CONNECT

COVE

Issue No. 2 / SPRING 2024

Strengthening Global Sector Expertise Through International Partnerships

Increased US-Canada Collaboration is Needed to Create a Strong Marine Innovation Corridor

COVE Becomes an Accelerator for NATO DIANA

Where ideas become solutions, technologies become ventures, and opportunities become careers.

We connect people, ideas, resources, and assets to propel solutions and sustainable growth for Canada's marine sector. Through our programs and services, we develop a skilled workforce, test solutions, and accelerate venture growth.

60+
Companies On-Site

400+
Organizations Worldwide

5,000*
People engaged with COVE

* Average number of people who engaged with COVE programs and services in 2023.

CONTENTS

INTERNATIONAL IMPACT

Strengthening Global Sector Expertise Through International Partnerships

COVE has developed a strong partnership with Germany that brings together leading marine technology innovators within our ecosystems to deepen global sector expertise by sharing ideas for new technology creation and adoption while working alongside industry experts, research institutions, and government.

In August of 2021, COVE and the German Government, along with the Norwegian Government, signed a Memorandum of Understanding (MOU) to strengthen capabilities in commercializing new technologies and create opportunities for collaboration focused on innovation and growth. Since then, especially throughout 2023, COVE and Germany continued building strong ties and jointly participated in industry growth initiatives.

In June 2023, the CEO of COVE and the Minister for Science, Culture, Federal and European Affairs of the State of Mecklenburg-Vorpommern, Germany, signed an extension of the 2021 MOU to continue our partnership while accelerating innovation with German marine technology leaders and growing a robust workforce.

Early career professionals in the COVE community travelled to Germany in September 2023 to share knowledge and expertise with their international counterparts. Representatives from COVE, Centre for Marine Applied Research, LeeWay Marine, Dartmouth Ocean Technologies Inc., and Irving Shipbuilding Inc. attended Rostock's Ocean Technology (RoOT) Summer School, a two-week course based in and around the Ocean Technology Campus (OTC) in Rostock Germany.

COVE returned to Germany in November 2023 when senior staff attended the Rostock Ocean Convention to connect with members of the global marine technology sector. As part of the convention, COVE co-hosted a networking reception at the local Chamber of Commerce and participated in meetings related to defence innovation and industry-led innovation processes for the marine economy. COVE had the opportunity to grow connections with international organizations such as Fraunhofer, Europe's largest application-oriented research organization with 76 institutes spread throughout Germany, each focusing on different fields of applied science, as well as connect with and hear presentations from the Canadian delegates present.

COVE looks forward to continued collaboration with the German industry and government as we advance with future participation in marine sector events, workforce initiatives, and innovative ideas that strengthen the marine economy.

2024 Ocean ScaleUp Accelerator Program

COVE has partnered with Innovate UK for the Global Incubator Program, which provides the opportunity for eight innovative, high-growth, and scaling businesses to build long-term relationships with a world-leading innovation hub in Canada.

The six-month program allows businesses to scale in Canada, secure opportunities, and receive assistance finding and recruiting local skilled workers. Being a part of COVE gives the cohort access to potential partnerships and amenities, and they will return in June for the H20 Conference and COVE Demo Day.

In 2023, following the program, two companies (Max Nicholas Renewables and Hexsor Scientific) established R&D partnerships with NSCC's Applied Labs to further their technology in the Atlantic region. The inaugural Ocean ScaleUp Accelerator program received positive feedback about program management, industry connections and continuous support. About half of the cohort has registered or is registering their business in Nova Scotia.

In 2024, COVE welcomed the second cohort of eight technology companies for the launch of the 2024 Ocean ScaleUp Accelerator Program. The cohort includes a fresh breath of ocean technology companies, ranging from plastic monitoring software and autonomous search and rescue platforms to novel vacuum adhesion robots for inspection of composite and concrete structures.

The companies began the program with a week-long visit to COVE, where they presented their company and business aspirations to the COVE community. The visit was filled with workshops to better understand market potential, how to reach their target audience in Canada, and individual legal assistance. Each company has developed distinctive goals to build and expand its business. Across the cohort, there is enthusiasm for meeting potential business partners and exploring bringing projects to North America.

COVE continues to work with these eight companies, providing virtual programming with local industry experts before welcoming the companies back to Halifax in June for the H2O Conference and COVE Demo Day. The 2024 Accelerator program includes Plastic-i, Spot Ship, Precision Acoustics, Exo Engineering, AWM, MSeis, Innvotek, and Zelim.

