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Special Edition

Canada in Alliance
Maritime Security in a Changing World

Conference Proceedings



Members of HMCS St. John's doing maintenance on the CIWS (Photo: nnabelle Marcoux, CAF)





Starshell

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Cover Image: HMCS MONTREAL conducts a PHOTOEX with United States Ship (USS) Chung-Hoon while on Operation PROJECTION on 30 May 2023. (Photo: Cpl Connor Bennett, CAF)

Right: S3 Owen Davis, Canadian Armed Forces Right: Members from HMCS St. John's embarking the RHIB during OP REASSURANCE, sailing in the Atlantic Ocean, on 26 November 2025 (Corporal Annabelle Marcoux, CAF)



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From the Bridge

Steve White
President (NAC)

D'ye hear there!

I have been struck by how often Canadian led initiatives have appeared in the media in recent months. Beyond defence, these stories have touched on global economic shifts, bilateral and multilateral defence efforts, climate change, Arctic challenges, and football. Together, they have contributed to a stronger sense of national pride in Canada, especially the latter.

I get most of my information from online news sources and social media articles. I try to keep in mind that such information can be incomplete, misrepresented, politically motivated, inaccurate, or shaped by algorithms designed to capture attention. As I mentioned earlier, there has been a great deal of information circulating about developments in the Navy and the armed forces, and it can be difficult to keep up. This special issue of Starshell summarizes information from presentations at the recent Halifax conference and the events of the BoA gala held in late April. We produced this issue to help readers stay informed and to provide a useful resource they can share with their contacts. I can confirm that this document is free from any surreptitious incursions!

Please take the time to read the articles in Starshell and share them with your friends, shipmates, and other acquaintances.

Your aye,

Steve

The crew of HMCS YELLOWKNIFE work together to bring the Rigid Hull Inflatable Boats (RHIBs) into the water for boat work on the Caribbean Sea during Operation CARIBBE on 19 February 2026. (CAF)





From the Ops Room

Tim Addison, Director Naval Affairs

Change of pace...I'm not going to open with comments on international security developments related to potential adversaries. Instead, I want to focus on how allied navies have started adjusting their plans for fleet renewal as a result of the changes in naval warfare that have occurred over the past five years, and how this might play out in Canada. I am also including some thoughts on the recent announcement of a preferred bidder for the submarine project.

The widespread use of weaponized aerial drones in land warfare is well known. Over the past five years the same has occurred at sea with aerial and surface drones. There has been an exponential increase in the use of unmanned/uncrewed systems and vessels since Russia invaded Ukraine. If you are interested there is a very good video online which shows Ukrainian drone boats attacking and sinking a Russian corvette, literally in a matter of minutes (see Defense of Ukraine (@DefenceU) on X). More recently (early July), Ukraine reportedly also took out numerous Russian shadow fleet tankers with aerial and surface drones. In the face of this new drone threat some allies have made a bold pivot while others have made course corrections. Should the Royal Canadian Navy be heeding these developments and adjusting course? Perhaps they already are.

For some context, this time last year (2025 Spring Summer Edition) I expounded on what I saw as "the next big thing" on the horizon for the Royal Canadian Navy - the concept of a fleet of Continental Defence Corvettes (CDC) to supplement the River Class Destroyers (RCD). This idea, which began as the Canadian multi-mission corvette, was publicized at the Spring 2025 Navy Outlook in Ottawa and in fact there was banter about naming the new

class of warships after the RCN's World War Two Corvette, HMCS SPIKENARD. Initially the CDC seemed to have a full head of steam, but fast forward 12 months and not much has happened other than some clarifications to general requirements.

When I interviewed the former Commander RCN, Vice-Admiral Topshee on 1 June, (You can view the recording of the event at:https://youtu.be/6_IdAZcKACQ) he said that the project is still being managed in Navy lines (under the Director of Naval Requirements). One could argue that it's still in the Project Identification phase. It is certainly not moving as quickly as the Canadian Patrol Submarine Project (CPSP) which as we all know, went from down select to two suppliers late last August, to a preferred bidder announcement on 6 July. More on CPSP later. One would ask why no significant progress on CDC, given the Government's newfound appetite for defence hardware and the need for such an important piece of the fleet of the future which Canada so desperately needs. Is this lack of progress of necessity for practical reasons, or by design?

As I said, Admiral Topshee confirmed in the interview that the project was still not funded, but still very much on the horizon and by late May up to nine designs from various interested parties had been briefed to the DNR staffers. As an aside, he is intent on CDC because it goes along with his previously stated vision of a fleet of 35 ships for the RCN. Again, from the interview I now understand he is talking 35 combatants, which I am assuming would be 15 RCD and 12 conventional submarines, plus at least 8 CDC. The 6 Arctic Offshore Patrol Vessels would be considered constabulary (non-combatants) and of course there will be replenishment ships to support this fleet.

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In that regard the Admiral also indicated a preference for more Joint Support Ships (JSS) to service this fleet of the future, rather than continuing the employment of Combat Support Ship (CSS) Asterix. While I see his point that eventually the fully combat capable JSS will negate the need for Asterix, in my opinion a more logical approach would be to retain Asterix for operations in uncontested waters until there are at least 3 replenishment vessels in the fleet. Keep in mind that the vessel has been fitted with integrated tactical, navigation, communications, platform-management, and replenishment-at-sea systems, and in 2023 received a multi-domain command-and-control and counter-UAS system to detect, monitor, and respond to aerial and surface threats. Federal Fleet Services also fitted Asterix for optional systems such as close-in weapon systems, torpedo decoys, CBRN protection, and additional radar and communications equipment, which can be installed if required by the RCN and with these modifications she could be employed in environments with more risk than she is today.

Getting back to why no major progress on CDC, I suspect there are extenuating factors influencing the current situation. First, with the announcement of the preferred bidder for the submarine procurement I expect the navy will be hard pressed from an HR perspective to stand up CDC as another major crown project, notwithstanding that a large portion of the planning and execution of the CPSP will likely be contracted out to the private sector. This has already started. On 27 June Canada published an Advance Contract Award Notice to Price Waterhouse-Coopers for 2-3 years of advisory services to support the CPSP, citing PwC's "direct exposure to current NATO submarine procurement strategies services" and advisory experience on a comparable allied submarine replacement program...". Incidentally, this to me was a very strong hint before the 6 July announcement that the selection of preferred supplier would be a nod to ThyssenKrupp. There were other indicators as well, including the Canada-Germany-Norway MOU in October 2024 and visits/calls between governments in the latter stages of the selection process. These were all indicators that this was a political decision and

bolstering Canadian – European relationships was more important than selecting the best submarine for the RCN.

A second possibility contributing to the delay in the CDC project, (if it is indeed a delay and perhaps simply prudent planning) is the rethinking of strategic plans and changing procurement strategies by other allied navies recently as alluded to above. Locking down requirements has always been a challenge but even more so these days. From the UK Defence Investment Plan recently announced by 10 Downing Street, it appears that the Royal Navy had ditched their type 83 Destroyer program to replace their six aging Type 45 destroyers and pivoted towards a mixed fleet of manned and unmanned vessels. The RN's new hybrid "hub and spoke" approach put forward by the First Sea Lord is centered on "Common Combat Vessels (CCV)", which appear to be command platforms capable of controlling a dispersed group of autonomous warships. At this point it is unclear what the weapons fit of the CCV will be and which design will be the baseline. One

possibility as a starting point would be the existing Type 31 frigate design, which would minimise development risk, exploit an existing supply chain and maintain shipbuilding continuity at Rosyth once the current Type 31 programme concludes.

The spokes in this pivot, also referred to as sloops or drone ships, will include the Type 91 missile barge, the Type 92 submarine hunter, the Type 93 small autonomous submersible, and the Type 94, a drone warship packed with sensors and radars. These single mission capable vessels will be smaller, cheaper and reportedly available by the mid-2030s. Meanwhile the German Navy has made a course correction, by scrapping its F126 program and shutting down what had developed into a black hole from a financial perspective. It is now looking at the MEKO A200 DEU frigate built by TKMS as a quick and relatively lower cost build to get ships in the water to support NATO as Russia continues become increasingly erratic.

Should Canada be taking a similar approach? The



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USN is already employing unmanned/uncrewed vessels in operations in the Strait of Hormuz. Perhaps the CDC can be built in manned and then unmanned versions, based on a common hull. Kate Todd wrote about the CDC as a large, well armed autonomous and optionally crewed vessel as a solution to reduce crewing requirements in the future fleet in the 2025 Spring Summer Edition of STARSHELL. I think her article is worth a re-read.

In any event, perhaps delaying the CDC stand up as a project is of necessity in that there's not enough people to get it started, but also a strategic pause to look at other options given the rapidly evolving maritime battlespace. Although the RCN is on the cusp of a major fleet renewal, Canada needs to keep its options open as we witness what I suggest is the next revolution in military affairs (RMA). Recall the terms of the late 1990s – “network centric warfare” and “system of systems approach”? They were two buzz phrases of the day which were all about connectivity and eventually led to the cooperative engagement capability which will be a feature in the River Class Destroyer - where sensor data can be

shared across platforms and one ship can control other ships' weapons when necessary. I'm not sure whether it's RMA 2.0 or 3.0 but the use of unmanned or uncrewed surveillance systems has rapidly evolved into remotely controlled weaponized platforms or vessels which are far less expensive and take much less time to build than a traditional surface combatant. I expect that the Director of Naval Strategy who I interviewed last fall, has his team looking closely at all emerging technologies as they attempt to finalize their new naval strategy paper.

Regardless Canada must continue to do something to bolster its maritime defence capabilities in response to all the uncertainty in the geopolitical situation of today. Perhaps it's better to develop a platform capability that meets 50 percent of today's requirements, has crewing options and has some growth potential and design flexibility to meet future threats. We all know if there is conflict between NATO and Russia or invasion of Taiwan by China it will be come as you are, and the fight will be to leverage other desired economic or political outcomes.



CONSTRUCTION TO BEGIN 2026

Before closing a few more comments on the submarine procurement...

The procurement process has achieved another milestone in record time. The selection of the preferred bidder on 6 July was nothing short of amazing. There is no doubt that procurement of up to 12 modern conventional submarines (SSK) to replace the Victoria Class (former Upholder purchased from the UK in the 1990s) will give the RCN advanced platforms capable of providing better defence of our three ocean approaches. They will be able to deter, detect and engage an adversary in Canadian waters and if required in key maritime theatres overseas – Europe and the Indo-Pacific.

We know that Canada's next submarine fleet must possess the capability requirements of stealth, lethality, persistence, and ability to deploy and maintain station in the Canadian Arctic. To meet those requirements Hanwha Ocean proposed a variant of its KSS-III submarine, three of which are already in operation, along with tested weapons, combat systems, and a resilient supply chain. In turn, TKMS

proposed the Type 212CD submarine jointly developed with Norway, a platform designed to incorporate the latest European submarine technologies. Note: the KSS-III is a completed and in-service platform, unlike the TKMS Type 212CD, which is not yet in active service.

Both companies put forward substantial streams of promises and signed numerous memorandums of understanding with Canadian industry, academia, and small- and medium-sized enterprises relating to steel-manufacturing capacity, sovereign sustainment capabilities, satellite communications, advanced artificial intelligence technologies and software, sensors and data systems, armament co-production, or upskilling Canada's shipbuilding workforce. At times it seemed that the purchase of a fleet of submarines was being left out of the equation.

As for the recent selection of the preferred bidder, towards the end that process evolved into a choice between South Korea's emphasis on operational readiness and reliable delivery timelines versus Germany's focus on next-generation submarine

technology. In the end, rightly or wrongly, the focus on technology and hull form won out. Politics aside, in my mind this was a high-risk decision. Canada has chosen to pursue a contract for an experimental hull design that reportedly minimizes 'target echo strengthen reduction' against adversaries using active sonars. The best submarine killer is another submarine, all of which primarily use passive, not active, sonars to detect, classify, track and engage targets. Going active with your sonar immediately makes your location known to your adversary and negates your greatest asset – stealth.

Now the government has started to walk back on the fleet size, with suggestions that uncrewed vessels could meet the requirement for underwater deterrence and surveillance. In an interview within days of the announcement Stephen Fuhr, our Secretary of State for Defence Procurement was quoted as saying that the purchase will be "up to" 12 submarines built by TKMS and that the final number of 212CD submarines to be purchased will be part of the negotiations over the next six months. Mr. Fuhr went on to say that cost is a factor, but emerging technology is also a consideration in this shift towards a smaller number of TKMS built submarines. "Nothing really replaces the sub for persistence, deterrence, all the things that it can do ... but there are

some very, very interesting new and capable emerging technologies that can work with a sub," Fuhr said.

Regardless, now the hard slogging starts, namely the contract negotiation...the fine print and details that have been avoided thus far. This project will deal with not only the construction and delivery of the submarines but also all the infrastructure requirements. This could become even more of a challenge if Canada reduces the final number of the order to significantly less than twelve. Many of the promises related to this procurement made by the German government could well go out the window. From a defence and security perspective, if the Government does decide to purchase less than 12 submarines a grave mistake will be made. The position as outlined in the Naval Affairs paper, "In Extremis", was that the requirement to ensure that Canada could provide deterrence at home in the Arctic and if necessary, abroad, was in fact sixteen submarines, eight in each coast.

I will leave it there. Enjoy this edition of STARSHELL!

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Canada in Alliance

Maritime Security in a Changing World

One of Canada's greatest historical strengths has been its web of alliances and partnerships. These structures have long framed its defence policy and, today, global tensions have only increased their importance. How Canada engages with partners, and how it contributes in both war and peace, are therefore of vital national importance. To inform this debate, the NAC was pleased to host a conference in April 2026, which brought together

together defence experts, CAF personnel, and policymakers to examine Canada's part in collective security at sea.

This special edition of *Starshell* offers a summary of the presentations. Each address is presented here not as a transcript, but as an overview summary intended to capture the most relevant points and the spirit of each speaker's contribution.



Vice Admiral Angus Topshee addresses the conference in a keynote address

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David Benoit

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David previously worked for the Department of Health Wellness as the Senior Executive Director of Strategic Investment and Infrastructure Planning for the healthcare facilities across the province. While in the Department, he co-led the provincial COVID 19 Vaccine and Immunization program. Prior to his joining the province, he served 30 years with the Canadian Armed Forces as an engineering officer in the Royal Canadian Navy retiring as a Captain (N). He served on the east and west coasts and in Ottawa, with his last appointment in Command of the Fleet Maintenance Facility Cape Scott in Halifax.

Opening Remarks

Opening 'Canada in Alliance: Maritime Security in a Changing World', David Benoit, the chair of the conference's organizing committee, welcomed the panellists, speakers, and attendees. Framing the conference as intending to “evolve the discussion about security and defence” in Canada and to explore “how we can go from intent to action,” he posed a central organizing question: “How do we collectively achieve the reinvestment that is being offered by our federal government in the defence and security sector in particular, and what are some practical ways to see how we can strengthen Canada and can reimagine ourselves in terms of world engagement [and] international diplomacy?”

Reflecting on the upcoming commemoration of the Battle of the Atlantic, Benoit noted that “this isn't the first time we've been in this position. Our collective will as a nation was tested, and Canada and her allies



pulled through.” This collective will, he observed, was clearly illustrated by HMCS Sackville, the nation's final surviving Flower-class corvette that was set to be ceremonially recommissioned as part of the commemoration of the Battle of the Atlantic. Apparent in that vessel, for Benoit, are “all the levers” of Canada's national “power combined together” – industrial, technical, military, diplomatic, and social.

Faced, with a rapidly evolving geopolitical environment that is demanding the urgent and swift recapitalization of Canada's military and naval capabilities, “we are once again asked to pull together our collective resources and align our collective wills.” The Canada in Alliance conference thus sought to further that conversation and that discussion, with the intention that participants would not merely listen but also become involved.

Minister Colton LeBlanc

Minister of Growth and Development, Nova Scotia

The Honourable Colton LeBlanc was first elected to the Nova Scotia House of Assembly as the MLA for Argyle-Barrington in 2019 and was re-elected for Argyle in 2021 and 2024. Colton was Nova Scotia's first Minister of Cyber Security and Digital Solutions, also serving as the Minister of Service Nova Scotia, Minister of the Public Service Commission, and Minister responsible for health infrastructure redevelopment. He is currently a member of the Nova Scotia Section of the Assemblée parlementaire de la Francophonie, and served as co-president of the Ministers' Council on the Canadian Francophonie.



Nova Scotia as the Hub for Canada's Maritime and Naval Development

Colton LeBlanc, Nova Scotia's Minister of Growth and Development, offered keynote remarks to open the Canada in Alliance conference. Minister LeBlanc framed the conversations occurring as part of the conference as more important and urgent than ever, particularly for his province. "Nova Scotia," he advised the audience, "is a place where the sea is not just geography; it is also part of our DNA. For generations, our relationship with the ocean has shaped our communities, has shaped our economy and our role in global security. From fishing communities to shipyards, from offshore energy to naval operations," he continued, "the maritime domain is not something we observe from afar. It is something that we live every day." Given the extent to which the

maritime domain is thus integrated into the daily experiences of Nova Scotians, the province is uniquely attuned to and impacted by the rapidly evolving maritime security environment, which, the Minister cautioned, "is changing faster than ever, in more complex ways than at any point in recent memory."

His keynote, reflecting on Nova Scotia's priorities, investment, and support related to the defence sector, as well as the opportunities ahead for collaboration, highlighted the province's commitment to shaping Canada's defence modernization program, maritime capabilities, and defence industrial base. In addition to exploring the transition of maritime security into a multidomain challenge and endeavour, and the

interplay between defence modernization and economic and infrastructural considerations, his comments positioned Nova Scotia as an active partner in national defence that is well-poised – given its geography, existing industrial capacity, and current defence infrastructure – to become the core hub of Canada’s naval capability development.

Maritime Security as a Multidomain “Convergence of Challenges”

As Minister LeBlanc began, discussions of maritime security today no longer have the luxury of revolving around or considering a singular domain. Rather, the maritime domain is now encountering and experiencing what he termed “a convergence of challenges,” including rising geopolitical competition in the North Atlantic, rapid technological change, climate change, and the vulnerability of critical sea-based infrastructure.

Indeed, while conversations about maritime security may, in the past, have revolved solely around questions of naval activities or capabilities, maritime security and the maritime domain have now “expanded, both physically and conceptually.” No longer is maritime security confined to activity on the water’s surface. For instance, while heretofore “taken for granted,” strategic sea lines of communication are increasingly becoming a vulnerability as states recognize their susceptibility to attack or disruption. Subsea infrastructure – such as energy pipelines and telecommunication cables – is now not only “essential” but also “exposed.” No longer is maritime security confined to activity on the water’s surface. Now, it encompasses “what lies beneath it” – the pipelines and the cables – as well as “what operates above it” – the proliferating data networks, surveillance systems, and satellites. As he summarized, “Maritime security is now fully integrated in cybersecurity, cyberspace, and space-based capabilities and advanced analytics, and that really changes the way that we need to think and act.” Nova Scotia is committed to addressing these increasing and evolving digital challenges and their interplay with the maritime domain, as seen in its 2023 establishment of the Department of Cyber Security and Digital Solutions, to cultivate a deeper

comprehension of the associated challenges and opportunities for Nova Scotia, Canada, and the world more broadly.

Other challenges are emerging beyond the expansion of the maritime domain. The development and evolution of new technologies – in cyber, artificial intelligence, and autonomous systems, for instance – is profoundly influencing and redetermining “how maritime operations are conducted and contested.” Similarly, climate change is increasingly becoming a strategic issue for maritime forces and the maritime domain, influencing the operating environment by rendering the Arctic more accessible, producing more “volatile” weather patterns, and making coastlines ever-more vulnerable.

These impacts are, for the Minister, particularly profound and readily apparent in Nova Scotia. In addition to its own coastline becoming increasingly susceptible to climate change, there is the reality that Nova Scotia is inevitably impacted by economic, strategic, and operational developments in the broader Atlantic. Indeed, positioned, as it is, as the gateway to North America and the North Atlantic, with ports that connect North America and Europe, Nova Scotia’s waters witness substantial activity from commercial shipping, fishing vessels, naval forces, and other emergent forms of maritime traffic. Moreover, Halifax is home to one of the nation’s most sizeable and important naval presences – the Royal Canadian Navy’s (RCN) Atlantic Fleet – which is integral not only for the national defence of Canada but also for NATO operations, as well as international maritime security and stability. Thus, the “convergence of challenges” facing the maritime domain is “immediate” for his province – not a potential of the future – and, indeed, represents merely “the tip of the iceberg.”

Enduring Lessons from the Battle of the Atlantic

“To understand where we’re going,” the Minister mused, “it’s worth reflecting on where we’ve been.” Reflecting on the Battle of the Atlantic, he noted that Nova Scotia, during that conflict, “stood at the centre of one of the most consequential maritime struggles in history.” Convoys gathered and formed in the

Halifax harbour prior to crossing the Atlantic with troops, supplies, and, as Minister LeBlanc reminded, “hope.” German U-boats operating in nearby waters and targeting crucial shipping lanes brought the city under a “constant” threat. In that time, in that conflict, it was not solely a battle of submarines and vessels but of “endurance, coordination, and innovation,” which demonstrated, fundamentally, “that control of the maritime domain is foundational to security, both nationally and globally.”

While the threat today may look different, Minister LeBlanc identified that “the underlying dynamics are familiar.” Indeed, the strategic lessons from the Battle of the Atlantic remain relevant: the need to rapidly adapt to shifting threats, the susceptibility of critical infrastructure, the imperative of allied cooperation and coordination, and the cruciality of secure supply chains. Halifax and Nova Scotia are similarly positioned to act as central operational hubs given their geographical positioning at the heart of the NATO allied territories, as well as their industrial capacity, infrastructural resilience, and strong military – particularly naval – presence.

Nova Scotia as a Prospective Defence Innovation Hub

Despite defence being a national responsibility, Minister LeBlanc identified that individual provinces and territories have “a role ... to play.” For its part, Nova Scotia is firmly embracing the opportunity and the obligations that the Government of Canada’s commitment to modernizing and recapitalizing the Canadian Armed Forces (CAF) thus represents. As he noted, the province is “strategically located” – “smack dab,” as it is, “in the middle of NATO territory” – to adopt a leadership role in this endeavour and, indeed, to continue to develop into a hub for the enhancement and sustainment of Canada’s “defence future.”

Minister LeBlanc’s remarks thus highlighted Nova Scotia’s existing industrial readiness and preparedness to assume this leadership position. Emphasizing the impossibility of quickly generating defence capability, he described that the province has “spent a generation” developing – and continues to cultivate and grow – the skilled labour force, industrial

capacity, research and development hubs, and specially designed infrastructure that are needed to contribute immediately to defence capability. It boasts “a long and proud history” of defending Canada and its allies “in the air, on land, at sea, and soon, in space.” Moreover, it houses a substantial military population, with over 13,000 CAF members calling Nova Scotia home, and an additional 17,000 Nova Scotians employed in the defence and aerospace industries. This results in Nova Scotia boasting “the highest defence employment per capita” in Canada, as well as “the highest defence spend[ing] per capita.”

Indeed, 6% of the provincial GDP – approximately \$2.6 billion – originates from the defence sector. “This isn’t an emerging sector for us,” Minister LeBlanc noted. “It’s a proven one.” This is evident in the procurement projects, defence construction, and innovation activities already underway in the province. “Right now,” he observed, “steel is being cut on the River-class destroyers” at Irving Shipbuilding’s Halifax Shipyard, “and these will be the most advanced ships Canada has ever built, anchoring thousands of skilled jobs right here at home and a national shipbuilding supply chain right here in Nova Scotia.” Canadian Forces Base (CFB) Halifax and CFB Greenwood are set to receive billions of dollars in investments and upgrades to maintain and retain their operational instrumentality for decades. So, too, is the province emphasizing innovation ecosystems as core to future defence capabilities and to its own development as a centre for defence innovation, experimentation, and technology. For instance, COVE, in Dartmouth, is a globally renowned maritime innovation hub that has now been announced as Canada’s first Maritime Defence Innovation Secure Hub. Furthermore, Halifax is home to NATO’s Defence Innovation Accelerator for the North Atlantic (DIANA), testifying further, for Minister LeBlanc, to “the strength of our ecosystem and the trust our allies place in Nova Scotia’s capabilities.” Such measures could make Nova Scotia indispensable not just to Canada’s defence ecosystem but to the NATO allies more broadly.

