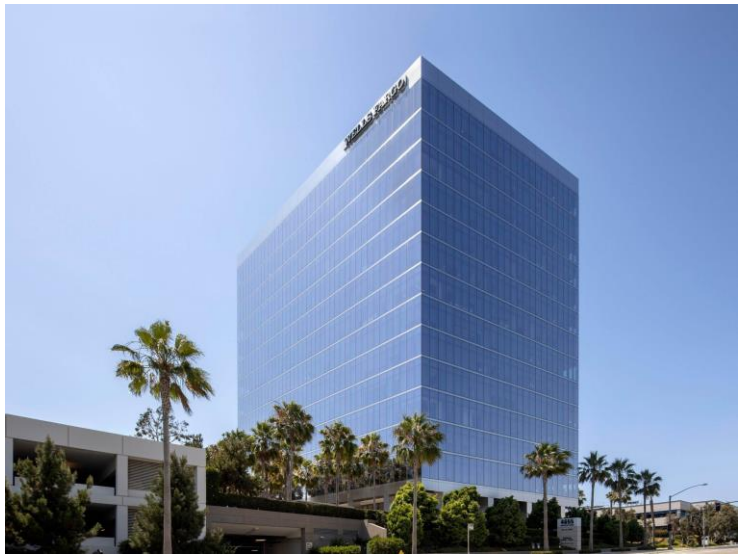
General Organizational Information

- Founded in 2007, TMA Bluetech is the first and largest ocean and water technologies cluster in the U.S.
- Mission is to advance sustainable ocean and water technologies by bringing together industry, academia, policymakers, and investors.
- Member-based organization focused on making connections to commercial opportunities, promoting the Blue Economy, and fostering workforce development.
- Members include companies, universities, and municipalities
- TMA works with the US Department of Commerce to facilitate international trade.
- Activities include organizing in-person and virtual events, international trade missions, site visits, demos, and roundtable discussions
- Host San Diego Bluetech week
- Manage the Bluetech incubator





TMA Bluetech's "Bluetech Incubator"



- Opened in 2018; generously loaned space from Dentons law firm
- Collaborative workspace in heart of San Diego's technology district
- 5 full offices, 2 hot desks, meeting rooms and community room
- Startups who are part of TMA Bluetech, StartBlue, or Port's Blue economy Incubator can participate
- Great example of community working together
- Hosted speakers/events by TMA Bluetech
- Managed by TMA Bluetech
- No formal programming



TMA BlueTech
Promoting BlueTech & Blue Jobs

大成 DENTONS

The City of SAN DIEGO

PORT of SAN DIEGO
Waterfront of Opportunity

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Part II)

The Outreach Process - A Tale of Two Cities . . .

Seattle (2017)

- State of Washington was developing the Washington Maritime Blue Initiative
- This initiative called for the creation of a Maritime Innovation Center
- Port of Seattle identified this as strategic and proposed to renovate a building located at the Fisherman's Terminal for this purpose
- Project goal was to develop the business plan for the proposed center and conduct outreach to evaluate interest in the project

Port of Seattle

TMA BlueTech
Promoting BlueTech & Blue Jobs

ECONorthwest
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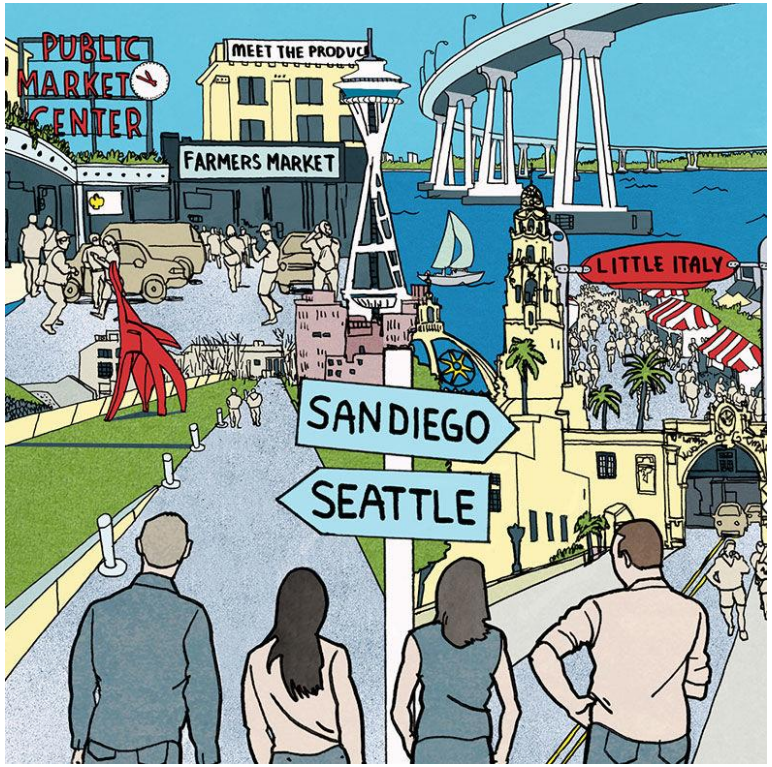