Looking to accelerate your company?
Contact COVE to express your interest.
accelerator@coveocean.com

NATIONAL PERSPECTIVE

Increased US-Canada Collaboration is Needed to Create a Strong Marine Innovation Corridor

Melanie Nadeau is a visionary leader at the helm of COVE, driving innovation and sustainable growth in the marine sector. As the CEO, Melanie's strategic vision and deep commitment to collaboration have positioned COVE as a global hub for ocean technology and entrepreneurship. Her leadership is instrumental in advancing economic development, fostering cross-border partnerships, and addressing environmental challenges in the Atlantic Northeast region and beyond.

The Atlantic Northeast region of the United States and Canada has a historically deep connection to the ocean. Today, the region is leading global marine technology advances focused on energy, ocean health, and shipping to advance sustainability goals.

A recent study conducted by COVE, a world-leading marine innovation center in Nova Scotia, found a 31% increase in Canadian ocean enterprise companies from 2020 to 2022, with a concentrated cluster operating in Atlantic Canada. Similarly, along the Northeastern United States, ocean enterprise companies are seeing significant growth as the world recognizes the immense potential of the blue economy.

This growth poses a new opportunity for a leading global partnership in ocean tech innovation and commercialization—the Atlantic Northeast Marine Innovation Corridor. Spanning from Newfoundland to Virginia, this corridor presents an opportunity to advance ocean industries, drive economic growth, and address critical environmental challenges.

The Atlantic Northeast Marine Innovation Corridor combines diverse assets, each contributing a unique layer to the collective ambition. In Halifax, COVE is a hub where innovation and commercialization converge, while Newfoundland and Labrador bring expertise in offshore oil and gas. The expertise in cybersecurity at the University of New Brunswick helps to safeguard the digital frontier of this maritime innovation ecosystem, and PEI is well on its way to becoming a billion-dollar bioscience industry.

The Woodshole Oceanographic Institute in Massachusetts is the world's leading independent non-profit organization dedicated to ocean research, exploration, and education. Rhode Island's ocean tech industry cluster further solidifies this corridor's commitment to innovation. Maine's fisheries innovation and agricultural prowess reflect a steadfast dedication to sustainable resource management.

Our region is home to many top-rated academic institutions, including MIT, Boston University, Dalhousie University and Memorial University of Newfoundland, contributing to innovation and research and providing a talent pipeline for this sector.

Renewable energy initiatives, such as Massachusetts' offshore wind farm and Atlantic Canada's fast-growing clean energy sector, underscore the region's commitment to environmental stewardship. The concept of the proposed New England – Maritimes Offshore Energy Corridor (NEMOEC) is an example of cross-border collaboration that could environmentally and economically benefit residents throughout the Atlantic Northeast.

Private and public investments are fueling the growth of the blue economy. Governments, research institutions, and venture capitalists are directing funds toward marine technology startups, renewable energy projects, sustainable fisheries and aquaculture management, among other initiatives. As a region, we find ourselves in a favourable position to capitalize on this growth, but it will require cooperative collaboration to reach our potential.

Together, we can advance offshore wind projects along the coast, create more sustainable aquaculture and fishing practices, and contribute to broader ocean conservation and restoration projects. Our efforts also play a crucial role in supporting defence and security innovation, with the region housing some of the world's most vital military assets and the shared knowledge and personnel to build vessels efficiently.

The Atlantic Northeast Innovation Corridor presents a unique opportunity to drive economic growth, advance sustainability goals, and address critical environmental challenges by bringing together the collective strengths of the region's academia, industry, government agencies, and research institutions.

Governments and investors in the US and Canada must work across borders, invest boldly in this industry, and propel it to new heights. With strong cross-border collaboration and a shared vision, we can create the most robust innovation corridor in the world.

EMPLOYEE PROFILE

Empowering the Next Generation of Marine Innovation: Kat Mataya's Impact at COVE

With a background in environmental science and a passion for education, Kat Mataya is at the forefront of educating the next generation of innovators in her role as the Education and Outreach Manager at COVE.

Kat's journey in the marine technology sector began with a Bachelor of Science from Queen's University, where she developed a strong foundation for marine science. Her passion for environmental conservation and sustainability led her to pursue a Graduate Certificate in Environmental Management and Assessment from Niagara College, further enhancing her expertise in the field. Kat first discovered her love for education while working in South America, where she conducted research and taught communities about the region's flora and fauna.

In June 2022, Kat joined the team at COVE, where she has applied her experiences working with youth to support COVE's workforce development initiatives.

> "As someone with a passion for science and education, leading workforce initiatives at COVE allows me to combine my knowledge and skills to introduce youth, and working professionals who influence youth, to the endless possibilities of a career in the marine sector," said Mataya.