As the Minister continued, the Government of Nova Scotia envisages the province’s current centrality to and value for the national defence ecosystem as only

being “the beginning.” The province has already had meetings with both companies that are finalists for Canada’s new submarines, and it is committed to being “ready in every way we can” when the choice is made. The government has also created a defence leadership table to gather representatives from the provincial government, post-secondary institutions, innovation hubs, and incubators to offer a “single,” whole-of-province, and “unified voice” to the Government of Canada and to ensure a consistent, coordinated, and strong provincial approach. Efforts are ongoing to further develop provincial innovation, training, maintenance, manufacturing, and construction capacities, and the province is moreover supporting its defence companies to enable them to innovate, compete, and scale, both nationally and internationally. Continuing investments in infrastructure, research partnerships, and skilled workers seek to further cultivate the requirements for defence industrial success. Such measures, the Minister noted, have led to a common reflection among high-ranking military and political leaders that “Nova Scotia has cracked the code” to ensure that it is poised and positioned to enable the Government of Canada and Department of National Defence (DND) to successfully operationalize the Defence Industrial Strategy and revitalize Canada’s defensive capacity. The collaboration and proactivity evidenced in these measures has, he noted, led to the request for Nova Scotia to co-chair the federal–provincial–territorial working group for the Defence Industrial Strategy. As he summarized, “We’ve earned our reputation as Canada’s defence leader through action. We’ve earned it through commitment and through results. And now, as Canada looks to rebuild and strengthen its defence capabilities, we’re also ready to stand and do it again.”

Nova Scotia’s commitment to “fighting for the future” of Canada and itself as a province is prompting its adaptation and transition into “areas we have never been before” – including space. He referenced, in particular, the Canso spaceport (now called Spaceport Nova Scotia), which “will be the first of its kind in Canada” and enable the safe launch of both government and commercial satellites from Canadian territory. This spaceport also promises to grant “superior access to polar and sun-synchronous

orbits,” which are crucial for Arctic communications, Earth observation, and environmental monitoring. As another “first of its kind” innovation to which Nova Scotia is committed, Minister LeBlanc pointed to the province’s strong interest in hosting the Defence, Security and Resilience Bank. Arguing that the province’s digital infrastructure and geographic position would provide a “major strategic advantage” for the bank were it to be located there, he reflected on the bank as offering “long-term, low-cost capital for defence and security projects for NATO members and our allied nations” – as well as thousands of jobs for Canadians and Nova Scotians, if the bank does indeed base itself in the province.

Minister LeBlanc similarly highlighted Nova Scotia’s readiness for such opportunities as in-service support for the new Canadian submarine fleet, as well as new government programs in the marine sector, including the replacement of the RCN’s Orca-class training vessels, the construction of its Continental Corvette program, and the prospective development of Canadian Coast Guard maintenance facilities in Sydney. Evidently, Nova Scotia is actively seeking to position itself as a critical and core player within Canada’s defence and defence sustainment ecosystems, equipped with its existing assets, expertise, and credibility.

What’s at Stake

Minister LeBlanc framed Nova Scotia’s dedication to establishing itself as an enduring defence partner for Canada within the recognition of “what is at stake” for the province and Canada more broadly – namely, national sovereignty and the maintenance of the “open, stable, rules-based systems that allow global trade and cooperation to function.” These systems, in turn, have implications for provincial and national prosperity, particularly when the defence investments to come could deliver dramatic economic opportunities to the province – including thousands of good jobs, billions of dollars in investment, and long-term community economic growth – while simultaneously strengthening national security.

Supporting the Growth of the Defence Sector

Minister LeBlanc thus identified the defence and aerospace sector as among Nova Scotia’s “big six

sectors” in which it is prioritizing development, including, also, energy and clean technology, seafood and agrifoods, natural resources, housing and construction, and artificial intelligence (AI) and the digital economy. His role, then, as Minister of Growth and Development is to support the team that is seeking to “align and to scale these efforts across these sectors,” recognizing that the government must “do our part” to invest in the other societal sectors needed to support the growth of the defence and aerospace sectors.

This recognition, therefore, has led to unprecedented investments in housing in Nova Scotia, as well as the introduction of legislation to expedite the construction of houses. Similar investments have been made in healthcare and education to support the new families that will inevitably move to the province. These investments and programs, he noted, stem in part from the acknowledgement that developing Nova Scotia’s defence and aerospace sector – as well as the other sectors among the “big six” – will inherently require a growth in population and in the services those people need. This reflects a notable integration of social infrastructure and housing policy in defence

economic planning.

Nova Scotia as “Canada’s Defence Leader”

Minister LeBlanc’s message about Nova Scotia was clear: the province is prepared and poised to be “a strong and trusted partner” for the Government of Canada as it seeks to modernize and rebuild the CAF. As such, the province is continuing to adopt “an all-hands-on-deck approach” to support the Government of Canada in this endeavour. Turning his remarks, again, to the Battle of the Atlantic, he reiterated that success in that battle came not from a singular decision or innovation but rather from “sustained effort, from across nations, across sectors, and across disciplines.” It came from a commitment and willingness to collaborate, cooperate, and “be adaptable” – qualities that remain relevant in today’s deteriorating geopolitical environment. These are also qualities, he described, “that are intrinsic to our Nova Scotia approach,” as the province remains dedicated to continuing its legacy of “do[ing] more than our part to defend our great country, our allies, for generations to come.” As he concluded, “I’m confident that Nova Scotia is Canada’s defence leader.”

Photo: ISI



Jeff Kibble

Member of Parliament for Cowichan–Malahat–Langford, British Columbia

Jeff is the Member of Parliament for Cowichan – Malahat – Langford on the south end of Vancouver Island as well as a Committee Member on the Standing Committee on National Defence.

From Announcements to Capability: The Challenge of Canadian Defence Modernization

In his brief remarks, Member of Parliament Jeff Kibble offered reflections stemming from both his military experience and political career. As a retired naval officer, current Member of Parliament for British Columbia's Cowichan–Malahat–Langford riding, and sitting member of the Standing Committee on National Defence, he indicated that his mission, in attending the Canada in Alliance conference, was “to carry your voices back to Ottawa, back to [the] Standing Committee [on] National Defence.” At the core of his remarks was a simple thesis: while the Government of Canada's policy and investment announcements with respect to military capabilities and defence are “exciting” and promising, the challenge now is executing on those promises and practically, effectively, and responsibly operationalizing them into the capabilities that Canada needs to assert its sovereignty and protect its people.



The Coast Guard's Integration into DND

Kibble reflected on the Canadian Coast Guard's (CCG) transition to DND and evolving relationship, under Bill C-12, with the defence and security community. Noting that the CCG “does amazing work,” he described it as “a great addition to the defence team.” Praising its “graceful[ness]” during an inherently challenging transition to the DND umbrella, he assessed that the CCG will “bring a lot of professionalism, capability, and knowledge to the defence community.”

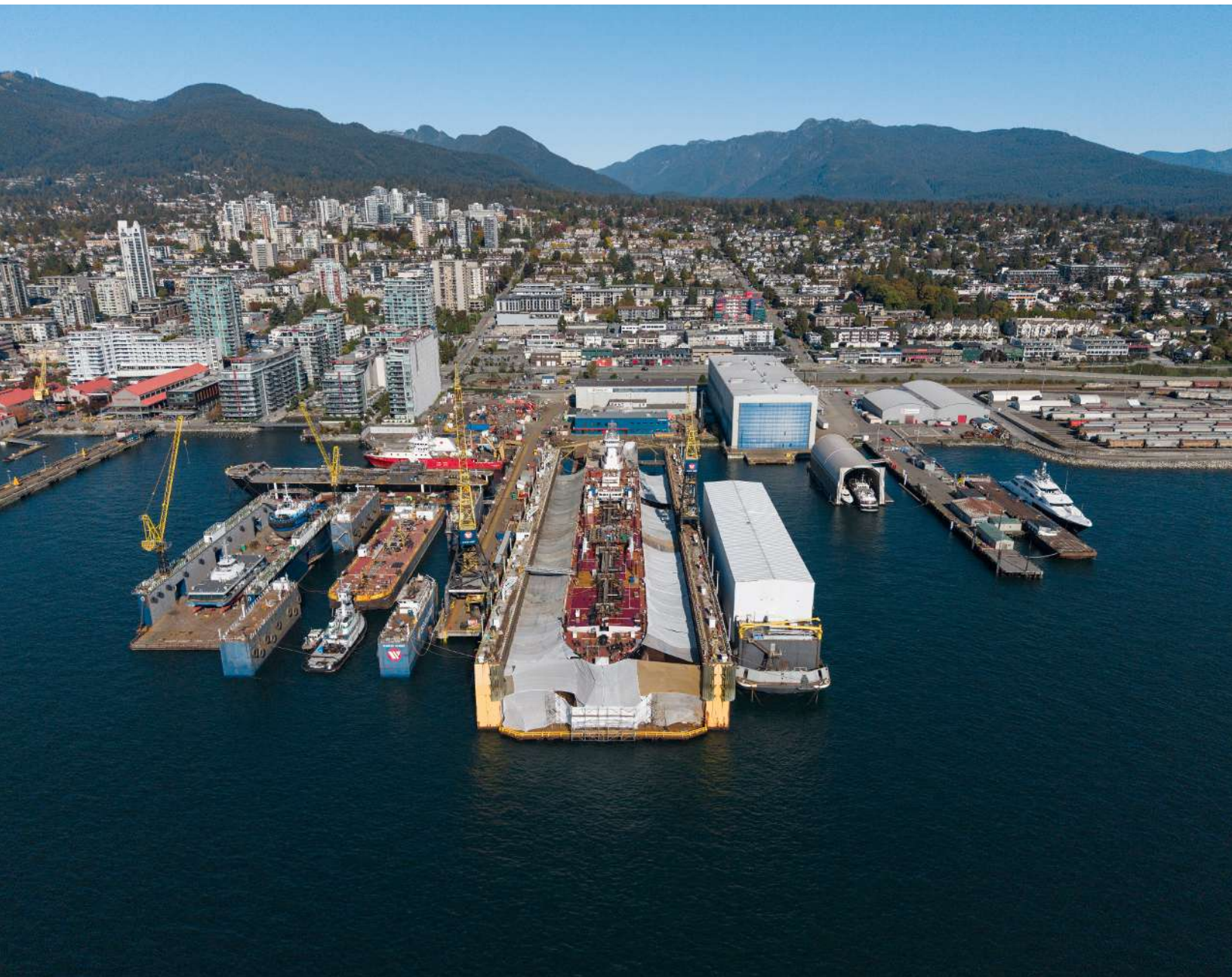
Defence Announcements Versus Defence Capability

Kibble notably remarked on the distinction between government promises and actual military capability. While noting that the Government of Canada has offered a number of promises with respect to defence procurement and pledged the commitment of billions of dollars, Kibble observed that while such

announcements are “exciting,” they do not, on their own, “defend Canada. They do not make Canada self-reliant or a sovereign country.” Rather, sovereign and independent defence and security capabilities require industry, ships, technology, training, sailors, and “healthy recruiting” – the latter of which, he identified, “is keeping me up at night,” given the Navy’s perennial recruitment struggles. Indeed, new capabilities, platforms, and technologies can accomplish little without the personnel to operate and sustain them.

He thus conveyed that his role as a Member of Parliament on the Standing Committee on National Defence is “to hold the government to account, to make sure that those promises become a reality” in a cost-efficient and cost-effective way that respects the taxpayer while simultaneously acquiring “the capability that we very, very clearly need.” What is critical is that the government’s plans and promises are translated – and translated responsibly – into “strategic effect” that enables Canada to ensure and enforce its sovereignty while keeping its sailors and “our country

Photo: Seaspan





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For more than 20 years we've built up the infrastructure to maintain Canada's submarine fleet — from our uniquely skilled workforce to shipyard facility operations. As Canada readies the next generation of submarines, only Seaspan has the shipyard operator experience to maintain our sovereignty above and below the surface.

Vice Admiral Angus Topshee

Commander, Royal Canadian Navy

Vice-Admiral (VAdm) Angus Topshee is the Vice Chief of the Defence Staff. Before assuming this position, he was the Commander of the Royal Canadian Navy (RCN). His diverse academic background includes military and civilian institutions on three continents. He has deployed in ships around the world and has accumulated countless sea stories involving pirates, sharks, terrorists, volcanoes, whales, fires, and all the other things which make life at sea a true adventure. The highlight of his time at sea was his far too brief command of Her Majesty's Canadian Ship (HMCS) Algonquin in 2009-2010 and, a close second, his three years in command of Canada's Pacific Fleet. His shore postings include two tours in the Navy's Strategy directorate as penance for all of his sea time, three years in command of Canadian Forces

Base Halifax, and two years as the Deputy Director, Strategy, Policy, and Plans at NORAD and United States Northern Command Headquarters in Colorado Springs. He also deployed to Afghanistan for all of 2011 as the director of Afghan National Police Training within the NATO Training Mission Afghanistan. Over the course of his career, he has somehow been involved in Arctic issues at every one of his shore postings (except Afghanistan). Before taking command of the RCN in May 2022, VAdm Topshee had the honour and the pleasure of commanding Maritime Forces Pacific and Joint Task Force Pacific, located in Esquimalt, B.C.



The Navy Canada Needs: Maritime Sovereignty and the Reorientation of Canadian Naval Strategy

Vice-Admiral Angus Topshee, Commander of the Royal Canadian Navy, punctuated the Canada in Alliance conference with a lunchtime keynote address. Introduced by Major-General (Ret'd) Rich Foster, now Vice-President of L3 Harris, Vice-Admiral Topshee framed his remarks as a

presentation seeking to “overcome some of the maritime blindness in Canada.” He thus explored why Canada needs a navy, challenged long-standing conceptualizations of Canada as a peacekeeping nation interested only in soft power, and explained why Canada is fundamentally a maritime nation

whose well-being and prosperity are contingent on control of its waters. Reviewing his definition of sovereignty, the rise of autonomous systems and hybrid warfare, the growing continental defence imperative, and the current and forthcoming platforms of the RCN, Vice-Admiral Topshee offered his vision for the nation's maritime strategy. Observing that "there's a lot of talk" about the current era as representing "an unprecedented period in history," he insisted that "it's actually an extremely preceded period in history." The challenges confronting the nation are challenges it has addressed before, conveying his enduring confidence that Canada can address those challenges again.

Why Canada Needs a Navy

Posing the question of why Canada needs a navy, Vice-Admiral Topshee pointed to Prime Minister Mark Carney's Davos speech as guiding the Navy's current recapitalization efforts. "It is a reminder," he insisted, "that despite the rules-based international order we've enjoyed for the last little while, this is a hard-power world." In such a world, states and countries lacking strength are susceptible to stronger states attempting to impose their will upon them.

Canada's history, for Vice-Admiral Topshee, is illustrative of its need for a navy. He pointed to Frédérick Rolette's critical importance to British successes in the War of 1812, as well as the centrality of the Battle of the Atlantic in determining the outcome of the Second World War. Despite the common conceptualization of the Second World War "as something that happened over there," Canadians must also recognize, when contemplating the necessity of a navy, the reality "that war came here, and it came hard." It came to the Gulf of St. Lawrence, in which more Canadians died during the war than at Juno Beach on June 6. It came to Halifax, when a German U-boat sank HMCS Esquimalt and killed half the vessel's company "on the eve of victory, in sight of their home port." It came to the West Coast as well, as Japanese submarines bombarded the coast, sank vessels in the straits, and sank SS Coast Trader near Vancouver Island – a wreck that the Coast Guard continues to monitor given the environmental catastrophe that would result if the ship's hull failed and its heavy bunker oil was

released. The centrality of naval forces to success in past wars, and the fact that war can and has touched Canada's shores and required the maritime defence of the homeland, point further to the nation's need for a navy that is capable of both operating abroad and protecting Canada itself.

Reclaiming Canada's Identity as a Warrior Nation

In addition to this myth of the Canadian homeland as a region physically untouched by the World Wars, Vice-Admiral Topshee also identified another myth that colours and pervades the Canadian consciousness: that "we're a peacekeeping nation." While "that's true in the sense that we invented" peacekeeping, he observed, "that's not what we're about." Instead, he emphasized Canada's legacy of "winning wars." He pointed to the battles of Vimy Ridge, the Somme, Beaumont-Hamel, and Passchendaele, to the Canadian forces' success as "the shock troops of the British Empire." He highlighted the Canadian Army's leadership during the final 100 days of the First World War, when, having "learned all the hard lessons" and having "figured out how to break the back of the German line," Canadian forces won three definitive victories in those days. One of those victories came on August 8, 1918, and was so decisive that it led the commander of the German Army to designate the date "the darkest day in the history of the German Army." Then, in the Second World War, Canadian forces were instrumental in the Normandy landings and the subsequent liberation of France, with around 25% of the vessels involved in that operation, "across the spectrum of capability," hailing from the Canadian Navy. So, too, were Canadian forces vital in the liberation of Holland, driving across the nation with "incredible power and capability." By war's end, then, Canada boasted the world's third-largest Navy and third-largest Air Force. The country's ensuing military reputation, enforced further through its participation in the Korean War, subsequently led to the interposition of Canadian forces to hold the ceasefire that Lester B. Pearson negotiated in the Suez Crisis, to keep the peace while the opposing forces withdrew. "We had the diplomatic weight as a country that had landed at Normandy and liberated Holland to

be able to put that bargain in place,” Vice-Admiral Topshee explained. “We had an Army that could deliver that effect and a Navy that could get them there,” via HMCS Magnificent.

It is that hard power, cultivated and illustrated through conflict, that provided the origins of United Nations peacekeeping – not, Vice-Admiral Topshee noted, “the idea that Canadians are just happy-go-lucky people who will stop all conflict.” It is that hard power that led to the Canadian Army based in Europe to defend the inner German border against the Soviet Union in the Cold War, and it is that hard power that subsequently allowed Canadian forces “to make a difference” in the ensuing peacemaking and peacekeeping missions throughout the 1990s, including in Africa, Somalia, and the former Yugoslavia. For Vice-Admiral Topshee, “yeah, we’re a nation of peacekeepers. Because we’re a nation of warriors first.” That aspect of Canadian history bears remembering.

Canada as a Maritime Nation

A core argument of Vice-Admiral Topshee’s keynote remarks was that Canada is, at its heart, a maritime nation. For a start, he identified, “most of the places in Canada are defined by waters,” because water has historically been how people navigated, travelled, and communicated. Thus, the geographical location of several key Canadian cities was foundationally determined by water and maritime access. For example, Ottawa’s location is courtesy of the meeting, there, of three rivers. Québec City is situated at its location given the “big defensible cliff where the end of the tidal range is and rivers come down.” Montreal developed as the furthest location that can be attained via the St. Lawrence River before encountering rapids, and, prior to the construction of the St. Lawrence Seaway, it was the farthest a sailing vessel could travel. Toronto, similarly, has evolved from its origins as an attractive location for settlement for the Mississauga of the Credit, the Haudenosaunee, and others, given its natural harbour. For all such cities, waterways and maritime access have shaped their location.

Similarly, reviewing the current discourse around

nation-building projects, he pointed to the St. Lawrence Seaway as a phenomenally impressive feat of engineering overcoming significant vertical distances. Constructed in cooperation with the US, it continues to offer substantial economic benefits, enabling the Canadian economy “to prosper” by opening “all five Great Lakes to commerce.” Even now, as discussions seek to expand Canada’s trade with more diverse partners, “all of that will go by water.” In this respect, too, “water has always defined our nation. We are a maritime nation.”

By the same token, water and maritime travel have been core to the profound increase in human prosperity over the past eight decades. For Vice-Admiral Topshee, this increase has stemmed from two developments: first, the proliferation of the shipping container, which has allowed for the easy and rapid transportation of goods by sea; and secondly, the freedom of the seas, which has ensured that cargo can be shipped safely between destinations “on a predictable schedule, at a reasonable cost.” The centrality of water to humanity’s – and Canada’s – modern prosperity is illustrated quite clearly in the rising costs and uncertainty associated with the current challenges to the freedom of the seas and to international waterways like the Strait of Hormuz. The implication, then, is that water and maritime power are central to Canada’s economic interests.

Canada’s status as a maritime nation is evident, too, in its geography. The tremendous expanse of its coastline – some 244,000 kilometres, the longest in the world – presents an undeniable challenge. He illustrated the extent of this distance by recalling personal postings from Victoria to Halifax, or vice versa. Driving between the coasts is 6,000 kilometres, with the CAF allotting personnel 12 days to complete the drive – at five to eight hours daily and a “reasonable pace” of 100 kilometres an hour. “So imagine,” he summarized, “how complicated and demanding it is to patrol 244,000 kilometres of coastline. That’s the challenge that’s in front of us.” For the Vice-Admiral, then, the Coast Guard’s transition into DND “is absolutely fantastic” and will significantly facilitate and enhance efforts “to get after this.”

Defining Sovereignty

Reflecting on conversations about sovereignty, Vice-Admiral Topshee identified that, for him, “sovereignty is knowing everything there is to know about the territory you claim. It’s knowing every bit of information about all the waters of Canada.” By this definition, sovereignty thus involves a knowledge not only of who is operating on or beneath the water but also of how deep that water is, the impact of ice, the location of marine life, and the influence of coastal erosion. It means surveying those waters to contemporary hydrographic standards. It also, therefore, means amalgamating and integrating all people and agencies conducting hydrographic activities – the Navy and the Coast Guard, Ocean Networks Canada, Canada’s Ocean Supercluster, as well as all academics, nonprofits, and technological operators – to cultivate the development of that comprehensive hydrographic understanding.

As such, the Vice-Admiral conveyed that the Navy is currently contemplating the creation of what he termed the Maritime Sovereignty Initiative to constitute the “umbrella” for that knowledge collection and accumulation, “with the goal of knowing everything there is to know about our waters at all times.”

Hybrid Naval Warfare and the Rise of Autonomous Systems

According to Vice-Admiral Topshee, “the reality of naval warfare today is it is hybrid,” involving autonomous and remotely controlled aircraft, submersibles, and vessels operating above, beneath, and on the water’s surface. “That genie is not going back in the box,” he cautioned, and while it is unclear how precisely those technologies will continue to evolve and reshape maritime warfare, it is clear that this “rapid development” will “have major implications for warfare.” The RCN is cognizant of this and directing attention to such systems, primarily through the Advanced Capabilities Unit on the West Coast.

For instance, the RCN ISTAR, he identified, “is just the first of many UAS [uncrewed aerial systems] that we’re going to use.” However, that project has also

offered lessons of “how we can no longer do procurement – big, ambitious capabilities that deliver slowly and expensively.” What the RCN must shift toward, instead, is the “rapid iteration of cheap capability.” While ISTAR thus represents a promising initial step in UAS development and integration for the Navy, it also identified the strong preference for procurement models featuring more rapid evolutions. The Defence Industrial Strategy, for Vice-Admiral Topshee, “is showing us the way to do that.”

Current and Future Platforms, Continental Defence, and the Reorientation of Naval Strategy

However, while generating and maintaining a comprehension of what is occurring on and beneath a nation’s waters is critical, a nation also must “be able to do something about it.” Through its army, air force, navy, cyber operators, space forces, and special forces, a country must maintain a whole-of-government capability to respond to any and all contingencies. The RCN, therefore, is a core component of Canada’s whole-of-government capacity to respond.

While the RCN’s fleet has shrunk since the culmination of the Second World War, it is now “growing and growing proudly,” cognizant of its “need to be strong” for the maritime nation it serves. Reviewing the current fleet, he referenced the Halifax-class frigates, with their “game-changing technology” that now includes the Integrated Platform Management System and Battle Damage Control System, Canadian-owned intellectual property that is now deployed internationally aboard British carriers as well. He pointed, too, to the Aurora, which he described as “an incredibly capable maritime patrol aircraft” that is set to be replaced by the P-8, which is “exactly the capability we need.”

Other procurement and platform acquisition programs promise to significantly enhance the Navy’s capabilities. He cited in particular the River-class destroyers, which he identified as “the future of the Navy” and “an incredible ship” that will also enhance the Navy’s integrated air and maritime defence by enabling it to “see into space” and deploy missiles “that can reach to the edge of space.” Nine of these

vessels are set to be delivered by 2040 through the prime contractor, Irving, with the keel of HMCS Fraser, the first in the class, scheduled to be laid on June 10 – “proof that this capability is on their way.” Moreover, the RCN is eagerly anticipating the acquisition of its new fleet of submarines. These platforms are crucial to ensuring Canada’s “ability to decide who can come into our waters” and deny unwanted entries “in all three of our oceans. It really guarantees we own our waters,” Vice-Admiral Topshee noted. The new Protecteur-class vessels are also currently under construction in Seaspan Shipyards in North Vancouver. Unfortunately, this particular procurement project has experienced delays given the challenge that the yard has faced in developing “a blue-collar workforce in the most expensive place to live in Canada.” This challenge has meant, consequently, that the platform delivery is occurring “slower than we wanted and at a greater cost,” he admitted, “but we’re going to figure out ways to make sure that we can get all of what we need out of this platform.”