San Diego (2019)

- A "Blue Campus" inclusive of an aquarium, learning center, Ocean and Industry center is proposed as part of the redevelopment of Seaport San Diego
- UC San Diego led an 8-month process to explore the University's role in an ocean focused innovation Center
- The project goals included development of a provisional vision, mission, and business model for the Center informed by demand, alignment with University priorities, and financial feasibility.

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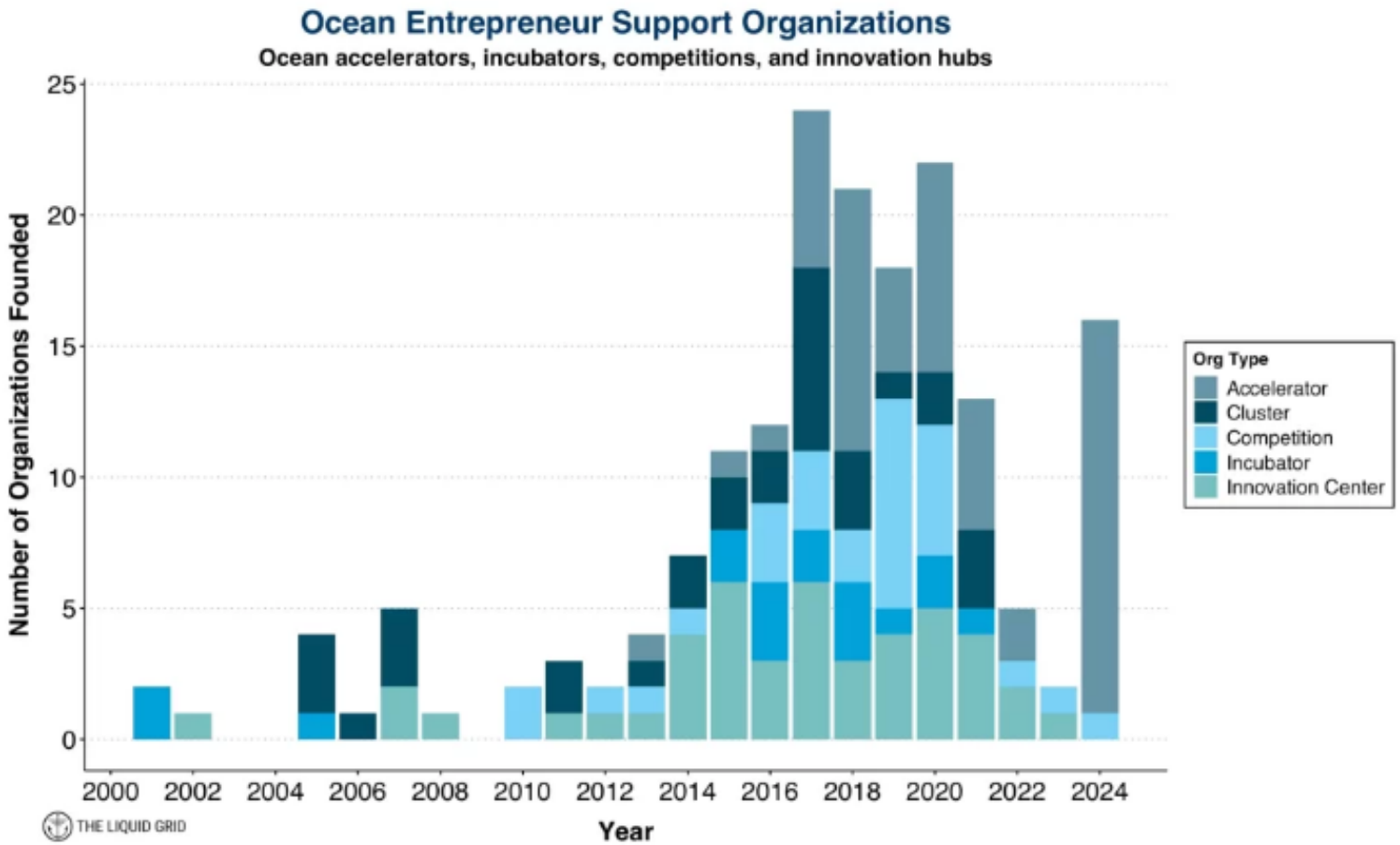
What was once a rarity. . .