"Some may think that only marine biologists and engineers have a place in the marine sector. However, it takes various types of skill sets with expertise in business management, marketing, finance, environmental science, computer science, skilled trades, and more to help drive efficiency and innovation in the sector. I hope the programs I lead at COVE inspire youth to think about their future, what marine environments mean to them, what solutions they can be a part of, and that there are endless possibilities, for workers of varying backgrounds, to have a future career within the marine sector."

Under Kat's leadership, the COVE Internship Program has seen incredible growth and impact.

On top of Isla Incahuasi in the middle of Salar de Uyuni/Salt Flats in Uyuni, Bolivia.

Appreciating the view of the Rio Madre de Dios in Manu Biosphere Reserve, located just outside Parque Nacional del Manu.

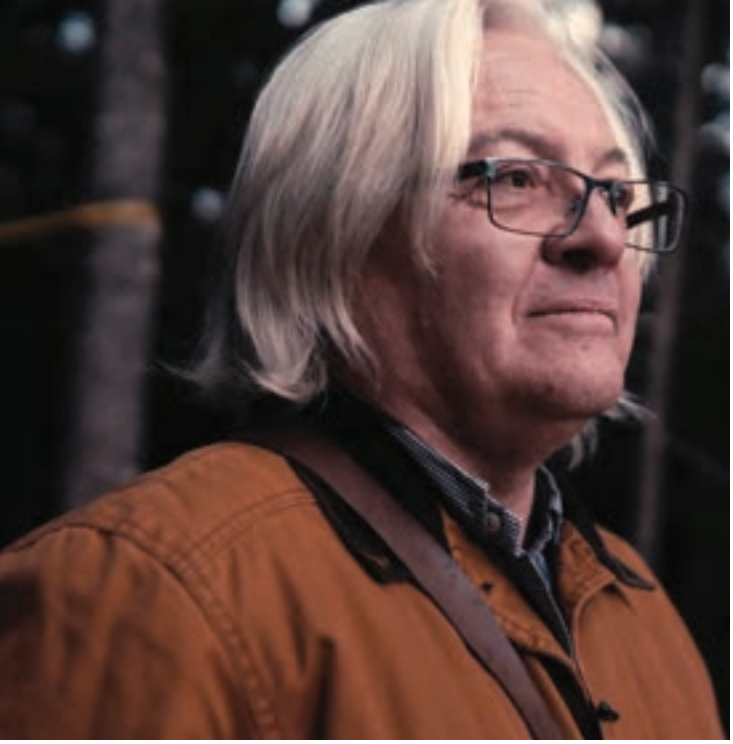
Taking in the desolate beauty of the Salt Flats, Uyuni, Bolivia.

In 2023, over 530 post-secondary students across Canada applied for the program, with 23 of the best and brightest being placed with 18 partnering organizations. Currently, Kat is evaluating applications for the 2024 Internship Program, which received double the number of entries from the previous year—a true testament to the success of the program that provides valuable experience for young minds in their respective fields.

In 2023, Kat spearheaded the launch of the OffshoreWind4Kids program at COVE, a pioneering initiative in Canada led in partnership with the Belgian-based organization. The program promotes marine renewable energy education and awareness among youth, offering hands-on activities. During family beach days, youth build their own model floating wind turbines, tackle real-world challenges, and test their creations in the ocean. Throughout the school year, this program extends into classrooms across Nova Scotia, engaging students in grades four to twelve and inspiring them to consider careers in renewable energy.

Furthermore, every year, Kat travels across Canada to host the Ocean Institute: Deep Dive into Data professional development workshop for junior high and high school teachers. The workshop equips educators with the tools to incorporate ocean data-based learning into their classrooms, inspiring students to discover ocean data exploration.

Kat's impact at COVE extends far beyond her role as Education and Outreach Manager. Through her leadership and dedication, she has increased awareness, engagement, and opportunities in the marine sector, creating a culture that embraces exploration and innovation in marine technology. What drives and motivates Kat in her work at COVE is the opportunity to build connections, learn from other people's experiences, and develop relationships based on a common goal of supporting sustainable marine environments. Kat's work is not just shaping the future of marine technology education—it's shaping the future of our ocean and the next generation of marine innovators.



Barry Stevens, President/Co-Owner of 3D Wave Design

COVE COMMUNITY

Observe, Plan, Adapt: 3D Wave Design's Climate Solutions

COVE resident company, 3D Wave Design, owned by Stevens Solutions & Design Inc., and President/ Co-Owner Barry Stevens are revolutionizing how we perceive and respond to environmental challenges.

"3D Wave Design works primarily in climate change adaptation. We do a lot of work with First Nation communities and rural communities throughout Nova Scotia and Atlantic Canada," said Stevens, a Mi'kmaw person, and a member of Acadia First Nation.