There are other needs that have yet to be addressed, however. For instance, while the new Harry DeWolf-class vessels are “fantastic icebreakers” offering “tremendous capability,” the Vice-Admiral cautioned that the class, despite being equipped with some weapons and combat capability, “is not and will never be a combatant. It wasn’t built for that.” He therefore proposed the Navy’s need for the Continental Defence Corvette, to enable Canada and its Navy “to take the fight to the ice edge.” Conceding its present lack of both policy cover and funding, he reiterated that such an ice-strengthened vessel that is capable and indeed designed to operate in, for instance, the Gulf of St. Lawrence “is absolutely what we need.” With an approximate 7,000-nautical-mile range, such a vessel would serve as “the goalie” to Canadian waters and ensure no unwanted entry into the “seaway that leads to the heart of the Canadian [and] North American industrial might.” These Corvettes would inherently complement the functions and mission of the forthcoming River-class destroyers. Indeed, while these destroyers are set to command and defend the other vessels and naval assets, as well as protecting North America, the Corvette would have “a much more limited

capability” centred around “patrolling and protecting our waters.” A fleet consisting of both vessels is, he posited, is essential to enabling the RCN to cover Canada’s extensive coastline. Such a capability is urgently needed: as he cautioned, “I can’t afford to take 10 years to design it,” in accordance with a more traditional procurement cycle. “Two years. We’ve got to have a construction-ready design in under two years.” This will require a fundamentally different approach to procurement, he acknowledged, in which the competition will be centred not in the designing and awarding of the contract but “in delivering the contract.” Such an expedited approach will be imperative to deliver a capability that the RCN effectively needed “yesterday.” The sense of urgency is clear.

Furthermore, while the RCN is set to receive two Protecteur-class vessels from Seaspan, “ultimately,” he argued, “we need four of them.” The decision, initially, to procure two such Joint Support Ships (JSSs) was premised on what he termed “the old way of doing business,” by which the RCN would be responsible for generating an expeditionary task group to deploy and operate “over there.” In this context, that task group would only require one tanker – for instance, the one based on the East Coast – which could then be replaced by the one from the West Coast and thereafter reset as required, allowing the RCN to “probably get away with two.” However, as the RCN increasingly prepares for a defence-of-North America situation, it is now clear that two JSS may not suffice. “When you have to defend each of your coasts,” he illustrated, “set an ASW [anti-submarine warfare] screen, and be ... ready to inspect any ship approaching our coastline,” it is simply untenable for vessels to take the requisite seven days to return to harbour to refuel and subsequently return to their station. Ships must be at sea. What arises, then, is the Navy’s need for a tanker at sea on each coast and, therefore, at least two tankers on each coast at every moment. This need presents a challenge for the RCN: “how do we get to four in a way that Canada can afford and make[s] sense to us? How do we sell government on that?”

The Logistical and Operational Challenge of the Arctic

As Vice-Admiral Topshee continued, “The other thing about Canada is you can’t get away from geography.” Acknowledging debates regarding the extent to which Canada and the CAF should invest in capabilities in the Arctic, he iterated that Canadians’ expectation that their national sovereignty “is inviolable” and that their forces will “do everything necessary to protect it” inevitably demands certain military capabilities.

First, Canada’s forces require the capacity and ability to reach the Arctic. As Vice-Admiral Topshee reflected, this itself is no easy feat. “In terms of naval distances,” he noted, “Tokyo is closer to Victoria than the High North of Canada, and Portsmouth in the UK is closer than the north tip of Baffin Island.” Not only is Canada’s North therefore distant from southern bases, but further challenges stem from the environment of the Arctic. A “sparse and barren” region, the Canadian Arctic inherently lacks “the resources that navies need” – including ports. Reflecting on the Navy’s need to go to harbour to restock groceries and refuel, he observed that “[t]here are no places in our North – nor are there ever likely to be – where we can get supplies in that quantity.” Nuuk offers the only location in the North American Arctic that is accessible year-round. Even if further investments were made into the development of port infrastructure in the Canadian North, he noted, “we can’t change the geography that says it will still be frozen and icy in winter, and Iqaluit will always have 10-metre tides.”

These geographical challenges necessitate the exploration of “a different capability.” Rather than focusing investments in fixed infrastructure on shore, he proposed exploring the concept of an “Arctic mobile base” – alternatively, “an amphibious ship” that is capable of delivering personnel, supplies, and capabilities “from sea to shore without prepared port infrastructure.” Such a platform would enable the Navy to deliver to the Arctic region “whatever the Government of Canada needs” – “a couple hundred Army soldiers, a whole-of-government response to a catastrophe on the ground, a field ambulance, ... [or] a full-scale field hospital.” However, Vice-Admiral

Topshee acknowledged that such a platform has “even less policy cover and funding than the Continental Defence Corvette.”

A Challenge Canada Has Faced Before

As Vice-Admiral Topshee concluded, the Government of Canada is in the midst of “making an unprecedented investment in defence in Canada.” For the RCN, this investment promises long-awaited capabilities and platforms, even as there are yet-unapproved platforms that could expand and enhance the force’s capabilities even further. Though challenging, the geographic realities and variations in Canada mean that “if you build a navy to defend North America, you have built a navy that can defend Canadian interests everywhere in the world. Our geography drives us to a place that just being able to properly defend our own waters guarantees we can deploy everywhere in the world.” The RCN is already doing so, having deployed vessels to each of the world’s continents – including Antarctica, for the first time – during his tenure as Commander of the RCN.

The Navy’s forthcoming platforms will only enhance these capabilities. Vice-Admiral Topshee expressed confidence and, indeed, certainty that Canada can build and develop this navy, “because we are historically a shipbuilding nation.” As an example, he highlighted the prolific shipbuilding activities of the Second World War – the widespread construction across Canada of corvettes, the building of more than 1,000 commercial ships, and the development of shipyards in places like the Beaches neighbourhood in Toronto “because we needed to at the time.” As Canada faces a rapidly evolving geopolitical climate, and the urgent imperative to supplement and enhance its naval capacity, it bears recognizing that it has faced this challenge before. Facing this challenge again is critical as Canada confronts the return of great power – and hard power – competition and comes to terms with the naval capabilities that defending sovereignty and ensuring prosperity will require for a maritime power like Canada.

The Admiral noted that Canada is not there yet, and it will “take us a while.” Canada needs more ships for sure. But there is real progress. The Admiral also noted that the naval reserve is growing and, indeed,

the future is recruiting will be through the reserves. This is not a new idea, it's just being repackaged as new. Canada used to recruit through the naval reserves, and it will do it again – sending new recruits to the West Coast to train. For trainees, Canada will also need a new training fleet. The Orca-class, while an incredibly successful capability, is not enough. Eight is not enough. Rather, the Admiral suggested that the RCN needs around 30 new training craft

based largely in the Great Lakes and the St. Lawrence, where most of the Canadian population resides. These would be commissioned warships, commanded by Lieutenants and equipped with machine guns and secure communications so that every one of them not only trains sailors but contributes to Canada's recognized maritime picture. Wherever Canadians are, wherever there is a naval reserve division, the RCN should put a training vessel.



HMCS Montréal departs Bodø Norway to participate in EX FORMIDABLE SHIELD (Photo: Morgan LeBlanc, CAF)

Commodore Jacob French

Commander, Canadian Fleet Atlantic, RCN

Commodore Jacob French joined the Canadian Forces in 1994 as a Maritime Surface/Subsurface Officer. He has served aboard multiple warships, including HMCS Algonquin, Calgary, Vancouver, and Regina. His shore appointments include as Executive Assistant to Commander MARLANT and Director Navy Strategy – Concepts and Project Director Interim AOR. As a Captain(N), he was appointed to Deputy Commander JTFN, from 2020 to 2023. In 2024, he was promoted to Commodore and is now the Commander Canadian Fleet Atlantic.



The Atlantic Reconsidered: Maritime Security, NATO Defence, and the Return of the Continental Defence Focus

Commodore Jacob French opened the panel with his outlook, as Commander Atlantic Fleet in the Royal Canadian Navy, on the view from and of the Atlantic. Providing an overview of the Atlantic Fleet's recent activities and the astounding pace and global reach of its operations, he also discussed the fleet's ongoing modernization and the optimism – as well as challenges – that those procurement projects offer. Ultimately, his remarks depicted an RCN that is confronting dual and competing imperatives in the Atlantic theatre. First, the enduring personnel shortages and recruitment challenges mean that the Navy must continually find the delicate balance between expanding and training personnel while

simultaneously ensuring ongoing readiness and the capacity to sustain the Navy's rapid operational tempo. Secondly, the increasing focus on the Atlantic Ocean as a strategic theatre in which Canada must be involved and, increasingly, in which it is being called upon to lead is requiring a strategic transition. No longer can Canada concern itself and plan only for expeditionary operations and international deployments. Instead, it must concurrently reorient toward a renewed focus on continental defence and the protection of Canada's own "flank" in the North Atlantic. Interoperability and coordination with allies will be critical to navigating these competing imperatives.

An Expeditionary Navy

Commodore French opened his remarks with “a quick tour of what Canadian Fleet Atlantic has been up to,” including deployments to Guam, the Philippines, Chile, Antarctica, Romania, Northern Europe, South America, and the eastern seaboard of the US. “We are sending combatants, we are sending frigates, and we’re sending AOPVs to very, very far and distant places,” he summarized. “And in every single case we’re doing that,” he continued, “we’re doing our best to integrate with partners and integrate with allies.”

This significant pace and global reach of operations have led to the Atlantic Fleet conducting 75% of the RCN’s international maritime missions. Its three operational frigates “are maintaining a super high pace,” he noted, “and the four that we have coming out the pipeline will eventually do that as well.” While the Kingston-class coastal defence vessels are nearing the ends of their service lives, and several have already been decommissioned, “two or three” remain operational and are set to participate in NATO’s Operation Reassurance this summer, alongside mine-countermeasures allies and partners in the Baltic and Northern Europe. Similarly, the new Harry DeWolf-class vessels or AOPVs are “extremely busy,” both with respect to maintaining an annual presence in the Arctic as well as partaking in international operations. For instance, HMCS Margaret Brooke’s recent rounding of South America and journey to Antarctica involved “important science work” and “important work for [the] Government of Canada.” Notably, it demonstrated Canada’s capacity to attain and operate at both poles and continued to cultivate relationships with South American countries by illustrating “that Canada is also there for them and interested.” This class is anticipated to expand its role and mission set into mine countermeasures activities – “as not a minehunter and not as a minesweeper,” the Commodore acknowledged, “but something that could stand well off at a distance,” commanding mine countermeasure units and deploying its own autonomous and remote mine-disposal systems. “Last but not least,” he identified that the Atlantic Fleet’s diving unit has been “extremely busy” both domestically and internationally, partaking in

demining operations in the Black Sea and critically demonstrating the Canadian flag on NATO’s Eastern European flank. This, in particular, served as a crucial demonstration to like-minded allies and partners of Canada’s enduring presence and commitment to the region, even as the US downsizes its forces in Romania.

Fleet Modernization and the Current Force

Having established the present operations of RCN Atlantic Fleet, the Commodore posed a simple rhetorical question: “What’s next?” He expressed that he “cannot wait” for the day on which the RCN on the Atlantic coast receives and operates its own auxiliary oiler replenishment (AOR) ship. The acquisition of a Joint Support Ship for the Atlantic coast in the coming years will be “really key” in enhancing the RCN’s sustainment capabilities, he identified, and expanding the range of what the Navy can do and where it can do it. “It’s become difficult to do what we do” without such a dedicated, RCN-owned capability, and although he insisted that “we’ve made do,” Asterix is also reaching its end of life. Therefore, the Protecteur class is a long-awaited and highly anticipated capability that the RCN is eager to attain.

The Commodore also highlighted the RCN’s forthcoming acquisition of the River-class destroyer. While noting that this class will offer significantly enhanced combatant capabilities, he also conceded that “it’s a ways away, from my perspective.” Until their delivery, he must “keep the [existing] frigates running for the next 10 years,” to retain their relevance and effectiveness and “keep our skills sharp.” Thus, while expressing optimism at the platforms of the future, the Commodore’s remarks also depicted a certain anxiety for a Navy that is, in the meantime, doing “the best that we can do with what we’ve got in the fleet right now.”

Personnel and Readiness

The Navy is currently, Commodore French noted, facing “a huge challenge” with respect to personnel and recruiting. Expanding on Jeff Kibble’s remarks on the present recruitment struggles, the Commodore revealed that just meeting the personnel demands of the fleet “we are now is challenging.” Therefore, even

more challenging will be “to grow to where the Canadian Forces needs to grow, in terms of total” numbers. In particular, the Navy faces a notable challenge in the middle management tiers aboard its vessels, with the retention of those personnel with 10 to 15 years of sea time representing a particularly painful operational problem for the Navy.

These personnel shortages are having real operational effects for the RCN, which “sometimes,” the Commodore revealed, has “to slow the op[erational] tempo to match what we have for personnel.” Still, “in general,” the Navy presently possesses the personnel required to undertake and execute its missions with the vessels that it has “materially ready.” Maintaining a balance between current combat effectiveness and growing and developing the force required for the future will be a challenge the Navy must continue to address. Finding such a balance, he remarked, is “probably one of my greatest problems”: “how do I bring in this amount of personnel to fill all the gaps and get all those personnel trained and through,” while not compromising “any readiness in our fleet to remain combat effective?” Doing so involves treading a fine balance between pushing junior personnel through while also cultivating and maintaining the readiness to fight. He pointed to exercises like Cutlass Fury and Trident Fury as specific opportunities that seek to ensure personnel are “actually train[ing] as we fight” and that are increasingly tailored toward what the Navy “would actually really have to do.” As he reiterated, it has never “been as critical as [it is] now to train as we fight and to train ourselves to a higher standard than we’ve ever demanded” in the various theatres in which the RCN could be called upon to operate.

The Coast Guard’s Integration Into DND

Reflecting on the CCG’s transition to DND, Commodore French echoed Vice-Admiral Angus Topshee’s keynote remarks in insisting that “it’s been really great to welcome Coast Guard into Defence.” The integration presents “an amazing opportunity for us” in the Navy, he suggested, to enhance the RCN and CCG’s long-standing cooperation, develop improved “best operational practices,” and garner even more knowledge from the CCG, “because we do

a lot of learning from Coast Guard.” It also promises to further facilitate the missions that the RCN and CCG already perform “side by side” in the Arctic and in the Atlantic, setting the stage for them to undertake those joint missions “even better than what we’ve done previously.”

The Return of Anti-Submarine Warfare and the North Atlantic Battlespace

Turning his attention to the Atlantic, Commodore French centred his discussion around three core themes. First, he noted that despite the significant emphasis on Europe and the region’s security concerns (exacerbated further by the US’s drawdown of forces in the region), there is a need for the RCN and Canadians more broadly to contemplate what “we do for NATO, not just in the NATO context of where are we deployed, but what do we do for NATO here at home, and what do we do for Canada as part of NATO here on our own shores?” He noted the new focus in Allied MARCOM on transitioning away from the small task groups that have traditionally joined to participate in six-month defence diplomacy taskings in favour of “an effects-based campaign” covering “every single lane or possible area that NATO has to cover,” including Canada, Greenland, and the Greenland-Iceland-UK (GIUK) Gap. This is bringing new importance to “Canada’s role in the transatlantic sea lane” and thus increasingly raising the question of what Canada is “doing in our own backyard to bolster ... that flank.” Canada must, the Commodore posited, “be more resourceful than we’ve been, be able to use our own resources better than we’ve been,” and continue collaboration with the US on protecting that flank. The RCN, he reflected, has “become more interested in that.”

Secondly, Commodore French asked whether Canada is “advancing our warfare capabilities at the pace of the adversary, and do we do that here in our own corner of the Atlantic, in our own corner of NATO?” Pointing specifically to anti-submarine warfare, he argued that practicing and cultivating a proficiency in that domain “is going to be so key,” particularly “close to where we are, close to home, close to Halifax, and between where we are with Europe.” It is not sufficient for Canada to “just barely keep up” in matching the pace of adversaries’ technological

developments. Instead, Canada must “win” to be able to develop the responses it needs to “win at sea.” A core element of this imperative, for the Commodore, is assessing whether we are “thinking like the adversary” and focusing defence planning “close to home.” The latter, especially, presents “a really, really wicked problem set,” he identified, for a naval force that has become accustomed to expeditionary operations and operational planning. It will be challenging to assess how Canada, with its current capabilities, can both defend its “own backyard” and partake in NATO’s campaign approach, while simultaneously maintaining operations in the various spheres to which it is committed “far from home.”

Finally, Commodore French’s assessment of the view from and of the Atlantic posed the question of whether Canada and the RCN are matching not merely our adversaries but also our like-minded partners and allies in NATO as well as elsewhere. He referenced, for example, the First Sea Lord’s Atlantic Bastion concept and the urgency with which the Royal Navy is undertaking the development of a hybrid fleet that incorporates autonomous technologies. He similarly pointed to Germany’s expressed desire for a “like-minded partner across the seaway.” There are clearly significant opportunities available to collaborate with various allies with whom Canada may not have closely coordinated in the past. As he observed, Canada is increasingly being sought to lead these efforts, not merely partake in them.

For the Commodore, aligning and coordinating Canada’s historical expeditionary approach with the new homeland defence mindset will “take drive and determination, and it’s going to take innovation.” It will require “necessary and hard conversations” with partners like industry and innovation hubs, as well as intelligent and driven collaboration with partners and allies. Only by doing so can Canada and the RCN not only “match the adversary” but also address the challenges it faces in an increasingly tense geopolitical climate, with the resources at its disposal.



HMCS YELLOWKNIFE sails through Norwegian Fjords (Photo: McKayla Ryce, CAF)

Trevor Hodgson

Senior Director, Fleet, Atlantic Region, Canadian Coast Guard

Trevor Hodgson has been Senior Director, Fleet, for the Canadian Coast Guard's Atlantic Region since January 2024, bringing nearly 20 years of operational and leadership experience across sea and shore. He progressed from Navigation Officer to Commanding Officer in 2018, with extensive service throughout Atlantic Canada, the St. Lawrence River, and the Arctic, including two missions to the North Pole. Ashore, he has led key functions in Icebreaking and Regional Operations, including oversight of the Regional Operations Centre and Marine Security Operations Centre. In his current role, he is responsible for the safe and effective operation of the Atlantic fleet, workforce readiness, and the integration of new vessels, with a strong focus on safety and supporting his people.



Sovereignty Through Presence: The Canadian Coast Guard, Maritime Security, and the Shift to DND

Opening his remarks with a brief introduction to the Canadian Coast Guard and its core responsibilities, Trevor Hodgson, the Senior Director of Fleet for the Coast Guard's Atlantic Region, noted that the CCG "offers a variety of programs" throughout Canada. Comprised of four distinct regions – the largest of which is Atlantic Canada – he characterized the CCG as "really focused on enabling safe and economic efficiency and trade in Canada." Arguing for an expanded definition of sovereignty and maritime security to include the facilitation of commerce, sustainment of economic activity, and governing of

maritime space, Hodgson explored how the CCG effectively establishes Canadian sovereignty through its daily operations. His remarks also centred on the CCG's evolution, with its transition to DND and Bill C-12, into an increasingly important contributor to maritime domain awareness, maritime and national security, and intelligence and information sharing. Depicting an agency amid transition, Hodgson posited that the CCG's importance and role will only continue to grow as geopolitical competition surges, as the CCG integrates further into the national maritime security and intelligence apparatus, and as Canada seeks to

diversify its economic relationships abroad.

Redefining Sovereignty

For Hodgson, understanding the CCG and its true importance for Canada requires a tweaking of how Canadians understand, conceptualize of, and define sovereignty. Noting the tendency to associate sovereignty with “the Navy, with the guns, the missiles,” he proposed an alternate view: “that the sovereignty of a country is really how it treats its citizens, how it enables that economy, how it allows people to ... work, live, play, govern in their own country.” By his assessment, then, it is the CCG that fundamentally establishes Canadian sovereignty, while the Royal Canadian Navy and Canadian Armed Forces defend that sovereignty.

“Canada’s Economy Floats,” and How the CCG Establishes Sovereignty

Central to the CCG’s contributions to sovereignty, then, is its vital facilitation of trade and economic prosperity. Echoing Vice-Admiral Topshee’s keynote remarks, Hodgson put it simply and succinctly: “Canada’s economy floats.” In recent years, approximately \$320 billion in trade value has come by sea, with about \$140 to \$150 billion of that coming through Atlantic Canada. That includes trade that uses Atlantic Canada as a gateway to progress further up the St. Lawrence River and into the Great Lakes. Canada’s economy is, clearly, highly dependent on maritime trade.

The CCG is vital to enabling and facilitating this maritime trade – and, thereby, Canadian national prosperity. Indeed, maritime trade relies on cultivating and sustaining the trust of international actors to ensure they feel comfortable dispatching their vessels and goods to trade with Canada. The CCG is crucial in the establishment of that trust – as well as enabling Canadian industries and companies to trade and thereby develop and grow. Hodgson pointed to the CCG’s marine navigation programs like its coastal lighthouses and buoys, its Marine Communications and Traffic Services, and its operation of icebreakers to open the nation’s ice-covered waters to commercial traffic. The CCG also maintains what he termed “response programs” to assist vessels that encounter trouble, through, for instance, oil pollution response and search and rescue

operations. “Developing that entire network of how the Coast Guard works,” for Hodgson, “is how we truly establish sovereignty.”

As he continued, sovereignty also includes “the ability for a country” to “own its resources, do its own science, know what’s happening in its waters.” He thus traced the CCG’s evolution, over its history, from an agency under Transport Canada with a mandate over navigational programs, to – when Canada increased its attention to its fish stocks, water resources, and the environmental concerns surrounding those waters – an agency under the Department of Fisheries and Oceans focusing on oceanographic science, fisheries science, and “building that picture of what’s happening in our waters.” Evidently, the Canadian Coast Guard is one that has historically “migrated” to where Canada has needed it. A similar migration is occurring now. With the times “changing now, Canada needs us to move over to defence” – hence the CCG’s transition to under the DND umbrella.

The Coast Guard as a Maritime Domain Awareness Network

The CCG has evolved significantly since its founding, developing, over time, a fleet of around 128 vessels nation-wide. It also operates 12 Marine Communications and Traffic Services Centres, keeping watch over 17 traffic zones. “Basically, what that means,” Hodgson observed, “is we have eyes everywhere in Canadian waters. If there’s a ship that’s moving, they’re going to be contacted by us multiple times.” For instance, a vessel arriving from Europe will initially clear through Transport Canada at about 96 hours out, before clearing the Eastern Canada Vessel Traffic Services Zone Regulations (ECAREG) in Atlantic Canada within 24 hours of arriving at port. Transiting through Canadian waters, then, will occur via the CCG’s aids to navigation and in contact with the Marine Communications and Traffic Services. Further contact with the CCG comes if the vessel reaches ice and requires Coast Guard icebreaker support, or “if something goes wrong” and the CCG must deploy its search and rescue assets, oil pollution response teams, and/or monitoring and compliance program. The CCG’s persistent awareness, then, of maritime activities throughout Canada’s waters subsequently means, for Hodgson,

“that we have a huge network throughout Canada that can provide a lot of information to a lot of very important partners.”

Integration with Defence

These pre-existing maritime domain awareness assets and capabilities will be of particular utility as the agency moves to DND and “step[s] into that space a little bit more.” This is especially the case given Bill C-12, which provides the CCG with “a clear security mandate” and thereby enables its collection of security information and intelligence, as well as the sharing of those details with its partners. While a novel responsibility for the CCG, which has always gathered information for safety reasons but has never tread into the “actual security space,” Hodgson noted that the CCG is “really leaning into that maritime domain awareness space.”

The Atlantic Region

Narrowing his focus, then, to Atlantic Canada, Hodgson stated that the CCG operates approximately 50 vessels throughout the Atlantic provinces, services five Marine Communications and Traffic Services Centres, and watches over seven traffic zones. The region presents challenges for the CCG. Indeed, while the Atlantic provinces may appear to be “such a tiny bit of land,” particularly in comparison to the geographic breadth of the Western Region, the Arctic, or the Central Area, the CCG’s area of responsibility is “massive,” encompassing approximately 5,000,000 square kilometres and extending “pretty much halfway across the Atlantic.” This represents a tremendous expanse of water in which the CCG is responsible for enforcing fisheries regulations, conducting search and rescue, etc.

The amount of vessel traffic – and, indeed, prospective security threats – that this region contends with also offers insight into the true scope of the Coast Guard’s responsibilities. The Atlantic serves as the gateway for vessels crossing the Atlantic to enter into the Gulf of St. Lawrence and St. Lawrence Seaway, accounting for a sizeable amount of traffic with which the CCG Atlantic Region must keep contact. Similarly, 78% of vessels voyaging into the Arctic originate, initially, from the Atlantic coast. Further traffic stems from the approximately 5,500

SOLAS (International Convention for the Safety of Life at Sea) voyages that enter Atlantic Canada’s waters. “There’s really a lot to keep an eye on,” Hodgson summarized.