. . . has now become quite fashionable?



Source: The Liquid Grid
https://theliquidgrid.com/many-ocean-startup-support-orgs/



What do you want yours to look like?

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Starting Point Zero . . .

. . . So you want to have "Blue" Innovation in your region?

How to differentiate while offering value & impact to your stakeholders

Who/What/Where/How/Why

What will it look like?

Who needs to support it?

Who will be the Collaborators?

What is the business model?

Who is the competition?

Where will it be located?

What physical assets are needed?

What are the present best practices?

How will there be "buy-in" from all parties?

Where will be draw participants from?

How will it be funded?

How will it be operated?

What will my collaborators think?

What are the program elements?

And. . . why are we doing this in the first place?

Suggestion: an Outreach program can help to inform the above for decision making

So you identified the important few, then what to do the extended “Alphabet Soup” of stakeholders in San Diego (this not even 10% of it. . .)



The Outreach Process

1) Start with a good information system: Contact Lists

- An overlooked necessity –not as easy as you think!
- Who are the important groups/sectors from whom we want to gain inputs?
- Sources: Team members assemble lists. Outreach to other nonprofits, etc. who might have lists we can use
- Cull through/segment/ de dupe/identify VIPs
- Helpful to have a CRM and a marketing automation tool

Seattle segments

- Direct stakeholders
- Entrepreneurial hosting and economic development organizations
- Private companies
- Institutional/investment

San Diego segments

- UC San Diego
- Programmatic organizations (educational, investment, clusters, nonprofits, etc)
- Private companies

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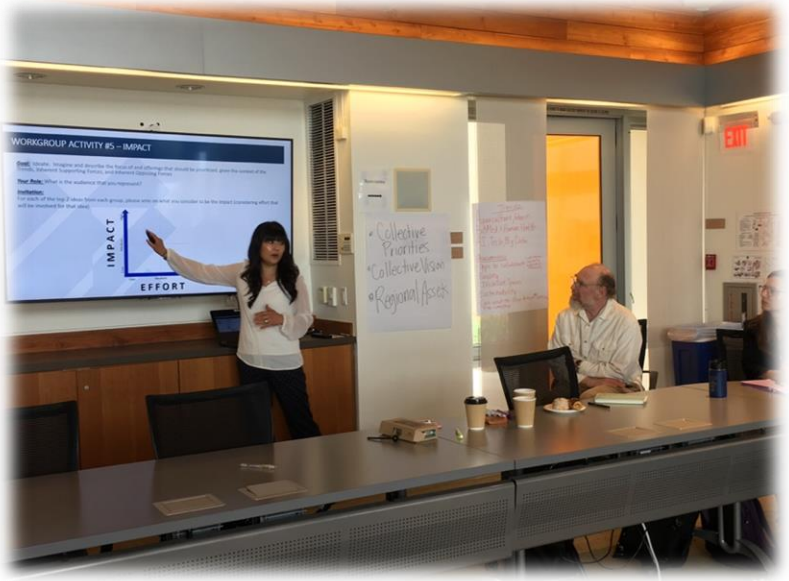
Step 2) In-region Workshops