Stevens was inspired to create a more accessible method of observing environmental risk upon discovering an issue with flood plain mapping. "What we did was create a tool for non-technical users like politicians, bureaucrats, or Indigenous leaders to be able to understand those risks and plan preventative action," said Stevens.

The use of 3D interactive mapping solutions helps overcome the challenges posed by complex technology and scientific terms found in raw data and research reports. This enables users to spend more time on observation, planning, and adapting to the information presented. 3D Wave Design's unique, innovative and indigenous designed technology provides an interactive experience that allows nontechnical users – working on standard mobile devices – dynamic adjustment of scientifically

accurate 3D digital elevation models with hydrodynamic SLR, storm surge, fluvial flooding, wildfires and other climate change events.

3D Wave Design was also selected to deliver 3D LiDAR Climate Change modeling software for First Nations Communities across Atlantic Canada through the Samqwane'jk Sustainable Ocean Partnerships project. Samqwane'jk, a first-of-its-kind initiative led by Ulnooweg in collaboration with COVE and Upswing Solutions, connects Indigenous businesses and ocean technology companies in Atlantic Canada to work in partnership to improve the sustainability of our oceans and our communities.

3D Wave Design's innovative solutions have not gone unnoticed.

In 2023, the company was awarded a Canada's Clean50 award, annually given in recognition of Canada's leaders in sustainability for their contributions over the prior two years.

Stevens was also an Atlantic finalist for the EY Entrepreneur of the Year in 2023, an honour given to entrepreneurs across Canada who master the artful balance of passion, determination, character, and skill to create businesses that address the most complex challenges and build a better working world.

3D Wave Design has been a tenant at COVE for four years, and the company has found value in the talent and collaborative nature of the community.

"COVE as a concept is absolutely key. It's a critical mass for a lot of bright minds, including a lot of emerging talent, that come together at a facility built for collaboration," said Stevens.

> "Our involvement with COVE allowed us to be introduced to people and businesses that we otherwise probably wouldn't have met. We've built on relationships we've made there and its generated work."

As 3D Wave Design continues to carve its path, far more important than the awards and accolades is the company's core commitment to providing solutions towards a sustainable future.

"What they call the blue economy from my perspective is more of a sustainable economy or a circular economy. In the past we just kept extracting resources as if there were no end. I think people now are understanding that we do have an influence, that we can deplete resources, so we must put time and money back in," said Stevens. "People think it's a new concept but it's not, it's a seven-generation indigenous concept. We still have time, but we've done a lot of damage. Thankfully, people are starting to wake up.

COVE Resident Companies

3D WAVE DESIGN
aae technologies
ADGA
ALLSWATER
AQUATEC
BluMetric Environmental
Dominion Diving
DOT Dartmouth Ocean Technologies Inc
enginuity
GLAS OCEAN
HALIFAX PARTNERSHIP
CONNECT. COLLABORATE. PROSPER.
HAWBOLDT INDUSTRIES
KRAKEN
LARUS
LEEWAY MARINE
Lloyd's Register
LOCKHEED MARTIN
MERSEY CONSULTING
metocean telematics
NORBIT
- explore more -
NSBA
Nova Scotia Boatbuilders Association
OTCNS
RESQUNIT
RisingTide
ROCKLAND SCIENTIFIC
ROMOR
Deploy with confidence.
SAAB
SMA'KNIS
Spiri
THALES
Building a future we can all trust
TITAN MARITIME
ULNOOWEG
We Believe in Dreams

Canada

CANADA'S OCEAN SUPERCLUSTER

CEOTR

CENTRE FOR MARINE APPLIED RESEARCH

CFN

DALHOUSIE UNIVERSITY

IntelliReefs

ISE International Submarine Engineering Ltd.

innovmarine
PRODUCTIVITY & TECHNOLOGY PEOPLE THAT CARE

InvestNOVA SCOTIA

KONGSBERG

MacArtney
UNDERWATER TECHNOLOGY

MacDonald Hallett Oceans Protection Engineering Group Inc.

MARIMETRICS

MARINE THINKING

MARITIME HYDRAULIC

merinov

Oneka

Precise Design
ENGINEERING SOLUTIONS

PRO OCEANUS
Stability in a sea of change.

PureLogic IT
Strong. Secure. Engage. Together.