New Partnerships and New Opportunities

As the CCG grapples with how it can “do all this” and adapt to its “new space” in the nation’s defence and security architecture, Hodgson observed that “partnership is 100% key.” The CCG has a long-standing emphasis on collaboration and cooperation, via its Marine Security Operations Centres. While its role in those Centres, alongside its federal partners, has tended to be “passive,” the agency’s new security mandate will enable it to “move into that space, lean in, [and] take a bit of a lead.”

Echoing other speakers, Hodgson reiterated that the CCG’s move to DND has enabled it to further enhance its relationship with the RCN. However, the CCG is also enjoying increasing opportunities to elevate its presence on the international stage and cultivate new partnerships. He cited, for example, the recent involvement of CCG leaders in such forums as the North Atlantic Coast Guard Forum, its collaboration with North Atlantic partners to share lessons learned and best practices with respect to, for instance, oil spill responses and search and rescue operations, and its involvement in the Atlantic Maritime Security Coalition, developing training and exercises “and leaning into that space.” He similarly referenced the decision to dispatch CCGS Jean Goodwill to the opening of Canada’s consulate in Greenland as an illustration of how the Coast Guard, through its transition to DND, has offered the government “a few more tools in the toolbox to really project what you want” internationally – in this case, serving as “a nice, friendly, familiar face” and, ultimately, a form of maritime diplomacy. As the Government of Canada looks to diversify Canada’s trading partners and establish new international trade routes, “the Canadian Coast Guard is well poised to be front and centre with that.”

LCdr Charles Knight

**Underwater Warfare (UWW)
Section Commander, Fleet School
Atlantic, on Exchange from the
Royal Navy**

Lieutenant-Commander Charles Knight joined the Royal Navy in 2011 as a Midshipman after growing up in Lincolnshire. Trained at Dartmouth, he completed deployments and exchanges, including operations with 854 Naval Air Squadron (NAS) and training in China, before qualifying in 2015 as an Anti-Submarine Warfare (ASW) Observer on Merlin HM Mk2 at 824 NAS. At 814 NAS, he deployed to the Arabian Gulf, supported operations in Maritime Counter Terrorism.

Qualifying as an Observer Instructor and Helicopter Warfare Instructor in 2019, he led training at 824 NAS and embarked on HMS Queen Elizabeth. In 2022, he served with the UK Carrier Strike Group, coordinating air operations and planning. He now serves in Halifax with the Royal Canadian Navy while pursuing postgraduate studies.



A Warfighting Mindset: The Atlantic, Undersea Conflict, and Allied Maritime Integration

“From a UK perspective,” Lieutenant-Commander Charles Knight began, “the Atlantic is central to how we think about deterrence and warfighting.” His ensuing remarks offered a clear assessment of the current North Atlantic security environment, particularly its transition from a presumably uncontested transit region into an operational theatre of persistent strategic competition involving grey-zone activity, renewed great power rivalry, and a growing

NATO focus on warfighting, readiness, resilience, and integrated combat power.

Lieutenant-Commander Knight began his remarks by “grounding this discussion in reality rather than theory.” He recounted an operation, a few weeks prior, in which the UK – collaborating with Norway and other allies – tracked a Russian Akula-class submarine and the spy vessel Yantar as they operated around

crucial undersea infrastructure in the North Atlantic. The month-long operation involved Royal Navy warships, maritime patrol aircraft, and hundreds of personnel “maintaining persistent contact.” This operation illustrated a vital point: “the most significant threats in the Atlantic today are often unseen and silent” and are “increasing in frequency and also intensity.” That is why, he observed, “we’re shifting very deliberately from an operating mindset to a warfighting one, with the North Atlantic at its absolute core.” His remarks thus presented the UK’s view along three themes: “how the Atlantic operating environment has changed, how we’re adapting to it, and why integration across our allies is now absolutely decisive.”

The Atlantic as a Contested Battlespace, and the Importance of the Undersea Domain

As Lieutenant-Commander Knight revealed, how the UK understands the Atlantic region has fundamentally shifted. In the aftermath of the Cold War, “the Atlantic became something that we transited across. It was important, but it was largely uncontested.” Now, that is no longer the case, with the North Atlantic region instead seeing “a state of persistent state competition.” This competition, too, is substantially more challenging and complex than at any time in the past. The threat is not confined to the “traditional sea lines of communication,” nor to the operation of submarines in the GIUK Gap or to platform-versus-platform conflicts. Rather, the threat is increasingly comprised of system-versus-system threats, integrating physical, digital, space-enabled, and multi-domain threats – echoing, in many respects, Minister Colton LeBlanc’s description of the expansion of the maritime domain and the “convergence of challenges” there. Practically speaking, Lieutenant-Commander Knight observed, “this system includes a more active and capable Russian submarine force, specialized seabed capabilities targeting critical infrastructure, increasing activity in the High North and the Arctic, and a growing reliance across all of us of undersea cables and energy networks.” Similarly, the prevailing threats are frequently grey-zone or hybrid in nature, below the threshold of war and outright conflict – seeking, instead, to purposefully “probe, disrupt, and create advantage, specifically without triggering a

conventional response.” The inherent complexity of this environment, as well as the changing character of the threat being faced, requires a fundamental reconceptualization of and reorientation in national approaches to the Atlantic.

For the Lieutenant-Commander, the matter of undersea cables and energy networks bears particular attention as a strategically central domain. “For the UK as for Canada,” he identified, “the seabed is not just geography. It is a strategic and economic lifeline” through which trade, energy, and data all run. The criticality of such infrastructure inherently makes it an attractive target for prospective adversaries. Indeed, the infrastructure is “being actively targeted.” This vulnerability and susceptibility would only be exacerbated further during an outright conflict or crisis.

As Lieutenant-Commander Knight continued, the changing nature of the threat in the Atlantic, which has now expanded and evolved to include below-the-threshold, hybrid attacks against critical undersea infrastructure, has compelled NATO to adapt and reorient itself “far more seriously around the North Atlantic and the High North not as a rear area but as an operational theatre in its own right.” Conversations around readiness have evolved to focus not on the capacity of forces to deploy but, rather, their ability to detect, interpret, comprehend, and respond to the ambiguous and difficult-to-attribute activities that are already occurring.

From an Operating Mindset to a Warfighting Mindset, and Redefining Readiness

This reorientation in NATO’s conceptualization of the North Atlantic, he revealed, has propelled a concurrent evolution in how it conceives of maritime power – namely, compelling its transition “from an operating mindset towards a warfighting one.” This transition is reflected in the shifts in how NATO forces define readiness, structure their forces, and conduct training. It is seen in the reorientation in emphasis from presence, defence engagement, and global operations – “all still important,” he acknowledged, “but no longer sufficient” in the contemporary security and geopolitical environment – to ensuring the capacity to put forth “a credible

combat power and integrate it quickly and sustain it under pressure.”

This shift has critical implications for the conceptualization and understanding of readiness. Indeed, the definition of readiness has evolved from questions of availability and the capacity to sail, instead considering “the ability to fight” and “transition rapidly from a routine operation into conflict” – thereby including considerations of people, maintenance, training, and decision speed. There is clear similarity between these remarks and those of Commodore French regarding the importance of retaining readiness while simultaneously training personnel “as we fight.”

The System-of-Systems Approach

Moreover, maritime power itself is being reconceptualized as the Alliance continues to adjust how it considers its capability. In place of the past model revolving around a finite number of independently operating and extremely capable platforms, Lieutenant-Commander Knight observed that NATO is “now working more towards a system-of-systems approach,” seeing the cross-domain integration of “sensors, decision makers, and effectors.” Cognizant of the changing character of war, this system-of-systems approach inherently encompasses both crewed as well as uncrewed systems, collaborating and cooperating “to generate mass persistence and adaptability.”

Moreover, given this transition to a system-of-systems approach, NATO is recognizing the imperativeness of a multi-domain approach that ensures resilient access to the cyber and space domains. “Maintaining the freedom of action in those domains,” Lieutenant-Commander Knight argued, is “fundamental to maintaining maritime effectiveness.”

In the North Atlantic, this recognition is translating into deliberately integrated approaches. For instance, he identified that the Royal Navy’s new warfighting plan centres around the “Atlantic Bastion approach.” While focusing, first, on the protection of the nuclear deterrent, this approach also critically prioritizes securing critical infrastructure and “maintaining advantage below the surface, through creating mass and persistence, protection of our critical underwater infrastructure counter-threat capability, improving our

underwater warfare lethality, and improving existing current capabilities that exist on the seabed and at sea.” Considered in conjunction with the Atlantic Strike – the Royal Navy’s capacity to effect long-range maritime strikes – and Atlantic Shield – a layered system of air and missile defence – this “triad in the warfighting plan” is “designed to operate as one singular system.” This reflects broader trends toward integrated all-domain architectures and operations.

The Challenge of Capacity

According to the Lieutenant-Commander, this shift toward a recognition of the increasing decisiveness of the undersea domain and burgeoning understanding of the need to understand and control “the entire underwater battlespace, including infrastructure, seabed activity, and autonomous systems,” has exposed a collective constraint among NATO allies: capacity. Hybrid and grey-zone activities are, at their core, intended to test national resilience “long before it reaches the level of collective defence.” The enduring and long-term nature of this test inherently strains personnel, munitions stocks, capabilities, and the long-term sustainment of operations. In effect, questions of readiness have also, in this environment, extended and expanded to include a nation’s and NATO’s capacity to “endure as well as respond,” to sustain responses over the longer term and under enduring pressure.

NATO, Minilateralism, and Allied Integration

Fortunately, ensuring this readiness and cultivating this resilience are not individual and isolated endeavours. Rather, Lieutenant-Commander Knight observed that, in the North Atlantic, there is a clear prioritization of integration with and among allies that is indeed serving as “the decisive factor” in the region. NATO is at the heart of this coordination. However, he noted that operations within NATO are also transforming, moving from forces simply operating beside each other to the integration of those forces “into a shared system.” Similarly, he observed a similar trend toward the development of “smaller, focused groupings,” such as regional partnerships, nation-to-nation cooperation, and the Joint Expeditionary Force. Such instances of minilateralism – while “not a replacement for NATO”

but rather “an enabler of it,” working alongside and beneath the Alliance structure – serve as force multipliers that effectively enable individual nations “to move faster, integrate more deeply, and focus on specific challenges.”

Canada’s Strategic Role in the North Atlantic

Lieutenant-Commander Knight’s remarks thus emphasized Canada’s strategic importance to Atlantic defence. From the UK perspective, Canada is inherently core to the North Atlantic. He noted that the country “is geographically and operationally indispensable” to the regional system, due in large part to its unique physical positioning between the Atlantic and the Arctic, as well as its concurrent roles within NATO and NORAD – two inherently complementary and “mutually reinforcing” frameworks. This perceived indispensability, in turn, translates into “three expectations”: namely, Canada’s contribution to regional awareness, its integration into and participation in collective operations, and its capacity to sustain capability in the long term.

With these expectations in mind, he remarked that the UK and NATO allies more broadly are paying attention to and cognizant of the Government of Canada’s pledge to increase its military and defence investments. What remains to be seen, for our allies, is the rapidity with which these investments will be converted into “deployable and sustainable capability within the wider allied system” – thus framing Canada’s defence investments as not merely a matter of national security but of regional and alliance-wide

importance as well. His remarks suggested that the CCG’s integration into DND will assist with this mandate. Referencing the “broadening of what contributes to maritime security” and the “critical role” organizations like coast guards play in developing and sustaining presence, awareness, understanding, and resilience, he remarked that “anything that improves our ability to see, understand, and respond in the maritime domain is a net gain.” The implication was clear and echoed the remarks of his co-panellists: the CCG’s incorporation into DND promises to profoundly benefit the nation’s overall security and defence architecture in its maritime regions, including in the Atlantic.

The Challenge Today

Lieutenant-Commander Knight reiterated that the challenge at the heart of the Atlantic region has fundamentally shifted. No longer is the challenge about recognizing and understanding the threat at hand. “We understand it very fully and very clearly,” he insisted, thanks to the persistent submarine activity, the threats to critical undersea infrastructure, and the burgeoning competition in and over the Arctic as well as the Atlantic. Rather, the challenge now lies in speed – of adaptation, integration, and the creation of a credible, integrated combat power among NATO allies – “and how effectively we can bring together allies.” For Lieutenant-Commander Knight, “this readiness is not something that we can just declare, but it is something that has to be demonstrated.”

HMCS WINDSOR along with HMCS MONTRÉAL (Photo: Roxanne Clowe, CAF)



Colonel Matt Snider

Deputy Chief of the Integrated Operations Division, North American Aerospace Defence Command

Colonel Matt Snider joined the Canadian Armed Forces in 1998 in the Royal Canadian Artillery. After working through the ranks to Sergeant, he transferred to the Air Force as a pilot. Most of his career has been spent at 427 Special Operations Aviation Squadron. He has also served three years on exchange with the Royal Air Force, as well as in staff roles at 1 Canadian Air Division Headquarters. He is currently posted to the North American Aerospace Defence Command (NORAD) and United States Northern Command in Colorado Springs, where he has served as Command Centre Director and Chief of Operations, and is now Deputy Chief of the Integrated Operations Division.



Warning Across Domains: NORAD, Maritime Security, and the Atlantic as a Continental Defence Frontier

Offering a NORAD perspective on that organization's shifting view on the Atlantic with respect to maritime security, Colonel Matt Snider centred his remarks around four core points: that the Atlantic has transitioned from a transit route to a contested strategic region; that NORAD's perspective on the Atlantic has evolved and expanded to incorporate maritime warning into its continental defence mandate; that NORAD and NATO are ever-more complementary in their respective approaches to Atlantic maritime security; and finally, that NORAD's core mission of

aerospace warning and control has direct and crucial relevance to matters of maritime security, particularly in the Atlantic. Exploring, then, what NORAD needs from Canada as it navigates its new approach to the Atlantic region, his remarks highlighted that NORAD's reorientation toward the maritime domain presents an opportunity for alliance convergence between NATO and NORAD, which are inherently "complementary layers of deterrence and defence across the Atlantic."

The Atlantic as a Strategic Battlespace

Echoing Lieutenant-Commander Knight's remarks, Colonel Snider reinforced the fact that, from the NORAD perspective, the Atlantic region is no longer a simple transit route with assured access. Instead, it has re-emerged as a contested region of increasing strategic competition. Tracing NORAD's historical approach to and comprehension of the Atlantic, he noted that, throughout much of the post-Cold War era, the organization treated the Atlantic "as a secure, strategic backfield logistics corridor or a buffer rather than a battle space." Consequently, the region has historically not received significant focus from NORAD.

However, as the Colonel cautioned, "this assumption no longer holds." Russian naval activity has dramatically increased and expanded, seeing its operation of submarines deeper into Atlantic waters and in closer proximity to the continental approaches to North America. The changing face of war continues to see the increasing integration of space-based effects, cyber operations, and long-range maritime strike capabilities. These combine to erode the once protective effect of geography, meaning that "the Atlantic is not the buffer that it once was" but, instead, a prospective front line. Moreover, echoing Lieutenant-Commander Knight's remarks, the Colonel identified that the ever-increasing instrumentality of undersea infrastructure like energy pipelines, transatlantic cables, and seabed sensors has transformed those capabilities into "strategic centres of gravity" and, subsequently, prospective vulnerabilities to adversarial targeting. In the environment that has emerged from these reinforcing developments, "the Atlantic is no longer simply NATO's ocean and NORAD's buffer," he declared. Instead, "it must be a shared domain of warning, deterrence, and defence."

Maritime Warning and the Expansion of NORAD's Mission

This shift in perception and understanding of the Atlantic has driven NORAD to similarly transform and expand its perspective on the region by more directly integrating maritime warning into the continental defence imperative. Traditionally, the Colonel observed, NORAD has been "associated in

the public mind with aerospace warning and control, oriented northward towards the Arctic." While that mission and imperative "remains foundational," he insisted that it "is no longer sufficient."

Consequently, the 2006 renewal of NORAD included the incorporation of maritime warning as the organization's third objective and mission, as an element also crucial to continental defence. "In order to provide warning to adequately defend the homelands," the Colonel observed, "NORAD requires domain awareness from seabed to space, all the way across the Atlantic" – a sweeping and detailed comprehension of "what happens on, under, and above the Atlantic" that has clear ramifications for North American continental defence. Driven by the understanding that maritime activity today frequently serves as "the earliest indicator of strategic intent" and a sign of forthcoming activities in other domains, NORAD has consequently transformed its organizational view on the Atlantic to make maritime warning central to homeland defence. This transformation has involved understanding that adversaries' maritime platforms – notably submarines – are capable of effects against the North American homeland "without crossing traditional geographic boundaries." This, in turn, increases the reliance on allied maritime intelligence, platforms, and sensors. Moreover, it has led NORAD to incorporate maritime domain awareness into its threat warning at a far earlier stage. "In simple terms," Colonel Snider summarized, "NORAD cannot defend North America without understanding the Atlantic maritime picture, and Canada cannot build that picture alone." Indeed, he identified NORAD's contributions to maritime warning and maritime domain awareness as "a great and relatively unknown value of NORAD for Canada."

NATO and NORAD: From Coordination to Integration

Colonel Snider also concurred with Lieutenant-Commander Knight in depicting NORAD and NATO as inherently complementary and perhaps even "interdependent" in their approaches to maritime security in the Atlantic. He conceded that the two organizations possess fundamentally diverging mandates and "centres of gravity." NATO's mission set focuses primarily on maritime control,

deterrence, forward presence, and “the actual maritime homeland defence forces in the eastern Atlantic,” operating, in the air, up to NORAD’s air defence identification zone. In contrast, NORAD’s objective is, at its core, aerospace homeland defence and early warning, supplemented by its increasing attention to the continental maritime approaches. This apparent converging of attention on the maritime space does not “provide overlap between NATO and NORAD,” he insisted, but rather “depth.” Each organization directly benefits from the situational and domain awareness to which the other contributes – and Canada benefits from the opportunity to integrate early awareness into national and North American defence calculations.

Expanding his discussion beyond the maritime sphere, Colonel Snider revealed that there is increasing interest, especially in recent months, in more deeply coordinating activities between NATO and NORAD and “moving from coordination to synchronization and perhaps even integration.” For the Colonel, it is imperative that this coordination occurs and is perfected now, before the strategic competition devolves further and creates a “degraded and contested environment.”

Aerospace Warning and Maritime Security

For the Colonel, his “most important point from NORAD” focused on the increasing relevance of the organization’s core mission of aerospace control and warning to conversations around and the support of Atlantic maritime security. While acknowledging that contemplations of the maritime-based kinetic threats that could impact the North American homeland often centre around a submarine or vessel, “the reality,” he observed, “is that any weapon intended to strike North America will almost certainly move through the air” – regardless of the platform or domain from which it is launched. Consequently, warning of those airborne threats falls within NORAD’s operational purview, via integrated sensor networks that aim to detect and offer advanced warning of a broad suite of capabilities, including land-attack cruise missiles, submarine-launched ballistic missiles, intercontinental ballistic missiles, and uncrewed aerial systems. The cross-domain nature of these threats inherently links the aerospace and maritime domains and, thereby, highlights the

enduring – and increasing – relevance of NORAD. “Maritime threats,” Colonel Snider emphasised, “do not stop at the water’s edge, and NORAD’s ability to ... detect, track, and, if necessary, engage airborne threats is a critical enabler of North American maritime security.”

What NORAD Needs from Canada

Having thus established the Atlantic region’s transition into an area of active geopolitical competition and NORAD’s importance to the maritime security imperative there, Colonel Snider presented the question of what NORAD subsequently needs from Canada in terms of contributions “to some key maritime Atlantic areas.” First, he identified the need for “persistent maritime sensing and domain awareness from seabed to space.” While current procurement projects of air, naval, and space capabilities are taking clear measures to address this, he reiterated that there are invariably “never enough sensors” to cover the breadth of ocean and sea involved. Furthermore, he advocated for “interoperable data sharing across NATO and binational architectures,” as well as “rapid decision integration” that can link “maritime activity to pan-domain activities and responses.” Finally, enhancing national capabilities and capacities to defeat aerospace threats launched from the maritime domain would be welcomed.

Conclusion

While approaching the panel from four diverging institutional perspectives – the RCN, the CCG, NATO/an international ally, and NORAD – the panellists ultimately converged on several core themes in their contemplations of the view from the Atlantic and the shifting security environment there. Indeed, all speakers clearly and directly iterated that the Atlantic is no longer a secure, assured, and uncontested transit space but has rather re-emerged as an increasingly contested operational theatre, a region of strategic competition, and a “front line.” Moreover, maritime security – in the Atlantic, as well as elsewhere – is no longer a naval platform-on-platform endeavour but has expanded to encompass system-on-system and multi-domain conflict.

Of particular relevance is undersea infrastructure (the strategic criticality and vulnerability of which

emerged as another theme of the panel), autonomous systems, and multi-domain effects, including space-based and cyber-based operations. Grey-zone competition that does not quite reach the threshold of conventional conflict is now enduring and persistent. In this environment, maritime domain awareness and understanding Canada's maritime approaches and the activities therein are crucial. So, too, are integration, coordination, and cooperation among organizations and agencies – whether between the RCN and CCG (which the speakers unanimously welcomed when reflecting on the CCG's move to DND), between NATO and NORAD, between NATO allies, or through multinational coast guard forums or

minilateral security arrangements.

Similarly crucial will be Canada's recognition of its centrality in confronting this security environment in the Atlantic. Whether in Commodore French's insistence that Canada contribute more actively to the defence of its Atlantic approaches, Hodgson's reflections on sovereignty, Lieutenant-Commander Knight's description of Canada's geographic and operational indispensability in the North Atlantic, or Colonel Snider's suggestion of the importance of Canada's role within the NORAD and NATO maritime warning architecture, all four panellists spoke to Canada's increasing strategic significance in the Atlantic theatre.

*HMCS REGINA Warrant Officer
Christopher Garland works while the
embarked CH-148 Helicopter conducts
training during Operation PROJECTION
(Photo: Joel Michaud, CAF)*



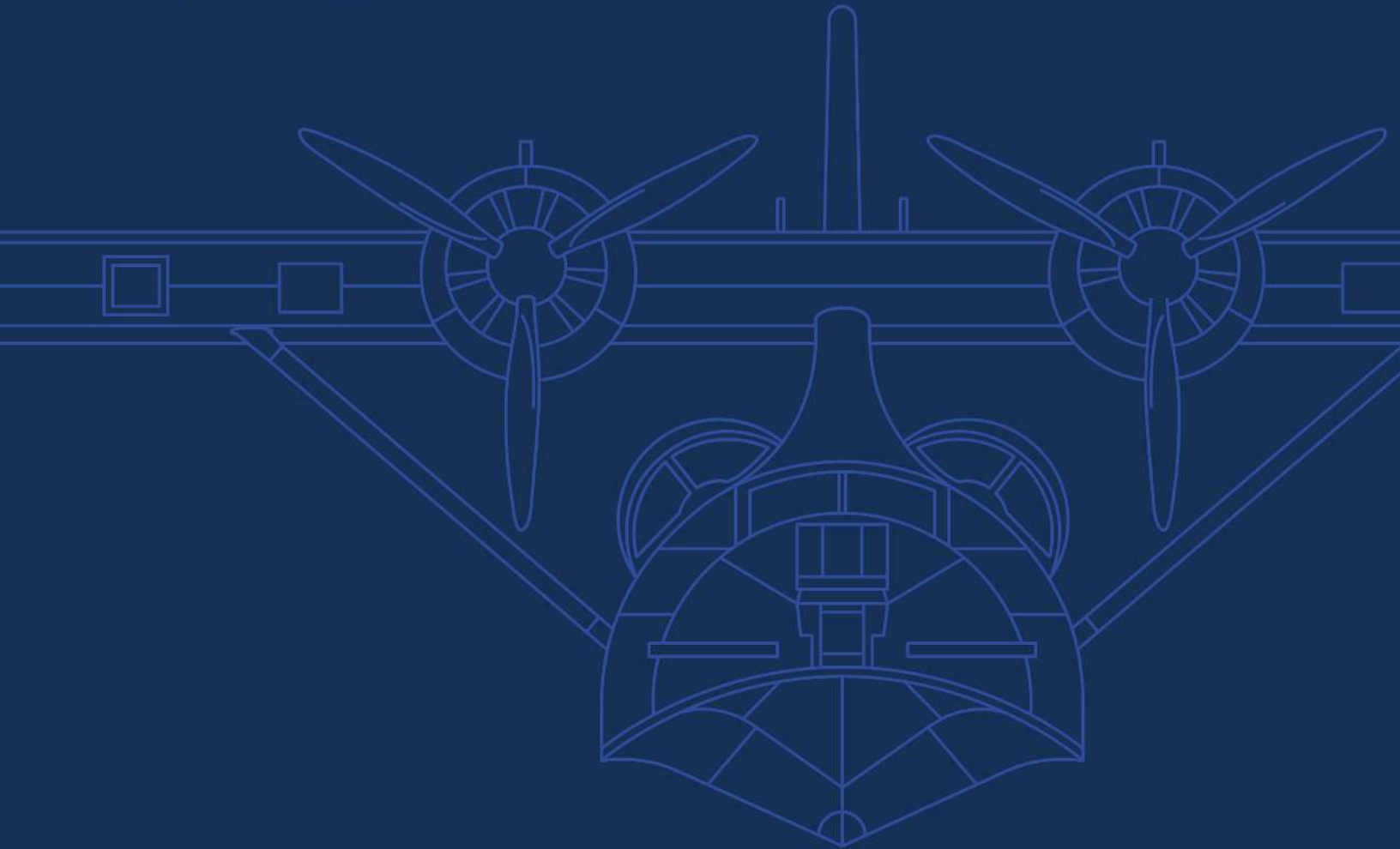


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Commander Senior Grade Kasper Flinker Ladegaard

Defence Attaché of the Kingdom of Denmark to Canada

Commander Kasper Ladegaard serves as the Defence Attaché of the Kingdom of Denmark to Canada, overseeing engagement and partnerships across all branches of the Canadian Armed Forces and with the Department of National Defence and Global Affairs Canada. He brings more than two decades of experience both on land and at sea.