- Key outcomes is to gain local consensus, buy-in and ideate.
- Use professional facilitator and SWT (Strength-Weakness-Trends) format
- Hold early in the process
- Aim for good functional and cross-sectional representation
- Hand selected and VIPs invited. You don't want key organizations to feel left out
- Try to drive group consensus over individual needs
- Ideate for design needs and inform the remainder of the process
- Inform personal interviews, email survey, and benchmarking





<u>Seattle</u>

Outreach workshops reaching over 75 people were held across the Puget Sound's diverse region in:

- Seattle
- Anacortes
- Port Hadlock
- Bremerton



<u>San Diego</u>

Two identically structured workshops were held at Scripps. The purpose of the sessions was to directly engage local stakeholders in a group setting to drive collective agreement across a diverse set of participants. A total of 32 people from 23 unique organizations attended the sessions.

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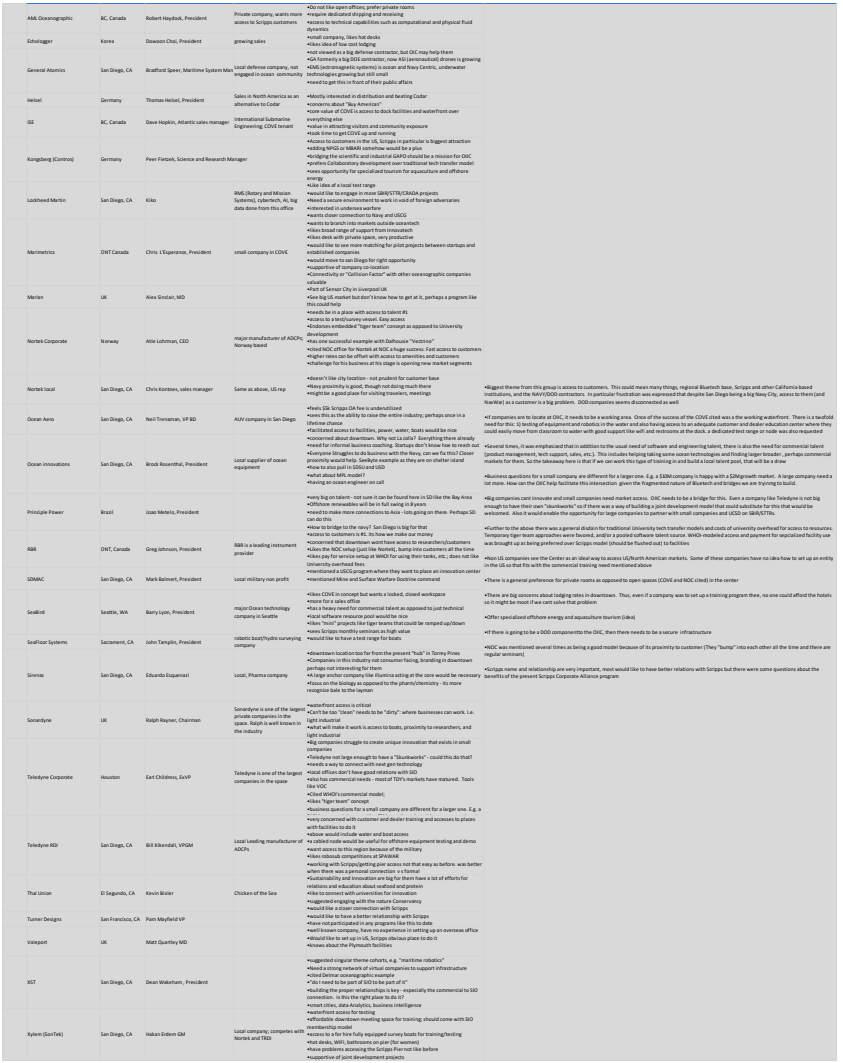
Step 3) Outreach Interviews

- Hand interviewees selected by team; gained rich qualitative data
- Time intensive(30-60 min each not including processing)
- Used a defined format but also let the conversation lead anywhere
- Great vehicle for getting more references and leads
- Best method to capture individual needs and concerns
- Utilize industry events to save time
- Data reduction process used the defined segments
- 82 interviews for San Diego; 30 for Seattle