RBR

SEA
A COHORT PLC COMPANY

SEAMOR MARINE

SEATAC nscc

SEDNA

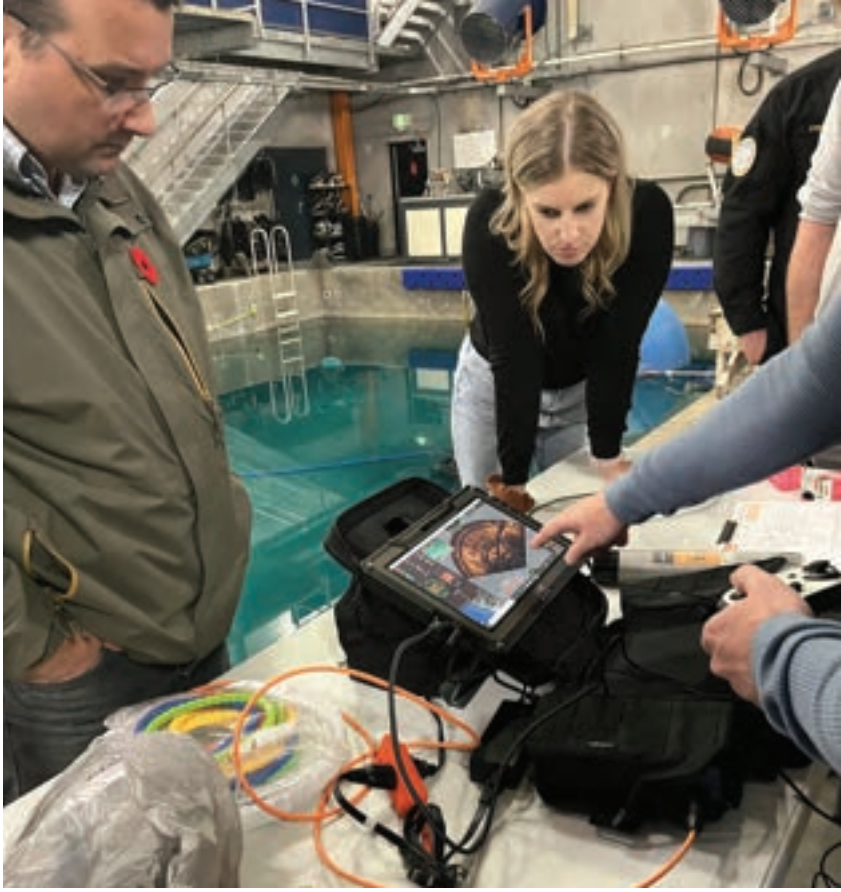
SENSOR TECHNOLOGY

ULTRA

VIRTUAL MARINE

VOLTAI

Xeos
Technologies Inc.



COMMUNITY NEWS

ROMOR, Applied Acoustics and Oceanbotics

Training supplied by ROMOR, Applied Acoustics, and Oceanbotics accepted by the Department of National Defence (DND).

ROMOR and technology partners, Applied Acoustics, and Oceanbotics, conducted a training seminar for the Nexus 2 USBL and SRV-8 remotely operated vehicle (ROV).

Day one of training included introductions from the 14 trainees representing Fleet Maintenance Facility Cape Scott (FMFCS) engineering group and underwater acoustics, mechanical, electrical and weapons experts from the dockyard.

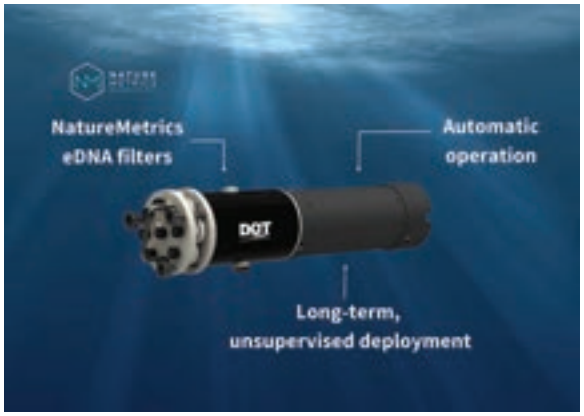
Training was held at the local survival training centre, RelyOn Nutec Canada. Trainee teams used the SubNav operating systems and an Xbox controller to fly the SRV-8. The teams activated the system's sonar and practiced locating suspended objects in the pool and recovering objects using the manipulator arms (referred to as the Grabber).

Darrin Verge, President of ROMOR, a COVE resident company, chose COVE to conduct further training as it provided an ideal space and consisted of real-world deployment and practical use of the systems. The teams flew the SRV-8 at COVE, operating the system inshore, learning ROV tether handling, and more advanced operating procedures of the SRV-8 drone ROV.

Source: oceanbusiness.com

Dartmouth Ocean Technologies and NatureMetrics

NatureMetrics and Dartmouth Ocean Technologies partner to provide autonomous marine eDNA sampling technologies for biodiversity measurements at scale.