Previous roles have included deployments in the Atlantic, the Indian Ocean, the Mediterranean, and the Persian Gulf, with duties on submarines, frigates, and patrol ships in the Baltics. Later, he held positions in the Danish Defence Acquisition Organization and in the Danish Ministry of Defence, working with Arctic and transatlantic defence policy.



The Danish Perspective: Arctic Security, Defence Modernization, and Allied Cooperation

Commander Senior Grade Kasper Ladegaard opened the panel discussion from the perspective of the Kingdom of Denmark and the Danish Armed Forces. Describing the Kingdom as a “long-term, long-standing alliance partner and friend of Canada” that “very much look[s] at the world the same way,” he reviewed its identity as a maritime nation, its perspectives on maritime and Arctic security, its approach to and priorities in defence, and its present

defence modernization initiatives, which include the critical redivision of responsibility with respect to defence investments. The Commander also documented Denmark’s evolving approach to the Arctic and increasing prioritization of the region in its defence policy, which, together, are propelling the development of further capabilities, enhanced infrastructure, and an elevated presence in the region. In the Arctic, as well as more broadly, Commander

Ladegaard foresaw increasing cooperation between Canada and the Kingdom of Denmark, as allies come to grips with the rapidly evolving geopolitical climate.

Denmark's Maritime Perspective on Arctic Security

Much as other speakers framed Canada as a maritime nation, Commander Ladegaard portrayed Denmark, too, as a maritime nation whose national security and economic prosperity rely heavily on its freedom of navigation and maritime trade. Observing that 95% of trade internationally moves via the sea, he highlighted that 10% of that maritime trade traffic “is carried on ships controlled by Danish companies,” making Denmark “a rather large commercial shipping nation.” The extent of this commercial activity means that Denmark has a strong and inherent interest in the preservation and maintenance of freedom of navigation and a rules-based international order.

Denmark is moreover a maritime nation on account of its geography. Stretching from mainland Denmark in the Baltics region through the Atlantic to the Faroe Islands and Greenland, the vast majority of the Kingdom of Denmark's borders are maritime. In comparison to the paltry 80-kilometre land border it shares with Germany and the one kilometre it shares with Canada on Hans Island, the Kingdom shares over 3,500 kilometres of sea borders with Canada as well as the other Nordic nations. Its straits, furthermore, are the busiest “sea routes in the world,” carrying over 60,000 vessels annually. Many of these vessels are Russian and associated with its Shadow Fleet. Functioning as the gateway to the Baltics, Commander Ladegaard reminded the audience that the Danish straits would, in the event of conflict, be “absolutely paramount to Alliance security and the ability to fight and win in the Baltics.”

With respect to the Kingdom's conceptualization of the Arctic, the Commander noted that the region is “becoming much more important for Denmark.” Certainly, Greenland has always retained significance for Denmark, since the first Danish presence on the island in the eighth century, and Denmark has always recognized the importance of the Arctic region more broadly. However, the burgeoning international interest in the region – given its critical minerals and

the opening of further sea routes due to climate change – is elevating the nation's attention to the region.

The Three Priorities of Danish Defence

Given the broad and “far-reaching” expanse of the Kingdom of Denmark and the extensive swath of its maritime borders, Commander Ladegaard acknowledged that “it is a military challenge to survey that, to defend that.” By his assessment, Danish defence is thus premised upon three core priorities: first, the defence of the Kingdom itself; second, the reinforcement of NATO's eastern flank in the Baltic region; and finally, its provision of “host nation support” with respect to supporting Denmark's allies and, for instance, securing lines of communication through the Atlantic and Baltic to the front line, “if that should happen.” These priorities and the Kingdom's approach to defence are elucidated not in any sweeping defence strategy, unlike many other nations, but rather in defence agreements that are uniquely “stretched in time.” For instance, the current defence agreement is a decade-long agreement that has received backing and approval from a parliamentary bipartisan majority. This ensures a “continuity in our defence investments, in our defence plans,” for the Kingdom that few other nations can boast.

Defence Modernization and the Division of Responsibility

As per the current defence agreement, the Kingdom of Denmark has pledged to meet NATO's defence spending target of 3.5% plus 1.5%. The Kingdom has made substantial investments in defence over the past four years. While its defence spending accounted for 1.3% of its GDP in 2022, this proportion has since risen dramatically to 3.5%.

The Commander observed that the development of Danish defence in recent years has stemmed, in large part, from the “turning point” represented by the Ukraine war. Further investments have come on the heels of threat assessments identifying Russia's capacity to wage a regional war in Europe within two years' time and a grand-scale war in Europe within five years. Occurring in tandem with these expenditures has been a redivision of responsibility

for defence investments in Denmark, in which the Chief of Defence received direct authority from the prime minister to “buy, buy, buy” and invest in the required systems. This division of responsibility has subsequently enabled a vastly accelerated procurement system. For instance, a recent decision for a long-range air defence acquisition took eight months from decision to contract, with Denmark anticipating delivery of the system in about two and a half years. Such “radical decisions” have thus been foundational to the Kingdom increasing its defence investments and capabilities, in both the Baltics as well as in the Arctic. Overall, these investments and this reorientation in the division of authority in military procurement speaks to concerted national attempts to accelerate defence modernization and capability acquisition.

Developing and Investing in Arctic Operational Capability

This acceleration in defence spending has recently entailed the prioritization of Arctic capabilities. In 2025 alone, the Kingdom of Denmark allotted \$19 billion CAD to Arctic capabilities. While reiterating that this increased investment does, in part, stem from the mounting international interest in the region, he also emphasized that “the focus from Denmark on the Arctic is not new.” Rather, the Danish military has maintained a year-round presence in the North Atlantic and Greenland over the past 80 years at least, operating vessels, airplanes, helicopters, and special forces around the Faroe Islands and around/in Greenland throughout the year. Of course, as the geopolitical climate has shown signs of profound deterioration over the past decade, there has been “an exponential development” in the attention and investment that Denmark is according to the Arctic region.

As part of this heightened attention, the Kingdom is committing to the establishment of “a much larger presence” in the region, “working with allies” to enhance its military capabilities in the Arctic. New Arctic patrol ships are to be constructed, surveillance capabilities will be enhanced, and other investments have been made – like Canada – in the MQ-9 remotely piloted aircraft system. While the details

have yet to be ironed out, the Kingdom has pledged to acquire maritime patrol aircrafts, as well as investing in further F-35s. A new icebreaking capability is set to be acquired, and the Commander outlined that “we are investing in space capabilities, space surveillance, and we are developing, at the moment, a fleet plan, much like the National Shipbuilding Strategy of Canada.” Moreover, the planned construction of further airports in Greenland, the development of a naval berth at Nuuk, and the enhancement of existing facilities at Kangerlussuaq (the primary operating base in Greenland) are indicative of a recognition that platform and capability acquisitions must be matched, in the Arctic, with physical infrastructural investments to sustain and support continued and effective operations. Defence agreements have, therefore, also committed to improving and expanding the Joint Arctic Command, the Danish Armed Forces’ headquarters in Nuuk.

Allied Cooperation and Arctic Security Integration

The Commander concluded his remarks by noting that Danish–Canadian cooperation “is evolving and is evolving pretty fast.” He pointed specifically to the two nations’ 2026 signing of a defence cooperation agreement delineating their intermilitary cooperation, as well as their joining – alongside Norway and Germany – of the Maritime Security Partnership in the Atlantic. He also identified the recurring deployment of Danish mine countermeasures teams into the Canadian North, in addition to Denmark’s exploration of the feasibility of developing its own variant of the Canadian Rangers in Greenland. Perhaps most explicitly, this cooperation is evidenced in Commander Ladegaard’s posting, in 2025, as the first permanent Danish defence attaché to Canada, making Denmark the first Nordic country to host such an attaché in Canada. For the Commander, who foresaw “a lot of great cooperation in the future,” these initiatives represent only the tip of the proverbial iceberg with respect to future Canadian–Danish cooperation. They also suggest the mounting importance, in Arctic security, of multinational cooperation.

Commander Alexis Dieryckx

Strategy, Policy and Doctrine Division, North American Aerospace Defence Command

Commander Alexis Dieryckx completed a Royal Military College of St-Jean, Quebec, Bachelor's degree in Military and Strategic Studies, with a minor in Military Psychology. He served as a Naval Warfare Officer on Iroquois- and Halifax-class warships and progressed through myriads of staff positions in various headquarters, including Canadian Forces Recruiting Group in the Quebec City Recruiting Centre, Chief of Maritime Staff in Ottawa, NATO's Joint Force Command in Naples, Combined Maritime Forces in Bahrain, and NORAD in Colorado Springs.



“A Great Time to Be at NORAD as a Canadian”: Arctic Defence, Alliance Integration, and NORAD Modernization

Commander Alexis Dieryckx approached the topic of Arctic and continental defence from his perspective as a Canadian based in NORAD. Beginning his remarks with a compelling reflection on Canada's evolving role and relevance within NORAD, as well as the Canada-US defence relationship as Canada increasingly signals its intent to elevate its defence and security investments, he highlighted the current and forthcoming efforts to modernize NORAD and enhance the Arctic domain awareness that is so crucial to its overall mission. Framing the Arctic as a region in which alliance cooperation is imperative, his remarks depicted the North as being in the midst of a

transformation, thanks to technological modernization, the move to enhanced domain awareness, and the impetus for increased allied operations and cooperation.

The Value of Allied Experience and Cooperation

A core theme in Commander Dieryckx's remarks was the criticality of collaborating and cooperating with allies. Drawing on his experiences working alongside allies at NATO Force Command in Naples, the Combined Maritime Forces in Bahrain, and now NORAD (adjacent to US Northern Command or

NORTHCOM, working alongside and integrated with the Americans), he reflected on how such collaboration allows personnel to learn about other forces' cultures, objectives, activities, and ways of "do[ing] business." Exposure to such information subsequently enables an understanding of "where our challenges come from, who speaks what language, who operates in which ways." Such a comprehension of how allies cooperate and indeed operate is crucial for multinational defence collaboration. It also aptly demonstrates the challenges of such partnerships in an increasingly complex yet interconnected international security environment.

Canada–United States Relations and NORAD Cooperation

The Commander thus reflected on what it is "like to be a Canadian in the United States surrounded by American coworkers," given the enduring tensions over Greenland and the ongoing 51st-state rhetoric of the second Trump administration. Ultimately, his remarks suggested that, in spite of this rhetoric and the tensions in the bilateral continental relationship, military cooperation in NATO headquarters has remained professional – if not become more productive. As he noted, "NORAD is institutionalized" as a joint operating centre. The political environment has no impact on the practical, day-to-day taskings of "keeping an eye" on the skies and maritime approaches and "defending North America."

Indeed, he observed that the Government of Canada's heightened discourse around defence has fundamentally shifted how Canadians in NORAD are perceived. No longer are discussions centred around Canada's apparent inability to meet NATO defence spending targets. Instead, Canada – thanks to the recent attainment of 2% of GDP on defence spending, pledge to meet 5%, and ongoing pledge to "invest, invest, invest" – is now seen as a more serious and capable partner that is rapidly boosting its military posture and capabilities through commitments, for instance, to NORAD modernization and to bridging the gaps in Arctic defence via improvements to communications, sensors, etc. Recent policy initiatives like Our North, Strong and Free (ONSF) have, he noted, also provided concrete evidence of the government's commitment to supplementing its

military's "tools," including through investments in Arctic infrastructure, cloud-based command and control, and over-the-horizon radar. There is a recognition, he insisted, that Canada is "going to be a more effective, stronger force, giving the Government of Canada and the instrument of power that is [the] military more options, military-response options" – thereby producing "a stronger ally" in the NORAD architecture. This evolving domestic environment in Canada regarding defence and defence spending has thus made it, Commander Dieryckx revealed, a "great time to be at NORAD as a Canadian."

As he reflected, this recognition that Canada is "now becoming a bigger player" generated an incredibly "positive response" at NORAD headquarters. "They want to work with us," he said. In fact, he observed that there has increasingly emerged some "frustration" among American colleagues at NORAD over the rapidity and singular focus with which Canada's defence modernization is progressing, specifically with regard to force generation. The Canadian structure benefits from having one centralized Chief of Defence Staff, "one mission, one direction." This enables the Army, Air Force, and Navy "to collaborate seamlessly" and offer clear descriptions of investments and projects, as well as facilitating the development of dedicated teams to advance those projects. In contrast, the force generators in the US military are the individual services. For these services, the foremost priority is not NORAD but rather the specific platforms and capabilities they desire for their specific services. Therefore, NORAD modernization often tends to be an afterthought in services' annual requirements.

For the Commander, the Canadian presence at NORAD is not merely an operational requirement but also a cultural and political advantage. He framed Canadian personnel at NORAD as being ambassadors and "messengers" for Canada among Americans who, while always respectful and intelligent, are not always well-educated about Canada. "So we take that," he observed, "we leverage that presence at NORAD, presence with them, NORTHCOM right next to us," and "we talk." Such conversations enable Canadian personnel to cultivate an understanding of "how the American machine works" and of its current focus, operationally, on the Indo-Pacific.

Canada as a Strategic Bridge Between Allies

In a brief reflection, Commander Dieryckx suggested that “Canada is in a golden position to be the bridge” between the US and Europe. “We are ambassadors, and we are conciliatory.” This, he observed, uniquely positions Canada to reduce frictions, “tone down the rhetoric,” and facilitate cooperation between the allies.

Arctic Cooperation and Arctic Operations

Commander Dieryckx’s reflections on the Arctic emphasized multinational cooperation, not just among the allied nations of the Arctic Seven, but also among non-Arctic allied nations with a vested interest in the region – namely, France, Germany, the UK, and the Netherlands. He highlighted, as an example of such institutionalized cooperation, NORAD’s hosting of an Arctic Summit in Colorado Springs in early 2025, in which it assembled “force employers” and policy leaders to discuss the protection of North America. Through the participation of NATO’s Joint Force Command (JFC) Norfolk, it also sought to illuminate “the whole NATO perspective in that dialogue” to thereby identify “the things we need to be better at.” This summit has since evolved into the Arctic Warfighter Forum, which aims to bring together the force employers from those Arctic and Arctic-interested nations – including from the Finnish, Swedish, Norwegian, and Danish headquarters – to “sit down” and “talk about these things.” His later reflections on Arctic exercises would expand upon this point.

The NORAD Wish List: Reducing Domain Awareness Gaps, Routine Arctic Activities, and Integrated Air and Missile Defence

Examining NORAD’s longer-term capability wish lists, Commander Dieryckx noted that, within the coming five years, “we want to reduce the gaps” in maritime and air domain awareness, notably in the Arctic. While doing so is “particularly challenging,” current and forthcoming investments promise “to reduce a lot of those” gaps – or at least make tangible progress. Indeed, in addition to policy initiatives like

ONSF (which offers evidence of the government’s commitment to enhancing military “tools” in the North via infrastructural investments, cloud-based command and control, and over-the-horizon radar), he pointed also to projects to, for instance, enhance communications and improve sensors. Given that NORAD is “like a chain, and the weakest link in that chain is where the gaps are,” addressing gaps in the Canadian Arctic is vital to strengthening that link in the North American security and defence chain. Such investments to provide earlier and more advanced warning promise to enhance NORAD’s “left of bang” capacities.

Within the 10-year window, he suggested that Arctic activities between allies, partners, and government departments should “become routine” rather than episodic. Pointing to JFC Norfolk’s Arctic Sentry as a concerted effort “to capitalize on all the allies’ activities that were happening,” as well as to signal NATO’s organization and active preparation for the Arctic theatre to its adversaries, he framed this as just “the beginning. We need to get to a point in the 10-year mark where it becomes routine.” To do so, national exercises like Operation NANOOK could be expanded to include allied nations, with the host becoming “the framework nation” and NATO perhaps “the framework organization.”

Subsequently, Commander Dieryckx identified integrated air and missile defence as something that he believes that NORAD must “figure out” within the next 15 years. Over that 15 years his priority, as a Canadian NORAD officer, is for Canada to achieve full IAMD capability so that the NORAD mission set will benefit. “We got to get into the game somehow,” he identified. If NORAD desires to “really fulfill our mandate” of protecting North America and its infrastructure from threat – including “the new threats of what’s out in the market now for hitting North America” – integrated air and missile defence must be a priority.

Dr. Adam Lajeunesse

Associate Professor, StFX

Dr. Adam Lajeunesse is an Associate Professor and Chair of the Public Policy and Governance Program at St. Francis Xavier University. He is the Arctic and Maritime Security Chair at the Brian Mulroney Institute of Government, a Fulbright Scholar with the Fulbright Arctic Initiative, and Director of the Canadian Maritime Security Network. A specialist in Canadian and maritime sovereignty, security, and circumpolar geopolitics, he is the author of *Lock, Stock, and Icebergs: A History of Canada's Arctic Maritime Sovereignty*, the editor of the *Arctic Operational Histories*, and an editorial board member of the *Canadian Naval Review*, the *Canadian Military Journal*, *Arctic*, and the *American Review of Canadian Studies*.



Weighing Security Needs in the North: Canada's Approach to Arctic Defence

Framing his remarks as “some thoughts on Canada’s framework for Arctic defence,” Dr. Adam Lajeunesse drew on a recent paper published with the Canadian Maritime Security Network to push back against common conceptualizations of the Arctic security environment. Challenging, in particular, popular depictions of the Arctic as susceptible to kinetic and conventional threats, as well as the region’s recent centring in Canadian defence and security policy, he argued that the Arctic is not Canada’s “centre of gravity” in a prospective future conflict. With this reality in mind, he urged a reprioritization of Canada’s finite resources to target the threats that he perceived as more likely to impact the North – namely, hybrid

and grey-zone threats. To this end, he identified a critical need to focus on collaboration and efficiency in the region, cognizant of our military and infrastructural limits in the Arctic, as well as those of our allies. Given the finite resources at Canada’s disposal for military and defence investments, it is imperative that those resources be allocated toward addressing the threats that Canada is most likely to face and where it is most likely to face them.

Reframing Arctic Defence in Canadian Strategy

As Dr. Lajeunesse explained, political discourse in recent years has framed Arctic defence and security as a core and, indeed, the central priority of the CAF.



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Canada's 2024 ONSF positioned Arctic defence as, he observed, "the most urgent and important task" that the Canadian Armed Forces have. Similarly, the 2025 federal election saw both the Liberal and Conservative parties "really leaning into Arctic security," and, since his election, Prime Minister Mark Carney has positioned Arctic security as "a centrepiece of the revitalization of the Canadian Armed Forces." According to Dr. Lajeunesse, what the government's ensuing investments will produce, what threats the nation anticipates confronting in the region, what capabilities are needed, and what Arctic defence will look like largely remain open questions. While the media and many politicians emphasize the prevalence and promise of kinetic threats linked to great power competition – for instance, Russian and Chinese submarines, warships, and icebreakers "surging into" the North American Arctic – Dr. Lajeunesse argued that "this is not necessarily realistic."

Reconsidering ONSF's framing of Arctic defence as

"the most urgent and important task" of the CAF, Dr. Lajeunesse insisted that such a posture misunderstands the nature of the regional threats. In contrast to the predominant framing espoused by media and political leadership, which are prone to exaggerations, he argued that "the North American Arctic is not – in my view, at least – the centre of gravity of global great power competition." While certainly important, evolving, becoming more dynamic, and a region of "real risk," the Arctic is not the centre of gravity in the ongoing great power competition with China and Russia. Rather, the North Atlantic and Western Pacific are by far the regions in which conflict with those adversaries would most likely occur.

The Dangers of Over-Centralizing the Arctic

Such an erroneous framing of the Arctic region as "that centre of gravity," Dr. Lajeunesse cautioned, "creates some serious problems." Defence spending is inherently "a fixed pie," in which funding and resources invested in and allocated to one region

cannot be allotted elsewhere. Consequently, centring the Arctic in defence and security narratives and policies – and, therefore, centring the Arctic in the ensuing investment and resource allocation – ultimately “creates some potential vulnerabilities as we hive off resources that could be used elsewhere.” Such inefficiencies and the diversion of resources from the true centres of gravity could have dire ramifications.

The Primary Challenge: Hybrid and Grey-Zone Threats

It is also ill-advised to centre Canadian defence narratives around kinetic conflict and conventional defence given the type of threat that is most likely to emerge in the Arctic. While conceding that conventional and kinetic threats are not impossible in the region, Dr. Lajeunesse suggested that “they are not the most likely,” given that the lack of infrastructure in the Arctic makes it, “from a pure military perspective, ... difficult to conceive what a Russian or Chinese warship would actually do in the

Arctic.” What is more likely to emerge are hybrid, grey-zone, and unconventional threats below the threshold of open conflict – not just the environmental protection, search and rescue, and safety threats that exist to the left of the defence spectrum, but increasingly the hybrid threats to which Minister LeBlanc, Vice-Admiral Topshee, and Panel 1 had referenced. Examples of such threats include illegal fishing, trespassing, electronic intelligence or “spy” vessels, marine scientific research (MSR) conducted and directed by adversarial states, and civilian actors operating, under state direction, “with malign intent.” All such threats can be difficult to attribute and, therefore, difficult to respond to within conventional means. Yet, they still have the potential to wreak significant havoc and damage. As he reviewed, “We are seeing more and more that this is the modus operandi of our adversaries.”

Rethinking Capability Development and Procurement

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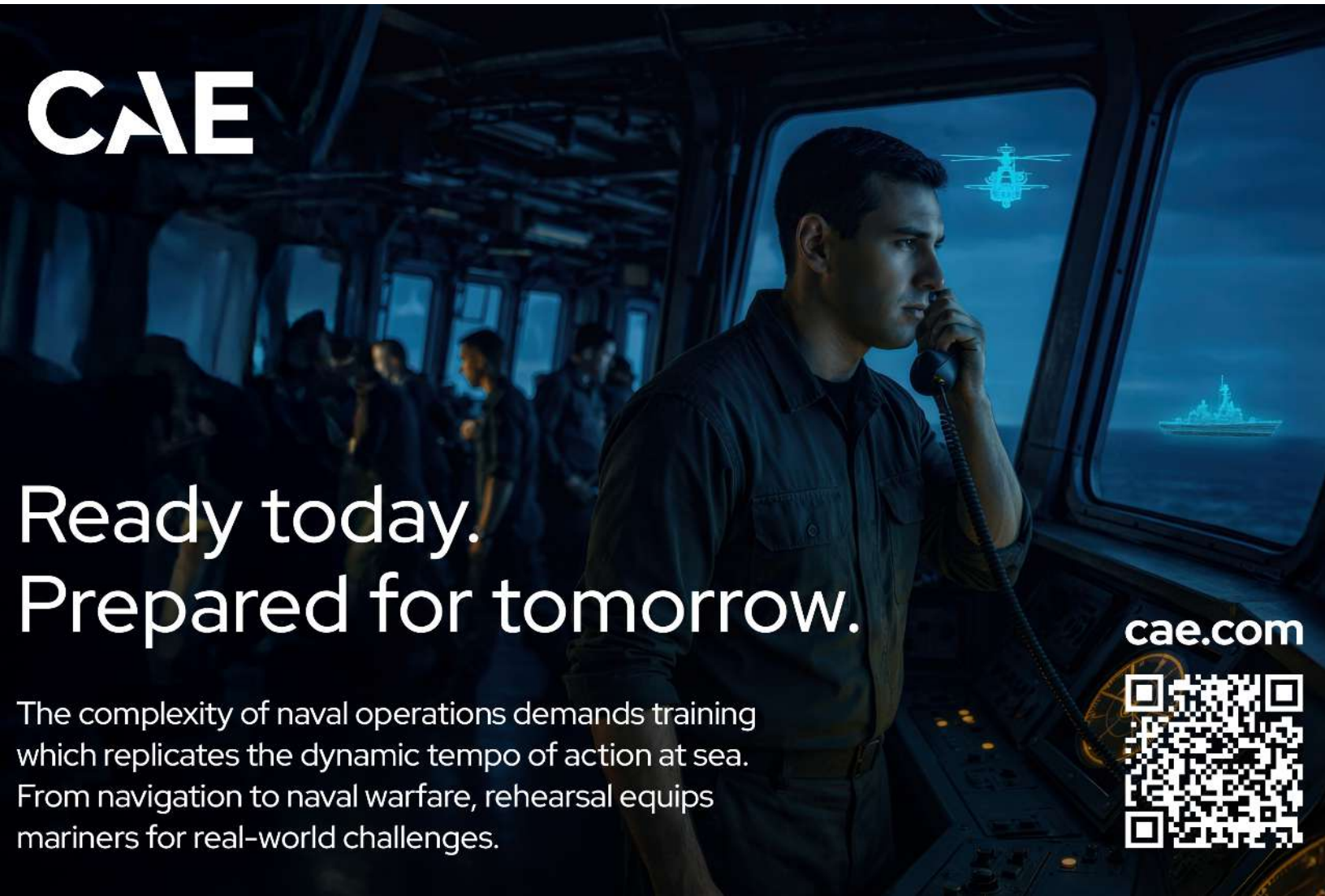
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hybrid threats are what Canada is most likely to face in its Arctic, Canadian defence policy and Arctic capabilities must be tailored toward ensuring the capacity to confront those threats. Recognizing that the different types of threats necessitate different responses inherently influences what capabilities will be invested in and where “those scarce dollars” will be spent. While recent discussions of prospective naval capabilities have emphasized warships, ice-class Corvettes, and submarines operating in the Arctic in response to adversarial kinetic effects, he suggested that these capabilities may be fundamentally ill-suited to the type of threat that Canada, the CAF, and the RCN are more likely to confront in the region. Consequently, those capabilities represent “resources that are being drained away from the North Atlantic” and which are poised to be of little utility in facing the likely threat scenarios in the Arctic. As such, he proposed a reorientation in defence policy and capabilities toward the unconventional, hybrid, and grey-zone

threats “that are much more likely to emerge and are much more dangerous to us.”