Data Reduction Process

Interview sheet (OneNote) >
segmented Excel tab as shown>
Tiered major takeaways

4) Benchmarking

- All centers and programs are different and evolve out of unique often local needs
- Need to look for important considerations unique to your needs
- For San Diego: University-led, downtown urban location, research orientation parks; working waterfront
- For Seattle: renovation of a historic building in a revived trendy area, maritime orientation (fishing, ferries, etc)
- Other Bluetech Incubators
- Useful models from non maritime or ocean related programs

NEWLAB

NewLab (NY) was useful for Seattle as it had also involved renovation of a historic maritime building

NEWLAB—BROOKLYN NAVY YARD, BROOKLYN, NY

- Converted 84,000 square feet from an old Navy Yard in Brooklyn into an urban innovation space with prototyping, 3D printing, CNC machines, wood and metal shop with support staff.
- Inter-disciplinary focus on innovation and entrepreneurship, but no specific focus on maritime
- 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



Georgia Tech Center was useful for the San Diego project because it was university lead and in an urban downtown location

GA Tech Center (Atlanta, GA)



This is one of a small cohort of centers in the U.S. located in a downtown urban area. At "Technology Square," 40 companies are co-located within a few blocks with demand from additional companies for tenancy. To connect the Square to the university, the Georgia Tech business school relocated to the on-site research park. A causeway with the same campus "look and feel" connects Tech Square to the main campus. Focus areas of this center include AI, health, analytics, and digital energy. There is a GA Tech incubator supporting statewide objectives as well as a "Synergy1" startup hub.

Partial list . .

- PortXL
- AltaSea
- The Cove
- PureBlue
- SeaAhead
- SensorCity
- Bluetech Valley
- RDM Rotterdam
- UD STAR Campus
- BlueTech Incubator
- UW Co-Motion Labs
- CleanTech San Diego
- UW APL Collaboratory
- Marine Robotics Center
- BlueEconomy Incubator

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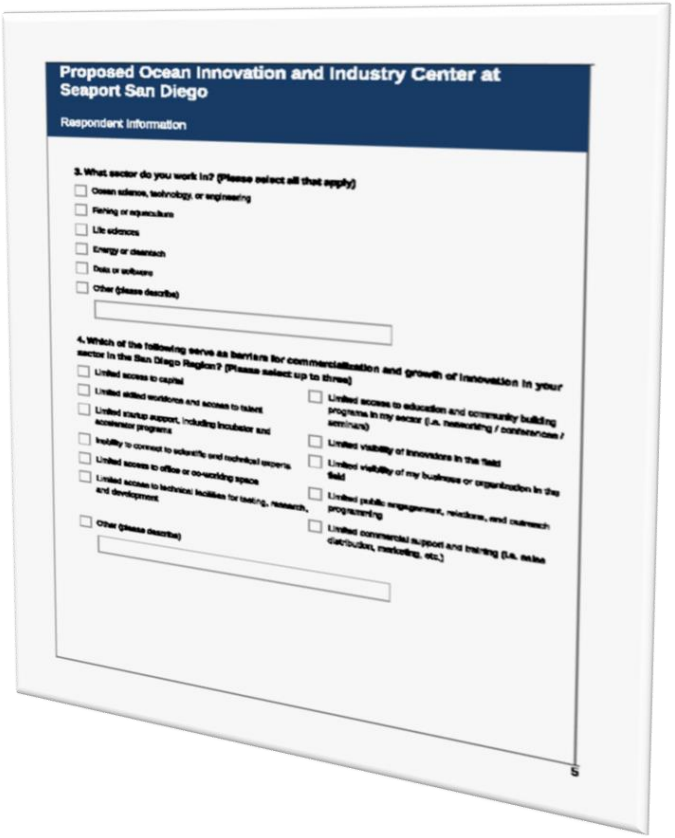
Step 5) Online Survey