NatureMetrics, a leading nature intelligence and environmental DNA (eDNA) company, and Dartmouth Ocean Technologies (DOT), a manufacturer of cutting-edge oceanographic instruments, have announced their new partnership at the Ocean Business 2023 exhibition. This collaboration is set to revolutionize how marine industries can assess ecosystems and bring about significant advancements in the field by offering an autonomous collection of environmental DNA from marine environments—reducing the cost and enhancing the safety of environmental surveys.

This partnership brings together the expertise of two leading organizations in their respective fields, enabling them to deliver solutions that will aid in better measurement of marine ecosystems. NatureMetrics' expertise in eDNA analysis, combined with DOT's innovative oceanographic instruments, will provide a comprehensive solution that will significantly contribute to the global effort for marine industries to effectively monitor and manage biodiversity.

Source: dartmouthocean.com

Marine Thinking Selected as a First Cohort of Innovators for NATO DIANA

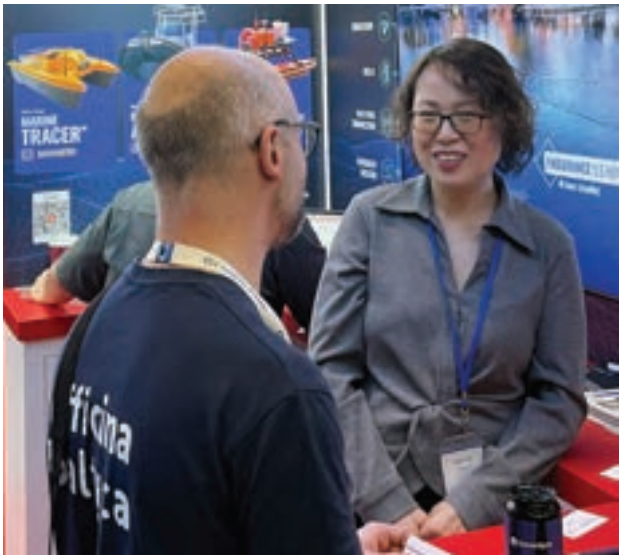
COVE resident company, Marine Thinking, revolutionizes marine technology with autonomous solutions.

Marine Thinking is an autonomous technology company transforming how we understand and interact with the ocean. By empowering crewed and uncrewed surface vessels (USV) with autonomous performance capabilities, Marine Thinking is creating new possibilities and opportunities for a wide variety of marine applications.

From navigation and multi-tier communication systems to artificial intelligence and machine learning, its autonomous technology solutions are helping the industry advance further and faster while ensuring a safer and more sustainable future.

Furthermore, in 2023, Marine Thinking was selected for NATO's Defence Innovation Accelerator for the North Atlantic (DIANA) program. Under the "sensing and surveillance" category, Marine Thinking will use its autonomous technology to develop innovative solutions that address critical dual-use (civilian and defence) challenges.

Source: marinethinking.com



To read more of the latest industry news subscribe to our newsletter, **COVE Connect**.

COVE NEWS

COVE Becomes an Accelerator for NATO DIANA

The NATO Defence Innovation Accelerator for the North Atlantic (DIANA) Accelerator Program is a vital initiative supporting start-ups, scientific researchers, and technology companies across NATO countries in developing dual-use technology solutions for defence and security. Offering funding and expedited adaptation pathways, the program addresses critical needs in these areas.

COVE plays a pivotal role as an accelerator site for the DIANA program. With its extensive facilities, including wharves, machine shops, in-water labs, and co-working spaces, COVE provides an ideal environment for marine tech companies to thrive. Currently, hosting over 60 companies, with more than 40 specializing in defence-related businesses, COVE is interconnected with hundreds of other companies, including many defence-connected tech firms in land, sea, and air, all participating in COVE's diverse programs and services.

COVE's selection as an accelerator site highlights Halifax's and Canada's importance in the global innovation landscape, particularly in the marine and defence sectors. The region's strategic location along the Eastern Seaboard and across the Atlantic, combined with its deep-tech expertise and concentration of military assets, makes it an ideal hub for advancing defence innovation.

(From left to right) Darren Fisher, Member of Parliament for Dartmouth – Cole Harbour, Lena Metlege Diab, Member of Parliament for Halifax West, Melanie Nadeau, Chief Executive Officer of COVE, Andy Fillmore, Member of Parliament for Halifax, and Michel Lechmann, Vice President of Growth at COVE.