In practice, such a reorientation should involve tailoring the nation’s response in a way that prioritizes the capacity to respond to such hybrid and grey-zone threats. For instance, describing the Arctic and Offshore Patrol Vessels as “fantastic platforms” that are “tailored for Arctic operations,” he recommended expanding the class’s capabilities through the addition of modular weapons systems and drones to enhance their surveillance capabilities. Similarly, he identified the potential desirability of arming or preparing the CCG to engage in the grey-zone threat environment – not in an active combat scenario, but rather enabling and training its personnel to, for instance, interdict illegal fisheries, malign MSR, ELINT vessels, and trespassers. Such capabilities would be more attuned to the likely security threats in the Arctic than conventional and kinetic capabilities like warfighters, corvettes, and submarines.



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Expanding International Collaboration

As another prospective “solution” to the Arctic’s likely threat environment, Dr. Lajeunesse pointed – as did his co-panellists – to the value of heightened cooperation. Emphasizing the vast geography of the North, the scarcity of infrastructure, and the tremendous operating expenses for the region, he observed that these constraints translate into the practical need to leverage capabilities not only across the Government of Canada but also across North American allies. In particular, he identified the Kingdom of Denmark, and – despite the current bilateral political tensions – the US, given that the nation remains, operationally, “an obvious partner that cannot be ignored.” To this end, further formalization processes could be undertaken, joint surveillance and joint tasking/interdiction could be discussed, and even joint access agreements could be formalized to permit American, Canadian, and Danish vessels to transit through each other’s waters

“with simple clearances at a service-to-service level.” Such arrangements would not only have safety, security, and defence advantages but also help “to avoid unfortunate misunderstandings, which historically have led to sovereignty crises.”

As part of his discussion on this need to expand international cooperation in the Arctic, Dr. Lajeunesse commented on what he has observed to be a “built-in” insecurity within Canadians. Specifically, this insecurity relates to the frequent assumption “that any cooperation with the Americans must be lopsided and must be detrimental to our sovereignty and our independence.” Instead, he argued that in the Arctic, Canada currently brings more Arctic capabilities – like icebreakers – to the table than our southern neighbour. For Dr. Lajeunesse, Canada’s more extensive capabilities in the Arctic region offer politicians “an area where we can leverage that capability, both in the region but also in the much broader defence relationship.”

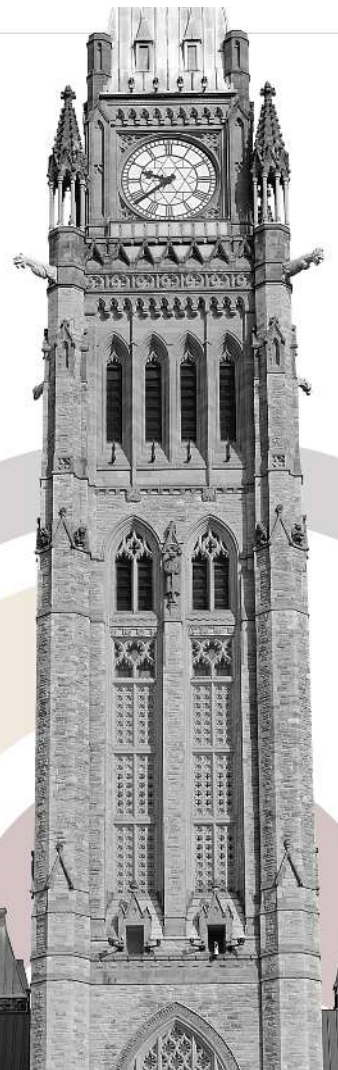


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Jason Rimmer

Director of Maritime Security and Intelligence, Canadian Coast Guard

Jason Rimmer is the Director of Maritime Security and Intelligence for the Canadian Coast Guard, where he provides national strategic leadership for Canada's maritime security program, including oversight of the National Command Centre and coordination with partners such as the Canadian Armed Forces, Royal Canadian Mounted Police, Canada Border Services Agency, Five Eyes, and NATO allies. With over two decades of operational and executive experience across the Great Lakes, Central, and Arctic regions, he has held senior roles including National Director of Search and Rescue, Superintendent of the Central and Arctic Regional Operations Centre, and Commanding Officer of multiple Coast Guard vessels.



Joining the Defence Team: The Canadian Coast Guard as a Core Contributor to Arctic and Continental Defence

Building from Trevor Hodgson's Panel 1 remarks, Jason Rimmer explored the theme of Arctic and continental defence from the perspective of a Canadian Coast Guard that is fundamentally in a phase of profound and dramatic transition. Exploring the agency's ongoing evolution from a predominantly service-oriented organization into a core component of the defence team and significant contributor to Arctic and continental security, he framed the CCG as providing the persistent presence, enduring domain awareness, and overarching partnerships with northern communities that will be imperative as maritime activity and geopolitical competition expand in the

region. Explaining that the Arctic is becoming increasingly accessible and, concurrently, increasingly important strategically, he insisted that Canada's capacity to operate there "depends on presence, awareness, and partnerships." The CCG delivers all three, and with its transition to the Defence Team and the evolution of its mandate to encompass security, "it's advancing to play a more direct and integrated role within supporting Arctic and continental security."

The Arctic Challenge

Building from his co-panellists' remarks, Rimmer reiterated the operating challenges of the Canadian

Arctic. With over 162,000 kilometres of coastline, 35,000 islands, and 1.4 square kilometres of area – “roughly equivalent,” he observed, “to two-thirds of continental Europe” – the Canadian Arctic is “huge.” This reality creates, for Rimmer, not just the challenge of distance but also “a tyranny of time,” in which “response, coordination, and presence are all constrained by geography and limited infrastructure.” Simultaneously, climate change is warming the Arctic at approximate three to four times the international average, extending navigation seasons, producing less predictable ice conditions, increasing access to sensitive and remote areas, and propelling increases in resource activity and vessel traffic, including by tourists and other non-traditional users. As a result, then, “the Arctic is becoming more accessible, more active, and more contested.” This is, in turn, necessarily “reshaping Canada’s approach to security and defence in the region.”

The Coast Guard as Canada’s Persistent Arctic Presence

In this changing environment, Rimmer portrayed the CCG as a stable, enduring, and consistent presence. “The Coast Guard,” he noted, “has been providing the largest and most consistent federal presence” on Arctic waters, “operating in areas where infrastructure, connectivity, and response capacity remain limited.” Indeed, in many Arctic regions, he emphasized that CCG vessels account for “the only sustained federal presence during the navigational season, enabling Canada to operate in and understand the maritime domain in that area.” While military activity in the region may be episodic, the CCG sustains long-term and enduring operations in the region in which few other federal capabilities exist.

This enduring presence also entails close connections and relationships with Indigenous peoples. The CCG, he indicated, “supports over 80 Inuit, First Nation, and Métis communities, representing more than 80,000 people, with over 60% of Canada’s coastline located within Inuit Nunangat.” In these relationships, the Coast Guard purposefully follows a model emphasizing “in the North, by the North, and for the North,” to incorporate Indigenous knowledge. As he emphasized, these partnerships and this Arctic presence are crucial for the CCG, offering the foundation “of Canada’s ability to maintain

awareness, deliver services, and support sovereignty within the Arctic.”

Climate Change, Maritime Activity, and Operational Risk

A core theme in Rimmer’s remarks was the increasing operational complexity that climate change and elevated maritime activity are having in the Arctic region. As activity in the Arctic continues to increase, Rimmer cautioned that it is doing so against the backdrop of the limited charting, connectivity, infrastructure, and local response capacity that characterize the region. This combination generates “increasing operational risks.” The thinning of sea ice and its increasingly unpredictable nature continue to exacerbate the hazards for navigation and further complicate response planning.

The effect, then, is a heightened demand for CCG services, ranging from environmental response and maritime safety to operational support to partners. There is a subsequent need for stronger coordination with partners and with other departments, elevated readiness, and the establishment and cultivation of a “more predictable presence.” This confluence of challenges also, for Rimmer, reinforces “the need for modernized capabilities and new approaches to operating within the northern environments.”

The Coast Guard’s Emerging Security and Intelligence Role

Rimmer thus reflected on “what’s changed” in the CCG and, in particular, its expanding role within the nation’s security architecture. Noting the CCG’s receipt of “an explicit mandate,” now, “for the security and intelligence activities,” he indicated that this has formalized the agency’s role in the national security architecture, enabling it to contribute “more directly to security outcomes.”

While the CCG “remains a civilian non-enforcement” organization, its integration into the security architecture has expanded its role to encompass three core mandates: the maintenance of maritime domain awareness, enhancing support to security and enforcement partners, and a phased approach to intelligence. For a former “service delivery organization,” this marks a substantial shift and evolution toward being “a more integrated contributor

to Arctic and continental security.”

Maritime Domain Awareness and the Marine Security Operation Centres

Rimmer framed the CCG as “the federal lead for maritime awareness.” Characterizing the maritime domain as requiring “persistent presence,” he identified that the CCG, consequently, provides constant observation and reporting of maritime activity via its aircraft, fleet, and forthcoming autonomous systems. The 2025 incorporation into Coast Guard operations of the Aircraft Services Directorate has further enhanced the CCG’s resources and reach and expanded its available “modes of execution,” enhancing its capacity to identify anomalies, patterns, and prospective risks in the northern approaches.

Of course, information that is collected must be shared to be of optimal utility. As Hodgson had also referenced, the CCG does so through its Marine Security Operation Centres (MSOCs), which constitute “a hub of intelligence,” Rimmer identified, and contribute “to the recognized maritime domain picture by our partners.” The CCG’s contribution of information through these MSOCs thus “further support[s] broader defence outcomes, including informing NORAD’s maritime warning mission and enabling earlier detection of threats.”

Integration with DND and Continental Defence

Another core focus of his remarks was the CCG’s growing integration into the Canadian Defence Team, and Rimmer’s reflections on this integration adopted a similar tone to those of Vice-Admiral Topshee and the Panel 1 speakers. Indeed, the agency’s move to the DND umbrella aligns its operations more closely with CAF priorities as well as NORAD modernization initiatives, enhancing coordination, information sharing, and tasking between security partners and across the Defence Team. He referenced the ability, therefore, to “tighten the OODA Loop” – or accelerate the cycle by which forces can observe, orient, decide, and subsequently act.

In the Arctic specifically, the CCG’s welcome into the defence tent will enable “a more integrated and layered approach to Arctic and continental defence.” This is primarily on account of the “complementary

roles” that the CAF and CCG play in the region, as well as in Canada more broadly. While the CCG offers persistent presence and domain awareness (particularly crucial in the Arctic, where a core operational challenge is the sustainment of enduring presence), the CAF bears responsibility for deterrence and response.

Continental Security and Allied Cooperation

Rimmer then characterized the Arctic as a region that is ever more pertinent to the broader continental defence and security framework, especially as access to and activities in the region increase. In this environment, the CCG contributes to the detection and reporting of maritime activities, and it provides critical support to enforcement agencies like the Royal Canadian Mounted Police and Canada Border Services Agency. Its contributions to continental security also occur via its participation in initiatives like the North American Maritime Security Initiative (NAMSI), through which it partakes in joint operations, supports information sharing, and cultivates interoperability with Mexico and the US. The agency, therefore, is aligned within broader government priorities of Arctic sovereignty and the strengthening of borders.

As Rimmer reminded the audience, continental and Arctic security “are inherently collaborative and rely on strong partnerships.” In this respect, Canada contributes via the Five Eyes, NORAD, NATO, and various lateral and bilateral agreements. The CCG is crucial to these contributions, effectively supporting the NATO, NORAD, Five Eyes, Canada–United States, and maritime domain awareness (MDA) partnerships and ensuring that Canada maintains the presence, awareness, and interoperability its allies expect. By doing so, the CCG actively contributes not only to Canadian sovereignty but also to broader allied collective defence, maritime domain and situational awareness, and intelligence, surveillance, and reconnaissance (ISR) efforts.

Technology, Presence, and the Limits of Automation

While acknowledging that sensors, autonomous systems, enhanced connectivity, and data integration are increasingly shaping Arctic security, Rimmer argued that technology alone “can only go so far” and

is, indeed, “wholly dependent on platforms and presence.” The CCG is crucial in this respect, ensuring persistent presence and operating the platforms required to deploy and sustain those capabilities in the maritime domain. Investments in, for instance, fleet renewal, infrastructure, and sensors are thus crucial to sustaining the CCG’s enduring resilience and operational flexibility, enabling “more persistent or year-round presence aligned with NORAD modernization and broader defence objectives.”

The Coast Guard as a Pillar of Arctic Security

Reflecting, then, on the next decade of the CCG’s operations, Rimmer identified that the agency’s focus

will remain centred around “enhanced presence, modern capabilities, and a workforce that relies on the North.” Fundamentally, this will involve the delivery of programs and initiatives aiming to support science, security, safety, sovereignty, and environmental protection in a shifting geopolitical and operating environment. Such increasing activity in the North only promises to further expand the CCG’s responsibilities with respect to maritime domain awareness, intelligence collection and dissemination, and support to partners in the security space. As he concluded, the “Coast Guard is positioned to be a key contributor to an integrated, multi-domain approach to Arctic and continental defence.”

*HMCS MONCTON and CCGS Pierre Radisson for fuelling in Nunavut during Operation QIMMIQ
(Photo: Felicia Ogunniya, CAF)*



Dr. Aaron Plamondon

Director of Industrial Participation, Irving Shipbuilding

Dr. Aaron Plamondon is the Director, Industrial Participation, at Irving Shipbuilding and is responsible for the company's Industrial and Technological Benefits obligations to the Government of Canada. Dr. Plamondon is an experienced member of the defence industry, where he served in similar roles before coming to Irving, including eight years with Raytheon Company. He received a Masters in War Studies at the Royal Military College of Canada, where he did a thesis on Canadian defence procurement, and a PhD at the University of Calgary focusing on defence procurement and civil-military relations.



A Perspective from Irving Shipbuilding: Industrial Strategy, Economic Sovereignty, and the Defence Innovation Base

Dr. Aaron Plamondon's remarks drew from his experiences at Irving Shipbuilding to situate defence innovation in Canada within the national industrial and economic policies that guide and inform defence industrial activity. Orienting his comments specifically around the Industrial and Technological Benefits (ITB) policy, which mandates that defence contractors reinvest 100% of foreign procurement values back into Canada, he thus reflected on the origins and intent of the ITB, the obligations it presents for companies like Irving, and how Irving in particular has responded to this requirement for both direct and indirect benefits. Dr. Plamondon also highlighted Irving's efforts with

respect to the development of the Canadian defence industrial supply chains, its initiatives to elevate the broader shipbuilding and defence sectors in Canada, and its programs to develop the human capital base that is so essential to the domestic defence industry. Ultimately situating innovation as a collective endeavour involving innovators, industry, academia, and the operational end user, his remarks offered a crucial understanding of defence innovation through the lens of industrial strategy, economic policy, and supply chain development. Defence procurement, through this perspective, is not merely about the acquisition of platforms and capabilities but also about

sustaining public support for investments and strengthening the sovereign Canadian defence industrial capacity.

The 100% Obligation

Dr. Plamondon began his remarks by offering an overview of the national industrial and economic policy that guides domestic procurement companies like Irving. Tracing the origins of the current Industrial and Technological Benefits Policy beyond its 2014 creation to the 1986 Industrial and Regional Benefits Policy and, prior to that formalization, to the 1970s and indeed to 1867, he characterized the ITB as essentially “a political tool to try to ensure that the voter is on board with” the substantial expenditures associated with large defence promises by demonstrating their domestic benefits.

Since coming to Irving Shipbuilding in 2016, Dr. Plamondon’s role has thus been to apply the ITB policy and identify what obligations it imposes on Irving. By his assessment, these obligations narrow down to “the 100% that you’ve heard. 100% of the contract value is what you need to meet.” Practically speaking, this creates an obligation to reinvest \$1 on Canadian soil for each \$1 spent internationally, thereby producing – whether directly or indirectly – 100% Canadian content. This investment must be made within Innovation, Science and Economic Development Canada’s (ISED) priority list, which seeks to focus economic benefits into “the things that are important to Canadians.” This list establishes “priority buckets” for companies to invest in “if and when you have to go to a foreign supplier.” In essence, there is a distinction between direct industrial participation – in which Canadian firms are directly involved in the procurement supply chain – and the indirect investments that must be made in lieu of that direct participation into broader technological and economic benefits.

Remarking on the Type 26 design that is at the base of the forthcoming River-class destroyer, he reminded the audience that it is a British design. This has, subsequently, required frequent procurements from foreign suppliers, “because it was just part of the ship that we bought.” Irving has thus been challenged to ensure that foreign procurements are offset by Canadian investments and, indeed, to determine how

the vessel could prospectively be altered to enable the substitution of the classic British suppliers with Canadian suppliers. This inherently creates challenges and a tension with the Navy’s urgent desire and, indeed, need for the vessels.

Value Proposition

This 100% obligation stemming from the ITB is, Dr. Plamondon revealed, “not all we have” in terms of obligations. As the second obligation, he identified “value proposition” for the shipyards. The first component of this obligation is related to ocean technology and specifically the requirement that shipyards “develop new ocean tech and help commercialize.” In this respect, a understanding Irving Shipbuilding’s ITB investments and contributions to innovation and defence requires a recognition of COVE. In fulfillment of its ITB obligations, including this “value proposition” element, COVE has transformed an old and empty Coast Guard facility into a world-class institute that enables dozens of companies “to test their gear in the water” and benefit from the “support to commercialize and to scale up” – with dozens more companies “on a waiting list trying to get in.” As an illustration of “what this thing can do” in terms of facilitating the growth of domestic innovation firms, he pointed to the involvement of companies like Kraken Robotics. For him, therefore, COVE is intrinsic to Irving’s “commitments and obligations to Canada,” having originated, as an Irving example of “a good value proposition.”

Secondly, this value proposition framework entails skills development. Together, those two components represent the “two major buckets that we need to spend to raise up the broader marine sector with a portion of our revenue.” They moreover constitute “a super important part,” for Dr. Plamondon, “of how the shipyard handles the economic benefit part” of a capability procurement. They also speak to the types of indirect investments, made via the ITB when direct industrial participation was not possible, that are crucial to strengthening and enhancing the national defence and marine sectors writ large.

For Dr. Plamondon, while such systems may elicit doubt from people questioning whether the economic benefit part of procurement becomes more important

than the platform itself, there is a clear reasoning behind the enormity of this “economic benefit part” in Canada. Indeed, it stems from a political understanding that, without broad public support for a procurement project, “they’re probably not going to get support to do it in the next election.”

Innovation Through Operational Problem Solving

Dr. Plamondon subsequently pivoted his remarks to exploring how companies like Irving “solve” the challenges stemming from the ITB. This begins, initially, with efforts to “get more direct work with suppliers.” These efforts are “difficult” and a protracted process, but this collaboration with suppliers seeking to enter the supply chain is “something that we’re looking at every single day.”

When such domestic solutions cannot be identified and the economic benefits element necessarily shifts to the “indirect” end of the spectrum, he noted that consideration then turns to identifying how the company can “do something that’s good for shipbuilding, good for the marine sector, good for the defence sector, innovation and defence.” Often, this then directs focus on “what the shipbuilders in our yard need.” Citing, as an example, “a robot welding crawler” able to ascend the ship’s exterior hull “three stories in the air, which of course is not safe for a welder,” to achieve seamless welds, he noted that such an indirect venture would then lead to “continuous improvement” and the development of “a new technology.” This would then entail the shipyard involving academics and small Canadian businesses to achieve those outcomes, thereby “solving problems in shipbuilding” more broadly while simultaneously providing economic benefit to domestic companies.

Innovating in Response to Operational Challenges

Dr. Plamondon identified, innovations also emerge as a direct response to the operational demands, problems, and desires of the RCN, as the ultimate end user. As he insisted, “We really think it’s important that ... the Navy actually wants to use some of the things that we use,” rather than just the shipyard. As such, he posited that there is an opportunity for shipyards like Irving to become involved in the development of long-sought-after naval capabilities.

Citing, as an example, an additive manufacturing capability that would enable the placement of an additive machine on a vessel to provide spare parts, he observed that the RCN has been examining that possibility for “a long time” but has “never been able to really get there, to a point where ... we know exactly what powder to use, how to certify it, and how to do this every single time.” Consequently, Dr. Plamondon sees such a desired capability as a project “where we can get involved and say, Okay, well, how much funding do we need? Who needs to be involved? How do we make that new powder, and how do we certify it?” Reflecting a common refrain regarding the timeliness of current procurement programs, the certification “actually seems to be the hardest part.” Even if the technology is developed and practically ready for immediate deployment and use, certification can take upward of a year, complicating schedules. Such “technical” and “R&D things” are core considerations for companies like Irving that are at the heart of Canada’s defence innovation and industrial space.

In this respect, Dr. Plamondon pointed to HMCS Margaret Brooke’s 2025 mission to Antarctica – and, specifically, how the scientific equipment was loaded onto the vessel – as another example of an operational problem that directly led industry to develop a solution with broader and farther-reaching operational ramifications. He explained that the expedition was the result of “a \$2-million Irving-funded thing” in which Irving, with the Marine Environmental Observation, Prediction and Response Network at Dalhousie University, discovered “a way to put scientific equipment on any vessel” via the development of “a modular research lab that we can put on any ship, any time.” This has had a demonstrable impact in enabling Canadian ocean research throughout the world. The conclusion was clear, defence industrial innovation often occurs via collaboration among industry, SMEs, innovators, academia, and operational end users.

Building the Human Capital Base

As his final point, Dr. Plamondon turned to people, “that skills development role which really, of course, provides Canadians the skills to lead into improving our defence industry.” He referenced, as an example of Irving’s investments into the nation’s human

capital base, a recent company initiative to offer free funding for 80 students at the Nova Scotia Community College to study for two years in one of three trades – “welding being the most dominant” – and, upon their graduation, likely be offered a job at Irving. In addition to representing a means by which to spend “those economic benefit dollars” and reinvest them into the community, such initiatives – which could, he proposed, expand further in the future to other areas like naval architecture – serve as “a pathway to defence innovation in the industry itself.” Dr. Plamondon highlighted other trades programs geared toward Indigenous, African, and

female Nova Scotians as similar skills development and support initiatives aiming to benefit both Irving and the broader domestic defence sector. This recognizes, of course, the criticality of workforce development to the defence innovation space.



*HMCS Ville de Quebec in the ship
repair graving dock at Halifax Shipyard,
2022 (Photo: ISI)*

Lieutenant Colonel Nadia Kang

Project Manager, Accelerator Programme, NATO Defence Innovation Accelerator

Lieutenant-Colonel Nadia Kang holds degrees in Mechanical Engineering and Military Arts and Science from the Royal Military College of Canada. Her career spans diverse aerospace maintenance and sustainment roles, including work on the CP-140 Aurora at 14 Wing Greenwood, CC-130H Hercules at Assistant Deputy Minister (Materiel), and as a Foreign Liaison Officer in Warner Robins, Georgia. She

also served as Squadron Aircraft Maintenance and Engineering Officer for the Snowbirds in Moose Jaw and supported the P-8 Implementation Team at 14 Wing Greenwood. Currently, she is posted to NATO DIANA's Halifax office as a project manager on the Accelerator Programme, contributing military insight and supporting innovation delivery across NATO.