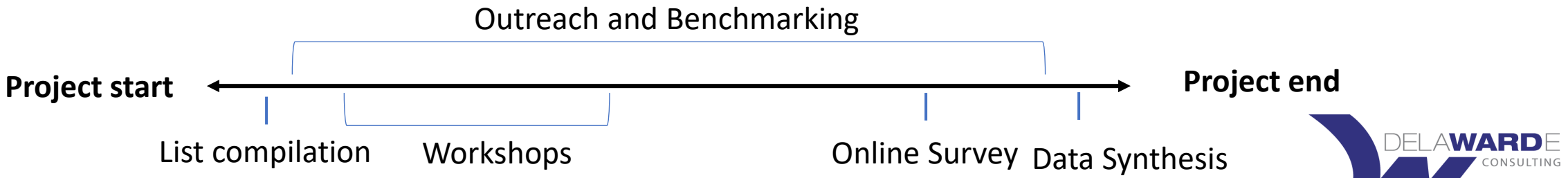
- Highly informed by workshop and interview results
- Used to confirm/deny assumptions
- Feedback can be captured form a broader and more diversified group
- Help to inform demand for the physical and programmatic offerings
- Questions can be individually targeted to certain groups or based on responses to previous questions
- Helps with quantifying size, needed space and other criteria
- Caution that results can be biased depending on sample/segment response
- Can provide unique and addition information not captured in other areas to circle back on
- Primary sponsor can leverage this quantified data
- Professional expertise in survey design and processing recommended



San Diego went out to 10,000 recipients, 410 back . Seattle numbers not c

6) Innovation Center Outreach Program Summary

Component	Description	Need fulfilled
1. Contact List Compilation and segmentation	Gathering lists from all relevant organizations that meet the defined target audience in the identified region	The basis for gathering appropriate information from the desired sources
2. Stakeholder Workshops	Series of local/regional events with up to 30 participants	Inform vision and mission, gain consensus amongst important group; ideate for content in other outreach components
3. Outreach Interviews	Personal interviews done over the phone or ideally in person in VOC style. Gain rich, qualitative information	Identify individual stakeholder needs. Look for commonality with Center expectations
4. Benchmarking	Done in conjunction with Interviews. Line of question goes into more detail about operational model, etc.	Business models, avoid duplication; learn best practices
5. Online survey	Logic-rules online Survey using Survey Monkey or equivalent	Get specific information, quantitative
6. Data Reduction & Synthesis	Taking all the data gained from above and condensing it to meaningful salient points	Situational analysis

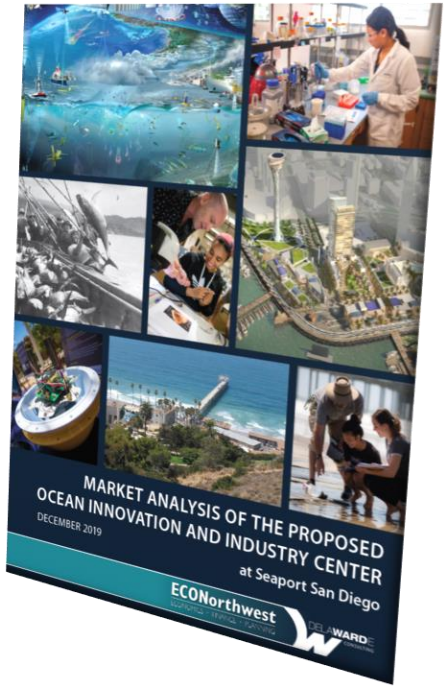


The results



The Seattle Report is publicly available online at:

https://www.portseattle.org/sites/default/files/2020-05/The%20Economic%20Case%20for%20the%20Maritime%20Center%20at%20Fishermen%E2%80%99s%20Terminal%20%282018%29.pdf



The San Diego Report is property of UC San Diego and the project is still under negotiation. For more information, please contact:

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Outreach Process Tips

- Think like a Village
- Put egos aside – no one cares, we are all on the same team
- Industry competitors can collaborate !
- Define and know your niche, define “Bluetech”
- Your locality has a brand name (s) – refine, use and leverage it
- Involving the other main players via a stakeholder process most critical. “they can say they were involved and trace their input”. There is social and emotional value gained

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Closing Thoughts

- A stakeholder outreach process is crucial to gaining better understanding and buy-in from stakeholders and potential participants
- In both efforts, the stakeholder outreach was the key activity that fed the economic analysis leading to the decision-making process
- A mix of workshops, personal interviews and online surveys is highly useful in collecting the necessary data. Balance them in accordance with project needs
- Benchmarking is useful for examining best practices to help avoid duplication of effort
- The outcome is not as important as the process

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