The significance of DIANA's presence in Canada was highlighted in December 2023 with the announcement of its North American Regional Office based in Halifax, Nova Scotia. Furthermore, in March 2024, COVE received official recognition as an accelerator site for DIANA, emphasizing its pivotal role in advancing defence innovation. Darren Fisher, Member of Parliament for Dartmouth–Cole Harbour, and Andy Fillmore, Member of Parliament for Halifax, on behalf of the Honourable Bill Blair, Minister of National Defence, made the announcement at COVE.

With Canada's established deep-tech expertise, concentration of military assets, and connectivity along the Eastern Seaboard and across the Atlantic, COVE and Halifax's innovation ecosystems are well-positioned to support the delivery of the DIANA program. This involvement further solidifies Canada's position as a global leader in deep technology, particularly in defence and security.

COVE Marine Terminal and Facilities

At the heart of Canada's innovation ecosystem, COVE's infrastructure is designed to support and nurture budding entrepreneurs and established companies in the marine industry with a strong focus on sustainability.

The waterfront facility includes a marine terminal, office spaces, and event spaces for conferences and meetings. Beyond its physical features, COVE fosters a culture of creativity and entrepreneurship, becoming a hub for innovative ideas and technologies driving the global marine sector.

Located on Halifax Harbour, the world's second-largest natural harbor, COVE offers direct access with 51,000 m2 of wharf face, including two finger piers and a small boat facility, reaching depths of up to 15 m. The site, spanning 32,400 m2, provides extensive laydown and exterior storage areas, accommodating a mix of commercial, research, and military vessels year-round. These features make COVE an ideal hub for sustainable marine-based activities.

COVE is committed to sustainability and has achieved Green Marine Certification, demonstrating its dedication to environmental stewardship. The facility also offers 5,000 m2 of dedicated office, workshop, and shared space for marine technology companies of all sizes to advance their technology in a sustainable manner. The goal is to encourage collaboration among small and medium-sized companies and development teams from larger companies, all focused on growing the global marine economy and to continually improve the marine sector's overall sustainability.

The marine terminal includes advanced waterfront facilities with up to 600 VDC through wharf-side electrical stations, suitable for industrial operations and electric-powered vessels charging. Water depths ranging from 4 to 15 meters can accommodate various vessels, supported by infrastructure allowing for crane access up to 200 tons. The site features a floating dock, wharf face, and finger piers, all with year-round access to internet, electricity, and potable water. Additionally, the site offers secure, limited parking within a fenced compound and easy connections to the community and amenities, including trades and suppliers.

Join us at COVE, a marine technology innovation and commercialization community at the water's edge in Dartmouth, Nova Scotia.

To learn more about the site, or if you are interested in leasing office, workshop, or waterfront space, email **operations@coveocean.com**.

Experience Canada's premier interactive on-water event at Demo Day!

As part of the OTCNS-led H2O Conference, COVE Demo Day delivers a high-quality production showcasing the best marine innovation and research.

COVE Demo Day features interactive and engaging demonstrations from world-leading marine technology companies.

Wednesday, June 5 | 10:00 a.m. to 3:00 p.m. ADT
Dartmouth, Nova Scotia, Canada

Scan the QR code to register for COVE Demo Day!

NAVIGATING THE FUTURE

COVE's Digital Harbour

Levi Morrison, P.Eng, PMP, M.A.Sc.
Director of Innovation

At the heart of innovation, COVE is steering the course towards a revolutionary transformation of the Halifax Harbour, one of the world's largest and deepest-ice-free harbours, located in Nova Scotia, Canada. Through collaborative efforts with companies within the marine ecosystem, COVE has identified a crucial need for a shared foundation of physical and digital infrastructure centered around ocean data to propel product advancement.

COVE's Digital Harbour initiative aims to digitize the Halifax Harbour, creating a comprehensive real-time data platform. This ambitious project encompasses data collection from various sources, spanning the seabed, in the water, on the water's surface, on land, in the air, and via satellite – a concept which evolved from COVE's Stella Maris Testing Solution, a shoreside testbed for marine instrumentation. This inclusive approach sets the stage for a transformative leap in the ocean data landscape.

A UNIFIED PLATFORM FOR INDUSTRY-SPECIFIC INSIGHTS

Digital Harbour focuses on generating industry-specific insights by collecting data in key locations in real-time. The digital platform, designed to be user-friendly and accessible, facilitates collaboration among stakeholders involved in developing ocean products along with the broader ocean community. This collaboration is vital for overcoming challenges unique to ocean data management and product development.

Recent advancements in ocean observation technologies will be integrated into Digital Harbour, creating a network of real-time data collection instruments. This blend of cutting-edge instruments and historical data holds immense potential for developing and implementing predictive algorithms, deepening our understanding of marine environments and enhancing our ability to anticipate and respond to changes in the marine ecosystem.