The View from NATO DIANA: Canada's Defence Innovation Ecosystem and the Challenge of Turning Innovation into Capability

Lieutenant-Colonel Nadia Kang began her remarks by introducing NATO's Defence Innovation Accelerator of the North Atlantic (DIANA) and its efforts to accelerate the development of technological innovations and their delivery into the hands of warfighters. Exploring Canada's involvement in the NATO DIANA program, both as the site of the North American regional office as well as the participation of domestic innovators in the program, her remarks framed Canada as a hub of defence innovation. Examining the attention to maritime innovation among

the program participants, and the promise of autonomous systems for personnel and readiness challenges, she observed a particular challenge in translating innovation into real operational and in-use capabilities. Introducing the concept of "real adoption," she argued that alterations to traditional procurement methods and the development of the domestic defence supply chain will be critical to foster the defence innovation ecosystem in Canada, particularly with the urgency demanded by the current geopolitical climate.

The NATO DIANA Program, and the Urgency of Innovation

Lieutenant-Colonel Kang's description of the NATO DIANA program illustrated a mounting recognition that operational advantage now increasingly stems from technological innovation. NATO DIANA is an organization that seeks to "find innovations from across the Alliance and aim to accelerate those innovations to get them quicker into the hands of end users" and, thereby, establish an advantage for NATO forces over those of adversaries. Emphasizing that "we're not a replacement for national domestic innovation channels or programs" and "we don't do tactics," she reiterated that what NATO DIANA does do is "technology" and attempts to leverage industry to that end.

NATO DIANA does so by running challenges – identifying areas of significant defence interest and asking innovators to offer solutions, calling for applications from across the Alliance. This is a marked contrast from traditional procurement methods that specify the precise capability that is desired for acquisition. The agency is currently running 10 challenges, in energy and power, advanced communication technologies, contested electromagnetic environments, human resilience and biotechnology, operations in extreme environments, maritime operations, resilient space operations, critical infrastructure and logistics, autonomy and uncrewed systems, and data-assisted decision making. In 2026, NATO DIANA received 3,600 applications from across NATO with prospective solutions to these 10 challenge areas. From these, 150 innovators were selected and each received 100,000 euros, access to test centres, and – in partnership with 16 accelerator sites throughout the Alliance, including COVE in Nova Scotia – the benefits of the Accelerator Programme, by which those accelerator sites deliver curriculum and assign mentors. These mentors, drawn from a network of over 1,000 prospective mentors, offer guidance and education in business, technical, and defence matters to facilitate and expedite the innovators' growth – with NATO DIANA even offering human resources and legal support if needed.

Ultimately, Lieutenant-Colonel Kang noted, this Accelerator Programme functions to "advance their solution as quickly as possible" to thereby deliver

those capabilities "into the hands of warfighters." This suggests an urgency and recognition of the need to expedite capability and technological development in the name of technological supremacy, deterrence, and readiness. The rapid expansion of the program further illustrates this mounting sense of urgency: from the 44 innovations selected in the first round of challenges issued in 2024, NATO DIANA selected 73 innovators in 2025 and 150 in 2026. This suggests a mounting momentum in defence innovation across the Alliance.

Canada as a Hub of Defence Innovation

Lieutenant-Colonel Kang's remarks ultimately framed Canada as a hub of defence innovation. First, the very location of NATO DIANA's North American office in Halifax speaks to the role of both Halifax and Canada more broadly at the forefront of the defence innovation ecosystem. Indeed, with its head office in London, England, NATO DIANA's regional office in Halifax – opened in 2024, just one year following the program's 2023 creation – is joined only by one other regional office in Tallinn, Estonia. Echoing Minister Colton LeBlanc's keynote remarks, she identified that Halifax's selection as the location of the North American regional office had stemmed from the extensive defence innovation industry in the area and Canada's concurrent commitment of \$26.6 million over six years to host the office.

Moreover, Lieutenant-Colonel Kang pointed to the disproportionate representation of Canadian innovators among program applicants. Of the 3,600 innovators who applied for the 2026 cycle, she noted that 571 innovators were from Canada. "That's the highest in the Alliance," she observed. Subsequently, 22 of the 150 selected innovations for the 2026 cohort are also from Canadian innovators, who have proposed wide-ranging innovations including the capacity to convert bagged blood into universal blood types, heavy-lift drones for extreme environments, and advanced battery-charging capabilities able to expedite charging in low temperatures. This is indicative of a particularly robust defence innovation sector within Canada.

Maritime Innovation and the Promise of Autonomous Systems

Lieutenant-Colonel Kang noted particular attention among innovators in the NATO DIANA program to

maritime technologies and capabilities, the majority of which are hosted at COVE. This attention has led to such projects as data fusion for ocean mapping, acoustic self-cleaning systems for remotely operating autonomous optical sensors, image sensors for “critical light conditions,” and autopilot for autonomous underwater vehicles (AUVs). She highlighted, too, artificial intelligence systems that can identify “anomalies in the maritime environment” by integrating radar and Automatic Identification System (AIS) information from civilian vessels, AUVs for the monitoring and surveillance of deep sea floors, and the use of passive ultrasonic waves to identify intrusive activities along undersea cables. Also mentioned were autonomous and module long-endurance buoy networks to collect maritime intelligence, biodegradable bioluminescent illumination technologies, and mass-produced, low-cost uncrewed underwater vehicles (UUVs). The emphasis on surveillance, maritime domain awareness, and autonomous systems is notable.

Such innovations, she observed, can have drastic ramifications for broader personnel and readiness challenges. Referencing ongoing personnel shortages, Lieutenant-Colonel Kang noted that “technology can be something that can alleviate some of that, when you have autonomous systems that can do surveillance and you don’t need human eyes on something.”

The Challenge of Adoption and Sustainment

Lieutenant-Colonel Kang’s remarks thus explored what success ultimately looks like for NATO DIANA. Initially, she indicated, the primary metric for success was “people knowing that we exist,” an awareness that was cultivated by “going around and meeting people and telling them what we do and trying to get their interest.” Over the last year, however, the measure of success has fundamentally shifted toward the signing of contracts for innovators. Having established its existence, NATO DIANA is now seeking to illuminate the incredible technologies it has facilitated and progress toward the purchase, testing, use, and “real adoption” of those technologies. Noting that innovators have signed some initial contracts for prototyping and further research and development (R&D), she acknowledged a lack, to this point, of “a full production contract” and the true adoption of those technologies to be

consistent and usefully deployed “in real life” to offer Canada and the Alliance “that advantage over our adversaries.” “We need the end users to really incorporate it,” she said, “to adapt your training, adapt your tactics.” Translating innovations into real operational and in-use capabilities thus inherently presents a challenge.

Expanding on this notion of “real adoption,” she pointed to Ukraine as a case illustrating the utility and value of such an approach. As the war in Ukraine has highlighted, “it’s very possible to take new technology, put it into practice immediately, and that it can be decentralized. You don’t have to have a central procurement agency buying something for your entire forces.” For Lieutenant-Colonel Kang, therefore, moving toward this real adoption may require shifts in procurement policies and procedures, “so that we can enable more innovation to be brought into our forces in a smart way” and integrate innovation into procurement practices so it “just becomes part of what we do,” rather than “a science experiment that we try and doesn’t get incorporated.” Doing so would also require attention to and the development of domestic industrial supply chains. Indeed, truly adopting technologies would inherently require the ability to “scale up” their production. As she noted, “We need the supply chains that don’t all come from China.” Remedying such supply chain and procurement policy deficiencies will be imperative to the “continuing success of innovation.”

Lieutenant-Colonel Kang expanded upon her characterization of Canada as a leader in this defence innovation ecosystem by also identifying it as “one of the leaders” in NATO DIANA’s so-called “rapid adoption service.” After NATO DIANA identifies innovations and offers them the requisite support to advance through the Accelerator Programme, including access to a network of more than 200 test centres dedicated to advancing the technology, “what we also want to do is get them adopted.” The resultant “rapid adoption service” seeks to “have contracts signed in less than 24 months from initiation.” Canada, she noted, has critically assumed a leading role in supporting and utilizing that program – for instance, with HonuWorx, a Scottish company that offers autonomous solutions for deep-sea interventions and inspections.

Melanie Nadeau

CEO, COVE

Melanie Nadeau is the CEO of COVE, a global technology partner specializing in commercialization, where she is responsible for leading the strategic direction and managing overall operations including assets, programs, and services to over 700 clients worldwide. Nadeau has been a global expert and thought leader for the International Energy Agency, the United Nations Environment program, the Intergovernmental Panel on Climate Change, and the International Electrotechnical Commission. She has earned multiple awards including Canada's Clean16 Award for her outstanding contribution toward clean capitalism, has been named among Atlantic Canada's 25 most powerful women, was an invited speaker to TEDGlobal, and is a strong supporter for Canada's tech ecosystem as a mentor for the Creative Destruction Lab.



From Innovation to Capability: COVE and the Development of Canada's Defence Innovation Ecosystem

Melanie Nadeau grounded her remarks in her observations and experiences as CEO of COVE. She identified COVE's role within the ecosystem as "a tech partner focused on commercialization, and that really means how to get products and services into market." A "child" and "spin-off," initially, of the National Shipbuilding Strategy, COVE has evolved throughout its first decade from a concentration on the maritime domain to "really extending, especially from a tech-centred organization, to from seabed to space." Today, through its critical infrastructure, programs and services, it seeks "to help companies navigate how to move their products into the market," with the focus of commercialization in mind.

Having established the objective of COVE, Nadeau illustrated how it assists innovators in navigating the challenges of the defence market, its focus on dual-use technologies, and how it is seeking to address Canada's traditional struggles to translate innovation into operational capabilities. Her remarks also discussed the need to learn from Ukraine's experiences to adopt a more iterative approach to procurement, as well as the necessity to align military procurement timelines with businesses' inherent "need for speed." Nadeau's presentation moreover reflected on the challenges of integrating small and medium-sized enterprises (SMEs) into the Canadian defence procurement ecosystem, the opportunities that

integration would present, and COVE's efforts to enable that integration. She framed the Defence Industrial Strategy as indicative of a "monumental" shift in its recognition of the need to develop the domestic defence industrial base and supply chain. Concluding her remarks with an examination of the cultural barriers that hinder progress in defence innovation, Nadeau's core theme was clear. COVE has emerged as a critical partner in the defence innovation ecosystem that is actively facilitating the development of critical pathways between innovators, end users, procurement systems, SMEs, and markets, aiming to further enhance the resiliency of Canadian defence supply chains and the sovereign capacity of its defence procurement ecosystem.

Dual-Use Technology and the Challenge of Defence Markets

A central theme of Nadeau's remarks was the concept of dual-use technology. While the notion has only become "a tag phrase" in Canada in recent years, she noted that COVE has, since its origins a decade ago, "really lived and breathed dual-use commercial markets, defence markets," and effectively cultivated the ability to navigate between them. Acknowledging the "heightened interest" in recent years in defence markets, she indicated that security and defence have "always been core to what we've done" at COVE. Its core objective thus remains market development and assisting businesses in navigating markets – whether defence or commercial.

With respect to the security and defence environment, Nadeau suggested that a common refrain among Canadian SMEs has been that the defence market is inherently complicated to navigate. Cognizant of this, COVE has "zeroed in on" the creation of pathways to that market. In collaboration with NATO DIANA, this entails identifying investment capital to enable those companies to "move a lot quicker" and working with those businesses "to help them navigate their products, get them to move quicker, get them to ... be in the realms of the customer, get them to understand how to navigate a very complex regulatory environment and then get wins." It involves supporting the development of supply chains by cultivating an "understanding [of] what [a] company needs to help move them forward." As she continued,

"the other piece to our work is around testing and validation, and we recognize in the deep tech, the hard tech kind of space, we've been able to create an environment for physical testing of assets and technology, as well as the digital environment that we're expanding on."

Canada's Persistent Commercialization Problem

Echoing Lieutenant-Commander Kang's remarks, Nadeau pointed to the persistent problem in Canada of translating "innovation into operational capability." Emphasizing Canada's possession of "a great wealth of intellectual property development, R&D, and research," she observed that what Canada truly struggles with is "how you bridge that into economic impact."

Consequently, through its involvement in, for instance, NORAD Science and Technology (S&T) as a maritime partner, or its participation in the formulation of the Defence Innovation Secure Hub (DISH), COVE is actively targeting this persistent national problem and centring attention on how to convert R&D into capabilities, at scale, that can be placed into operators' hands. That is "complex," she acknowledged, and entails "a new way of working" for the CAF. In particular, through the DISH concept, she observed that "what we're really promoting is the idea that the defence enterprise has to be embedded. It's not R&D happens over there, and the CAF has the problems over here," she emphasized. "It's really about, how do you connect the dots to make sure you're actually delivering something that ... is applicable and is going to make sense?" Moving from a siloed approach to innovation, in which innovators operate independently from end users, to an embedded industry with constant collaboration is key to overcoming this traditional challenge of operationalizing innovation.

Another component of operationalizing innovation is the construction of "true consortiums" to enhance and develop capability. Acknowledging that this "is easier said than done, especially when you have intellectual property involved," Nadeau identified that the formulation of such consortiums represents a key component of converting innovation into at-scale deployable technologies.

Iterative Procurement and the Need for Speed

For Nadeau, a “piece that we have not cracked” – but around which there are active and ongoing discussions – is “the idea around iterative procurement, developmental procurement.” Echoing Vice-Admiral Angus Topshee’s keynote argument for rapid iteration, she cautioned that decade-long waits for innovation are no longer feasible or acceptable. “The world is moving,” she warned, and “it’s moving a lot quicker, particularly in the security space.” She pointed to the DISH concept as explicitly targeting this idea, this notion of developing a capability within a consortium, procuring that potentially imperfect capability, and iterating on that capability to eventually scale up its procurement and delivery. Such an approach would be reflective of the lessons increasingly drawn from the war in Ukraine, in which the current speed of drone development has compressed to eight or nine months, with hardware and its iterations being developed within seven days, followed by software in the ensuing few days, before progressing on to the next iteration. While acknowledging that Ukraine is “in a very different moment” than us, she pointed to this as an example of “people in the world that are doing things much quicker. And so we have to figure out how to do better and also be quicker at developing and also adopting.”

The dual-use nature of many defence technologies produces, for Nadeau, a certain “need for speed.” Companies inherently “move at speed, need to move at speed, because they’re on revenue cycles” and must retain employees so they do not “jump to the next opportunity.” There is, consequently, a strong need to ensure that military and industry timelines are aligned in this respect.

Focusing on COVE’s involvement in innovation acceleration, Nadeau pointed to the importance of “quick wins.” While acknowledging the various and significant problem statements, and that some capability procurements (like the construction of ships) are inevitably protracted processes requiring many years, she identified that COVE is “really trying to have cumulative quick wins.” She thus highlighted – similar to Lieutenant-Colonel Kang – the significance of NATO DIANA’s emphasis on

rapid adoption service, referencing HonuWorx and its progression through the program to, after just 12 months, being “close to having a contract with National Defence.” This is an illustration of a “quick win” that is simultaneously testifying to the growing significance of expediting traditional innovation and procurement timelines.

Integrating SMEs into Defence Supply Chains

Another central theme of Nadeau’s remarks regarded the integration of SMEs into defence procurement ecosystems. She emphasized that the Canadian supply chain and SMEs face an enduring challenge: the reality that the majority of their sales – “and it’s a story over and over again” – have been overseas.

For Nadeau, this challenge presents an opportunity, to strengthen the Canadian supply chain “to actually sell to the different services, to sell to Canada, and then also sell to allied nations.” A prospective solution would be to work with Tier One and Tier Two prime contractors experiencing challenges with their supply chains – whether with respect to talent or incorporating innovation into programs – and make purposeful efforts to derisk the integration of innovation and SMEs into those supply chains. COVE, she indicated, is hard at work to this end. Similarly, Nadeau identified the potential to utilize “existing programs of record” – for instance, the Aegis program of Thales Canada – to incorporate and embed SMEs into those larger, pre-existing procurement programs. Doing so would potentially offer opportunities for SMEs to become embedded in larger procurement supply chains.

Nadeau thus characterized the Defence Industrial Strategy as “a very significant policy document that was issued to the Canadian market,” in the fact that it recognized the “monumental” need to develop the Canadian industrial base and supply chain. Conceding that this will require “a lot of patience and reassurance,” this explicit recognition and the subsequent efforts to construct a “resilient supply chain” are a marked development in the Canadian defence innovation industry.

Breaking Down Cultural Barriers

A further core theme of Nadeau’s remarks was the

culture barriers that impede progress in the defence innovation space. Arguing for the need to dismantle the “cultural walls” in this space between innovators and end users, she noted concerted efforts at COVE to bypass these obstacles and really “understand the end user.” As an example, she referenced a recent “quick win” when the COVE team, in its efforts to deliver on the NATO DIANA program, assembled end users from the Army, Navy, and Coast Guard alongside North American and European innovators. “It was like speed dating,” she recalled, except it “wasn’t about selling” but rather “understanding.” The event was an incredible success, she observed, “because it hasn’t been happening” in an environment that is focused on “sell, sell, sell.” This focus, instead, on understanding was indicative of a differing approach “that we have to start thinking about,” both in industry and in the military.

Similarly, Nadeau highlighted the existence of a distinct cultural barrier with respect to procuring defence investment from the national financial sector. Recounting a recent meeting with bankers, she revealed that it is “a hard ask” to request Canadian banks to be involved in defence-related financing. “They are very uncomfortable with the defence sector,” she observed, since “it is a very closed group, closed industry.” Given the breadth of Canada’s defence objectives, “we’re going to need a lot of players being involved to do that and kind of achieve those goals.” Hence, there must develop “different ways of working” and defence must be “demystified”

to reduce institutional reluctance and broaden participation across Canadian society and industry.

Strategic Implications for Canada

Referencing COVE’s current involvement with NATO DIANA and the delivery of its programming, Nadeau reminded the audience that COVE represents the sole Canadian accelerator site involved in NATO DIANA. The benefits this program brings for COVE and indeed the broader Canadian defence innovation sector are immense, not just for the companies COVE works with but moreover for “the visibility and accessibility to those other 31 markets within the Alliance.” This “connectivity to other markets and understanding [of] those markets” is a vital benefit of NATO DIANA and COVE’s involvement in it.

Furthermore, Nadeau identified that COVE has become involved with NATO in other aspects, as well. Referencing its collaboration with NATO Allied Command Transformation – which is prioritizing the advancement and dissemination of technology within NATO – and cultivation of strategic partnerships there, she also illustrated forthcoming initiatives with NATO ACT. She similarly highlighted the “great opportunity” that will be derived from COVE bringing the NATO Innovation Continuum to Halifax in the coming fall to demonstrate technology across the Alliance. Such involvement promises to centralize Canada even more in the Alliance’s defence innovation and procurement ecosystem.

COVE (Photo: Build Nova Scotia)



Patrick Daucourt

Liaison Officer to the French Defence Attaché in Canada

Patrick Daucourt works in international risk management, with over 30 years of experience, mainly in West Africa. He has worked on operational security issues in sensitive settings, in situations shaped by security challenges, coordination requirements, and organizational adaptation. Since arriving in Halifax in 2024, he has continued these activities in the fields of cooperation and training. A member of the French Army's Citizen Reserve, he serves as a liaison officer to the French Defence Attaché in Canada, supporting the monitoring of bilateral military relations at the provincial level and cooperation dynamics.



Lessons from France: Maritime Capability, Operational Availability, and the Discourse on Procurement Reform

Exploring questions of how to “fix” procurement, accelerate procurement cycles, overcome the barriers to capability adoption, and best consider alliances and multilateralism, Patrick Daucourt offered observations and prospective lessons from France and the French Navy. Proposing a reframing of the discourse around “fixing” defence procurement to prioritize, instead, operational availability, the sustainment and maintenance of the present fleet, and the gradual improvement of combat-proven systems, his remarks also reflected on the shift toward adaptable systems and a system-of-systems approach. In addition to discussing the cultural and organizational barriers to the adoption of new technologies, he spoke to the criticality of alliances and the importance of the

individual partners maintaining credible and independent capabilities. Ultimately, Daucourt argued that there is a need to refocus the discussion of procurement from the acquisition of new and revolutionary capabilities to ensuring the persistent and ongoing capability to sustain operations at any place, at any time, in a credible manner.

Operational Availability Before Technological Transformation

Reflecting on the common refrain of the need to “fix” defence procurement, Daucourt proposed a simple reframing. “We often talk about improving defence procurement,” he noted, “but in the French maritime context, the priority remains operational availability.”

France, he reminded the audience, boasts the second-largest exclusive economic zone internationally, which necessitates “a global, continuous, and diverse presence” and, thereby, represents “both a strategic asset and a responsibility.” As Daucourt observed, this responsibility practically translates into “a simple logic: sustain what we have before trying to transform everything.”

Consequently, a foremost priority in the French context is fleet support. He highlighted the role of the national Fleet Support Service, which collaborates closely with shore teams and crews to ensure the readiness and availability of vessels. Concurrently, the French Navy deploys a dual-crewing system to increase the time during which vessels can be at sea – for instance, enabling a nuclear attack submarine to operate over 200 days annually. This maximizes the availability of existing vessels and expands the operations that may be conducted with the present fleet. In this respect, he argued that a navy benefits from finding a balance between its number of vessels and its number of personnel, which may produce “a more compact fleet with higher availability,” especially if combined with dual-crewing methods.

Similarly, Daucourt noted the tendency, in procurement, “to pursue the latest and greatest systems.” However, by his assessment, it is far more effective to prioritize combat-proven systems and equipment and gradually implement the requisite upgrades over time. Doing so, he suggested, improves operational availability and allows for the better management of timelines and expenses.

“In short,” he summarized, “operational performance starts with maintenance, not procurement.” Rather than focusing procurement on revolutionary yet unproven systems and technologies, there is practicality instead in emphasizing the incremental improvement of proven systems, operational availability, and the sustainment of fleet readiness, including through the use of dual-crewing models.

The Shift Toward Adaptable Maritime Systems, and a Systems-of-Systems Approach

Another theme of Daucourt’s remarks was the question of how to accelerate the procurement cycle from the identification of a need to the implementation of a solution to address that need.

“The key idea,” by his assessment, is for naval forces to “design evolving systems, not rigid programs.” Adaptability and flexibility are key. The French Navy’s approach in this respect focuses on three pillars: multi-mission platforms, like frigates, in which “value lies in sensors and weapons systems rather than size”; the timely incorporation of new capabilities such as counter-UAS (uncrewed aircraft system) capabilities and maritime drones for seabed operations and mine warfare; and regional data links and open architecture that allow for the rapid integration of new systems and capabilities.

While vessels inevitably remain a core naval capability, no longer do they function as individual and independent systems. Rather, modern approaches to force structures see vessels being integrated into larger systems of systems – as Lieutenant-Commander Charles Knight had also observed in Panel 1. In these systems of systems, autonomous and uncrewed platforms are increasingly central, echoing a broader theme of the conference generally. As contemporary conflicts have illustrated, such simple and comparatively inexpensive technologies and systems can effectively threaten high-end systems. “This is not the end of sophisticated systems,” he assessed, but rather “the end of their invulnerability.” This reality lends further credence to the “systems of systems” approach.

Organizational and Cultural Barriers to Innovation

Examining the barriers to capability adoption, Daucourt noted that the primary obstacles to such adoptions are cultural and organizational rather than technological. Procurement inherently comes with competing priorities for the parties involved. For instance, governments must seek to balance operational continuity with innovation, while industry faces the enduring challenge of developing and iterating on rapidly shifting technologies in what are often protracted procurement cycles. Similarly, operators themselves must incorporate emerging capabilities without hindering or disrupting ongoing missions, as Commodore Jacob French had similarly noted in Panel 1 with respect to reconstituting the Navy’s personnel force. These conflicting priorities invariably complicate and delay the adoption of capabilities.

This challenge is compounded further by the need for “robustness” in the maritime domain. As Daucourt noted, “Everything must work in degraded environment[s], far from support, with contested communications.” This necessity has led to the increasing prioritization of improving hydro-oceanographic understanding, establishing terrestrial seabed and satellite control, and ensuring familiarity with “non-digital techniques” like communicating via Morse code, navigating via sextant, and performing ballistic calculations. A mastery of such techniques is imperative “to ensure operational resilience in degraded environment[s].” It is clearly essential, in the maritime domain, to not only pursue technological improvements but also to cultivate the “non-digital techniques” required to ensure that those capabilities remain operable even in contested and degraded environments. Doing so is integral to a navy’s ability to establish presence, as well as to fulfill the obligations that stem from that presence, such as the protection of the seabed (including subsea cables) and, more broadly, the upholding of international maritime law. As he remarked, “It is less about projection than about presence, credibility, and the ability to act in contested spaces.” Addressing the cultural challenges to procurement and ensuring that new capabilities are balanced with tried-and-true operational techniques are crucial to sustaining this presence, credibility, and capacity to act in all spaces and environments.