Managing ocean data poses difficulties as conditions are constantly changing, operational expenses are high, and direct access to hardware in the field is challenging. COVE recognizes the challenge of implementing

standardized measurement concepts and is actively striving to create consistency among different data sets using the Halifax Harbour as the platform to do so. The integration of various datasets on the Digital Harbour platform enables the discovery of novel insights that were previously inaccessible solely through historical data analysis.

AI'S ROLE IN REAL-TIME DATA ANALYSIS

The utilization of various data sets within a consolidated platform such as Digital Harbour marks a new era of knowledge that was previously unattainable solely through historical data. AI algorithms have the ability to analyze vast and complex data sets, uncovering patterns and correlations that traditional analytical methods may overlook.

A prime example is the ability to monitor E. Coli levels in the harbour, one of the several validated use cases of the project. By merging this information with live AIS (Automatic Identification System) data, it opens the opportunity to explore the potential correlation between elevated E. Coli levels and heightened vessel activity, isolated weather events, or seasonal variations. This integration offers valuable insights that were previously inaccessible, enabling a deeper understanding of the factors potentially influencing E. Coli levels and their impact on specific areas.

This increased understanding can result in more precise interventions and preventive measures aimed at reducing the risk of E. Coli contamination in our waters. Through the possible connection between vessel activity or weather events and levels of E. Coli, governing bodies can enforce more stringent regulations and monitoring procedures during peak periods. This implies that specific actions can be taken by authorities to tackle the problem of E. Coli contamination in our water, such as increasing the frequency of water quality tests or implementing stricter regulations. This data-driven approach can contribute to informing the public about the potential health hazards linked to certain areas, fostering responsible behavior and decreasing the likelihood of contamination incidents.

CHARTING A COURSE TOWARDS A CONNECTED FUTURE

Digital Harbour is not merely a technological endeavor; it serves as a testament to the influence of strategic partnerships and shared expertise in shaping the future of marine data and technology. The project highlights the importance of collaboration, forging innovative alliances, and implementing practical solutions, thereby demonstrating COVE's dedication to creating an environment that fosters technological advancements.

This initiative marks a significant stride towards a more interconnected and technologically advanced marine ecosystem. As COVE continues to navigate the intricacies of the marine technology landscape, its unwavering commitment to collaborative endeavors and practical implementations ensures a future where the oceans are not only traversed but also comprehended, monitored, and safeguarded through the power of groundbreaking technology.

INDUSTRY CHALLENGES

COVE and Thales Canada Launch Challenges Focused on Environmental Solutions

As the prime contractor of the Arctic and Offshore Patrol Ships (AOPS) and Joint Support Ships (JSS), known as AJISS program, Thales Canada partnered with COVE to develop the Naval Technology Innovation Challenges.

The Challenges provide start-ups and SMEs working in Atlantic Canada with the opportunity to deliver solutions to some of the most complex challenges the Royal Canadian Navy faces. Two new challenges were chosen for the second round of COVE and Thales Canada Naval Technology Innovation Challenges launched on March 6, 2024.

CHALLENGE ONE

Capturing Maritime Green House Gases (GHG)

Climate change is having real impacts, and every organization needs to contribute to reducing greenhouse gas emissions. Policies and regulations, such as the Canadian Government's NetZero 2050 target, are coming in full force and marine and defence have an important role. Last year, marine vessels made up 19% of the fleet emissions of the Canadian Armed Forces National Safety & Security fleets. This Challenge involves designing and demonstrating practical options for tools and methods to capture and account for GHG emissions from ships.

CHALLENGE TWO

Clean Air in Ships

Automating the cleaning of air ventilation systems on ships helps mitigate health risks associated with mould and other airborne irritants. The challenge lies in developing robust engineering solutions that can effectively detect and remove mould without causing damage to the ventilation system or other components. Research and development in this area could lead to safer and healthier environments for sailors and more efficient maintenance practices for ship crews.

To aid with testing, validation, and commercialization of the technology, the winners of each challenge will be awarded $175,000, with Thales Canada contributing $100,000 and the Atlantic Canada Opportunities Agency (ACOA) contributing $75,000.

The winners will be announced on June 4, 2024, and COVE will work with the winners to monitor the implementation process of their winning solutions, which they will present to Thales Canada.

The success of the Naval Technology Innovation Challenges provides a path forward for COVE to develop and launch similar industry challenges for start-ups and SMEs in the future.

COVE

Where Naval Technology Innovation Thrives.

coveocean.com

COVE

27 Parker Street, Dartmouth, Nova Scotia
+1 902 334 2683 | info@coveocean.com

coveocean.com