Alliance Cooperation

Remarking on the theme of alliances and multilateralism, Daucourt recognized that “alliances are essential,” with the goal not being competition between partners but rather the cultivation of “collective effectiveness.” The French Navy, therefore, while predominantly procuring its vessels and platforms domestically, ensures that these systems “are NATO-interoperable by design.” However, he emphasized that alliances fundamentally require individual partners to maintain “credible and autonomous capabilities.” For France, this translates into its enduring capacity to “deploy rapidly, including a carrier strike group in under a week,” as well as its ability to command maritime task forces. Combined, these requirements necessitate the maintenance of “a full spectrum of naval capabilities.”

As an exemplar of “this logic of presence and cooperation,” he referenced recent French Navy activity around Halifax over the past year: namely, the port calls of the Tourville attack submarine, the Garonne support vessel, and the Bretagne frigate, as well as that of the Jean Tranape offshore patrol vessel mere days before the conference. Moreover, he pointed to Jeanne d’Arc’s upcoming deployment alongside the Aconit frigate and the Dixmude amphibious helicopter carrier. These deployments are in addition to the permanent presence of Fulmar, a patrol vessel, off the Atlantic coast of Canada.

In such an alliance and multilateral framework, Daucourt emphasized that “hubs like Halifax play a key role.” Echoing other panels’ reflections on Halifax, he described the city as not simply a port but “a force multiplier” in its centralization and concentration of allies, research, industry, and forces in one location – a concentration that inherently expedites “decision and adaptation cycles.”

Refocusing the Procurement Discussion, and the Promise of Canadian–French Naval Cooperation

Fundamentally, Daucourt argued, there is a need to refocus discussions of procurement, given that “the issue is not simply acquiring capabilities faster but being able to operate everywhere, at all times, with credibility.” This maritime capability will stem from the combination of innovation, expertise, and cooperation with allies who have honed their ability to act and respond “quickly, together, and in a coordinated manner,” rather than from any individual state acting on its own. As such, he emphasized the significance of the ongoing cooperation between the Canadian and French navies. He noted that “the French Navy can share its operation lessons learned from deployment and the equipment it employs, while working closely with the Royal Canadian Navy on the development of future technologies and capabilities – notably, communication systems, maritime drones, and artificial intelligence adapted to the strategic environment of the North Atlantic and the Arctic.” By his assessment, the RCN and French Navy represent “a credible and complementary naval capability built on experience, interoperability, and the development of future capabilities.”

Commander (Ret'd) Simon Hughes

Business Development, Lockheed Martin Canada

Commander (Ret'd) Simon Hughes enrolled in the RCN in 1982 and left in 2012 after completing 30 years as a Naval Technical Officer, specializing in the Combat Systems Engineering domain. He transitioned to the defence industry in 2012 in Business Development, with the past 10 years being at Lockheed Martin Canada. His efforts are focused on procurement opportunities in the Canadian maritime and naval domain, with some crossover into the joint domain.



The Opportunity Ahead: Procurement Reform, Strategic Industry, and the Urgency of Defence Adaptation

Introduced as “a very vocal advocate for change when it comes to procurement,” Commander (Ret'd) Simon Hughes offered his perspective on procurement and new maritime capabilities. Informed by his 41 years in the defence industry, including 30 in uniform, he framed his remarks as approaching the topic both from his experience “within the defence procurement system and the Canadian defence industry” as well as from his observations “as a practitioner within the naval and maritime domain, both at sea and ashore.”

Reflecting on the current political climate with respect to defence and military procurement, Commander Hughes noted that the challenge will be translating that political intent into actual capabilities. Noting the

cultural change required to do so, as well as industry's questions and concerns with the new Defence Industrial Strategy, he challenged the procurement system's traditional demand for competition and urged, instead, for the government's prioritization of trusted industrial partners. Proposing some measures by which Canada could accelerate the procurement process, Hughes also identified current barriers that impede the procurement and adoption of new technologies. However, Canada's ongoing negotiation of new trade and security agreements offers a clear opportunity for the domestic defence industry to elevate its involvement in international defence markets.

The Present Momentum in Procurement, and the Cultural Change Still Needed

Contemplating the matter of “fixing” defence procurement, Commander Hughes emphasized the unprecedented nature of the current political climate with respect to defence industry and expenditures. “In all my time in this space,” he reflected, “I have never seen anything like we’ve seen in the last 12 to 18 months. I’ve never seen a prime minister with the conviction, the intent, and the articulation of what he is going to do and how that is flowing to the most senior levels of government, ministers, deputy ministers, ADMs [assistant deputy ministers], and the like.” Observing that the political intent is, therefore, readily and obviously apparent, the question then becomes whether Prime Minister Mark Carney and the Government of Canada can convert those statements into practical capabilities – particularly given the federal government’s historical proclivity, over the past four decades, to either avoid or delay defence spending.

Recognizing, then, that operationalizing the current government’s proclaimed intentions with respect to defence spending will require the procurement system to effectively “turn itself on its head,” Hughes observed that government officials appear to be cognizant of the fact that cultural change will be required “to execute on what they would like to execute on behalf of the nation.” Pointing to the Kotter Group’s statistics that cultural change within large companies requires seven years, the Commander cautioned that Canada does not have “seven years. We have maybe, at best, three – in my opinion.” This sense of urgency was a recurring theme of the conference.

Questions and Concerns Regarding the Defence Industrial Strategy

Commander Hughes identified the Defence Industrial Strategy (DIS) as indicative of a certain tension in procurement policy. Noting that the DIS explicitly identifies itself as “a job strategy,” he observed that industry is subsequently questioning whether the strategy will elevate the risk that defence procurement decisions will be informed and dictated more by “economic benefits and job numbers” than the actual, practical needs of Canadians on the front lines. Industry is also questioning what the DIS will

practically look like, with Commander Hughes acknowledging that “I don’t think anybody, frankly, knows yet.” Comparing the procurement journey ahead to “building the plane as we’re flying it,” he reminded the audience of the need for patience and understanding of the difficulty of the task ahead in procurement reform.

Challenging the Need for Competition

For Commander Hughes, there is a certain assertiveness, deliberateness, and firmness that is lacking in the government’s approach to domestic defence industries. For instance, “If I had to pick one thing right now that I could fix that would help move at least some things along at a faster pace” in the procurement space, he revealed, “I would say that the government needs to be more willing to select Canadian products as GFE [government-furnished equipment] on programs.” As he elaborated, “Why should companies, Canadian companies, with proven, sovereign Canadian IP services, product solutions, that are already in the CAF inventory on programs where those companies have performed well,” need to expend precious resources and time “to compete again for the same work on another Canadian program?” Acknowledging that this system stems from the previous procurement culture’s avoidance of “sole source,” he reiterated that “that’s the previous world, and that’s not the world we’re living in today.”

Therefore, Commander (Ret’d) Hughes argued for a shift in approach in the DIS, Defence Investment Agency, and buy-Canadian emphasis, urging for a transition away from the notion that “competition at all costs, on all things, at all times, results in best value for Canada.” Such an approach is inherently not in the national interest. Instead, he urged the government to explicitly identify and partner with “trusted industry partners” and “just do it,” reminding that the market and industries will inevitably adapt.

Accelerating Capability Development and Adoption

Turning, then, to how the procurement cycle of “need, idea, development, adoption, implementation” could be practically accelerated, he identified, first, the utility of “simple things like delegating spending authority levels” – building upon the Panel 3 discussion. In particular, he pointed to the

requirement for modest procurement and acquisition projects that are in excess of \$25,000 and do not involve a standing supply arrangement or offer to be deferred to Public Services and Procurement Canada (PSPC). He characterized this necessity as “out of date” and fundamentally misaligned with the need for “urgent and available commercial off-the-shelf and military off-the-shelf solutions that meet the warfighters’ requirements and what they need to do today.” As an example, he referenced uncrewed aerial vehicles (UAVs). Noting, as did Panel 3’s speakers, Ukraine’s success in rapidly developing and iterating uncrewed systems, Hughes insisted that “if you want to know how to do UAV procurement in Canada for the people who have to use them, the answer is already there. You don’t have to reinvent the wheel. Just do what they did.” Given Canada’s need to accelerate the procurement cycle, such a bureaucratic centralization of procurement authority is intrinsically mismatched to the pace of contemporary technological adaptation and warfare.

Secondly, he identified the need to “fix the absence of DND and Canadian Armed Forces product capability roadmaps that impact minor cap[ital] projects, projects of larger and innovation challenges, and project speed of advanced requirements.” By his assessment, three “buckets” are required. The first would comprise projects taking between one and three years, namely “quick fixes, upgrades, mission one-off[s], and/or attritable items.” The second tier could comprise the medium-length capabilities, in the five-to-ten-year range, such as sustainment and training – “things that need a little longer to develop, come to fruition.” The final bucket would entail the “20-year innovation stream.” Not only must these buckets “be integrated,” he observed, and “flow together,” but they must also be guided “by DND/CAF intel, doctrine, joint force development, and policy.” This, he proposed, may be a responsibility best vested in the new Canadian Joint Forces Command.

Ultimately, for Commander Hughes, the “timelines on process ... just have to move faster.” As an example, he highlighted the case of a worker at Lockheed Martin Canada who worked on the Land Vehicle Crew Training System proposal across three companies for more than 12 years. “That should never happen,” he warned.

Industry Engagement and the Limits of Lowest-Cost Procurement

Hughes also observed a “clear intent” among DND and CAF personnel to elevate their engagement with industry. Reiterating a common theme from Panel 3, he argued that such engagement – and the frequency of that engagement – must “continue to improve.” As it does, other elements of this engagement must concurrently improve. First, he was critical of the lack of consistent communication that exists between the procurement system and industry during procurement programs, noting that “the amount of comms we get from their defence procurement cycle between ... each of the different phases has been sometimes pretty spaced out or non-existent.” Moreover, within that engagement, he challenged Canada’s ongoing struggles to clearly communicate with industry. Arguing for “clarity on what Canada wants and what they value,” he pointed to the lack of transparency around what the Defence Industrial Agency (DIA) – a structure he characterized as “a huge change” and “the mover or the hammer” with respect to the forthcoming procurement reform – “will actually work.” He similarly highlighted the “buy Canadian” element of the DIS as an example of the recurring lack of clarity for industry – specifically, with respect to “when and how the policy will be applied and when there are exceptions.” Such vagueness and ambiguity could present a barrier to the development and adoption of new capabilities.

On a related note, he emphasized the “disconnect” that exists in the procurement system’s traditional usage of the “lowest cost compliant” model. When governments request “a complex system” yet evaluate the subsequent options via such a model, the capability that is delivered tends to reflect that, subordinating what the warfighter needs to what is “lowest cost compliant.” Such a model, then, deprives practical operational needs in favour of lower costs.

Summarizing that thought he noted, “if industry understands what you want, how it’s going to be evaluated, and all the machinations that go into that, then you’ll get what you ask for.” However, “you have to know what you’re asking for, and you have to know how industry will behave.” Suggesting that the evolving geopolitical environment should compel the

government to reevaluate its historical operating and contracting models “to accelerate the process and create better relationships,” he proposed that the government’s pursuit of a model of “strategic partnership” would offer “a really good start.” In this respect, he reiterated that the government should name its strategic partners and proceed. “Otherwise, you’re just wasting time.”

Risk, Innovation, and SMEs

Expanding on Melanie Nadeau’s Panel 3 discussion, Commander Hughes also highlighted the central role of risk – and specifically, the acceptance of risk – in defence innovation. Referencing Canada’s historical “lack of appetite to accept risk,” he identified the reality that “investment doesn’t happen without a business case, which means both sides need to accept risk.” In this respect, not only must Canada be more willing to accept risk, but it must be similarly more willing to accept the price increases that are required for industry to accept that risk as well. As he explained, “There is a price associated with risk. If you want to take risks to get innovation and to get what you need and to move forward and advance,” he emphasized, “you’ve got to be prepared to pay for it.” When innovation requires experimentation and trials, a government desiring that innovation must be prepared to accept the associated costs.

Turning, then, to SMEs, Commander Hughes acknowledged that while “a lot of great ideas, technology, come from small/medium business,” bureaucratic requirements like security clearances make working with such businesses the “long poles in the tent.” Noting the incentives for larger companies and primes like Lockheed Martin Canada to collaborate with SMEs, he identified that structural challenges in the procurement system continue to hinder “the actual ability to work with them and to accept that risk” without impacting the performance of the contract or delaying the project’s schedule. Government assistance in remedying these challenges will be imperative, because industry alone “can’t solve some of those problems.” Doing so will be crucial to removing an ongoing barrier that hinders the adoption of new capabilities.

Alliances, Exports, and Strategic Industrial Integration

Finally, Commander Hughes approached the subject of alliances from the industrial angle, illustrating the evolving and increasing promise for Canadian defence companies to elevate their international exports and establish themselves in global defence markets. He pointed especially to the “really great engagement” that has been occurring recently between industry and Global Affairs Canada’s Defence Exports Division. Recently stood up under the DIS, it is, by his assessment, “a very welcome addition” to any company either exporting or desiring to export from Canada. This Division, he observed, is “very keen to engage with industry” and “help you win business.” For other companies, like Lockheed Martin Canada, that have a pre-existing record with defence exports, the DIS and this emphasis on Canada’s defence industrial capacity “means increased export opportunity,” particularly as the Government of Canada continues to negotiate new government-to-government memoranda of understanding and bilateral trade and security agreements. This points to procurement reform that is actively attempting to reposition Canadian defence industries as more present and more competitive on the international stage.

Rear-Admiral (Ret'd) Simon Page

Former Assistant Deputy Minister, Public Services and Procurement

Former Assistant Deputy Minister, Public Services and Procurement Canada

Rear-Admiral (Ret'd) Simon Page recently completed a 41-year career as a senior official and member of the CAF. As Assistant Deputy Minister in Public Services and Procurement Canada, he oversaw multiple large project procurements, the management of numerous long-term contracts, and the associated defence procurement strategy and industry governance. His branch was also responsible for the

management of the National Shipbuilding Strategy (NSS) and innovation in defence procurement. Rear-Admiral (Ret'd) Page chaired the Defence Industry Advisory Group and spent three years as Director General Maritime Equipment Program Management, where he oversaw the program management for all RCN sustainment activities.



Rethinking Procurement: Defence Procurement Reform, Strategic Partnerships, and an “All-Hands-on-Deck” Approach

Rear-Admiral (Ret'd) Simon Page framed his remarks as a contemplation of “the mindset that the country needs to take to get this stuff [procurement reform] done.” Characterizing the task of procurement reform as seeming “overwhelming,” but being achievable, he argued that “we will need an all-hands-on-deck, go-get-them attitude, to get this done.” After proposing a reconceptualization of the extent to which the procurement system is indeed “broken,” defining

procurement and its four core stages (pre-core procurement/force development, core-procurement process, contracting, and implementation/delivery), reviewing the procurement problems and prospective solutions in each of those stages, and identifying the promise offered by the DIA and DIS, he reflected on the Battle of the Atlantic and the Canadian experience during the Second World War. He referenced, in particular, Winston Churchill’s direction and guidance

for the Mulberry Harbours constructed prior to the Normandy landings, in which he insisted that “they must float up and down” but instructed to “let me have the best solution worked out” and not “argue the matter,” since “the difficulties will argue for themselves.” Rear-Admiral Page characterized such a statement as an effective integration of the identification of an operational deficiency, the description of the technical requirement, and the elucidation of the terms and conditions of the contract. Given that this direction resulted in the harbours being constructed and the salvaging the Normandy campaign, Page identified such an approach as crucial to placing “everyone on the same rowing boat” toward a common objective. Reminding the audience that this same collective mobilization existed in Canada during the Second World War, Page suggested that this is “where I think we need to go collectively. The collective effectiveness needs to be one team, all-hands-on-deck.”

Rethinking the “Broken Procurement System” Narrative

Contemplating the common refrain that the existing procurement system in Canada is “broken,” Rear-Admiral Page urged a reconsideration of this narrative. While acknowledging that improvements are warranted and indeed required, he also argued that the procurement system has, in the past five or six years, successfully “made sure that every single project in the National Shipbuilding Strategy was in contract, and more.” Indeed, the current procurement system has enjoyed several notable successes. It has acquired fighters, strategic tanker and transport airplanes, and fixed-wing search and rescue aircraft. It has initiated the modernization of the Cormorant, led to the signing of contracts for the future aircrew training program and the Griffon’s Limited Life Extension, and launched the RCN ISTAR (Intelligence, Surveillance, Target Acquisition, and Reconnaissance) project. It has also secured the procurement of logistics vehicles, armoured combat vehicles to replace those provided to Ukraine, and Remotely Piloted Aircraft System (RPAS) UAVs. These capabilities reflect only “the big stuff” that the procurement system has delivered, with Page reminding the audience that it has also successfully procured “a lot of medium stuff” as well.

Such a list of major successful capability deliveries and improvements testifies that “something is working.” A further illustration of this is the progression of the domestic shipbuilding industry from “zero” in the early 2010s to “where we are now” with respect to the existence, today, of major centres of naval construction such as Irving Shipbuilding, Seaspan Shipyards, and Chantier Davie. While the procurement system is, he conceded, not “perfect” and certainly in need of improvement, it is also critical to remember that, “within that system, there are a lot of hard-working people, starting from the political layer right to the doers, executing on a daily” basis. These people have already achieved significant progress and notable successes on delivering capabilities under the existing procurement system. This does not point to a system that is universally and across-the-board dysfunctional and “broken.”

The Stages of Procurement

Turning, then, to defining procurement, he deconstructed the process into four core stages or components. The initial pre-core procurement activities are comprised of what CAF personnel would characterize as force development, followed by the core procurement activities entailing the solicitation element and the awarding of the contract. Subsequently, procurement programs enter the post-contract-award stage, or implementation, during which the procurement physically proceeds until the delivery of the capability. Service support is then the final element of the procurement process.

Problems in Force Development

Centring his attention on force development, Rear-Admiral Page identified several procurement problems that originate, ultimately, from this initial stage of the procurement process. For instance, he remarked that “the way we do requirements today does not match what we’re trying to achieve.” All projects in the force development world now, he observed, must “go through a series of governance that is way too rich,” leading to statements of requirement ultimately becoming obsolete and outdated by the point at which “it gets to go-time.” Such an over-bureaucratization of the force development process and the delays it creates must be remedied.

He also described force development as “a black box” in which industry has historically been excluded from participation. While industry has traditionally been involved in outlook sessions during the force development process, they were excluded from critical discussions on what the capabilities in question practically were and the objectives behind them. Given the need for industry to “educate the requirement,” he therefore identified the need to move past the traditional fear “that industry, by being involved in the requirements, cannot deliver.” This echoed a broader theme of the conference, arguing for greater direct communication and collaboration with industry.

In all, then, the Rear-Admiral Page characterized the current force development process and procedure as “archaic” and, indeed, “a key reason why we have the issues that we have.” Noting the existence of clear and notable capability gaps in the CAF, he attributed those gaps to force development’s delays in signalling and messaging to the procurement process “to get going.” Arguing for a less restricted and limited throughput of the chief of program in National Defence, he was critical, for some projects, of the nine-month approval process currently required at the Treasury Board Secretariat, as well as the Treasury Board submissions which have bloated and ballooned from around 20 pages to 130 or 140. Long submissions for large complex projects will likely be necessary but should not be the norm. Noting the inevitable delays that stem from such lengthy documents having to pass from desk to desk, from review to review, he identified this process as “too rich” and “too cumbersome.” Urging for a “much leaner” approach, he concluded that the pre-procurement phase of the process must change. The implication, then, is that any procurement reform must also address the critical shortcomings and challenges of this pre-procurement stage.

The Strategic Partnership Model

Further changes are required to the processes and procedures around the core procurement activities. This this stage is ultimately dictated and determined by “specific procedures”, authorities and “government contract regulations,” he observed that changes to this phase will therefore require changes to legislation and regulations. Until such changes are

made, he cautioned the audience to “not expect the DIA to give you miracles”, but sound and streamlined approaches.

Still, despite the need for changes and the DIA’s mention of strategic partnerships he told the audience that there likely remains a place in the procurement process for “a traditional procurement” – that is, for competition. While agreeing with Commander Hughes that competition is not the “be all and end all” of ensuring that financial investments generate practical value, he insisted that some goods and services would benefit from competition.

Reflecting on the discussions about strategic partnerships, the Rear-Admiral suggested that such an approach represents “a key answer to what we’re trying to achieve at the moment” and, moreover, a model that is already “in the works” – including with companies represented at the Canada in Alliance conference. Indeed, he observed that strategic partnerships have, practically speaking, been in existence for some time. He noted, as examples, the long-term collaborative relationships with L3 for the integrated platform management system and with Lockheed Martin for the command management system. Both originated as informal collaborations or partnerships that have since evolved into incredible successes and effective contracts, both on a domestic and international basis.

Similarly, other strategic partnerships have already been established via the National Shipbuilding Strategy. In this respect, the umbrella agreements signed with domestic shipyards for the delivery of ship programs represent a predecessor to the current emphasis on strategic partnerships, having established long-term relationships and collaborations that will continue to support naval modernization for decades to come.

While strategic partnerships, like any solution, will have their own flaws and imperfections, the model promises to offer critical advantages with respect to innovation, collaboration, teamwork, understanding requirements, and delivering on procurement programs. Such a partnership model facilitates conversations that are, he observed, fundamentally different than those stemming from “a simple contract with typical terms and conditions.” Instead, it enables ongoing discussions about investing in the

upcoming iterations of products and in connected or associated endeavours, ensuring the capabilities remain credible and relevant. Such partnerships also, he noted, come with the expectation on behalf of the government that industry will “create linkages with SMEs” to further develop and enhance supply chain resilience – drawing on a common theme of the Panel 3 discussions and linking directly to the objectives of the Defence Innovation Strategy.

A further element of successfully operationalizing this strategic partnership model is the development of “small ‘s’ strategic partners” in addition to the “big strategic partnerships.” As an example, he referenced the potential to enter into, for instance, “a small, less strategic partnership” to experiment with prospective maritime technologies – for instance, sensor buoys – and “see where it could go.” Such smaller-level partnerships could, he posited, “lead to active and rapid deployment of technology,” a capability he feels is lacking in the present system – echoing a broader theme of the conference as to the need to transition to more rapid and iterative procurement processes. This would reflect a dual-level approach to strategic partnerships: with both large industrial partners or so-called “big movers” for full-scale procurement projects, as well as with smaller firms for more agile, iterative, and rapid experimentation on emerging technologies.

Innovation, Capability Roadmaps, and Sovereign Industrial Planning

Linking his remarks to those of the preceding panel, Page noted that there is also the need to incisively incorporate innovation into the procurement process. Specifically, he argued that the government and procurement processes must “be more focused with innovation, defence, and research” and ensure they receive sufficient investments with respect to manpower, finances, and other resources. Noting that “some really neat stuff has died and faded from an interest point of view” due to a lack of strategic focus on innovation, he characterized this as “a failure of the system.”

He also reiterated Commander Hughes’s argument for capability roadmaps, observing that some present capability gaps have emerged from a lack of guidance and a failure to “start on time.” Reminding the audience that “we know how long it takes now to

build a ship,” to purchase an aircraft, or to deliver a maritime helicopter, he identified the development of capability roadmaps as key to informing government and industry planning for future needs, also key for industry to prepare the grounds for the procurement, to ensure that further capability gaps do not occur. Equipped with such roadmaps, governments and industry could collectively understand future needs and, therefore, initiate procurement projects with sufficient time to deliver on those needs before further capability gaps arise.

On a related note, he also endorsed the need for sovereign industrial planning – specifically, for Canada to firmly decide where it wants “to invest from an IP [intellectual property] and sovereign capabilities point of view.” Doing so would further inform the capability roadmaps that are so essential by enabling concrete and early discussions with industry regarding the capacity to construct platforms in Canada with Canadian components.

Sustainment, Post-Contract Management, and Operational Readiness

Rear-Admiral Page also noted that the procurement program and its challenges must not end with the delivery of the platform or capability. Instead, he pointed to the concurrent need to improve the procurement system in the post-contract-award phase. Referencing, as an example, the data-link issues of the CH-148 Cyclone maritime helicopter, he characterized such problems as a “collective failure” to ensure that procurement programs involve both the appropriate partners and contracts requiring the company to maintain the operability of the platform’s components. The failure to do so with the Cyclone’s link system has, consequently, required a further force development and procurement process to remedy the issues and ensure the platform remains operationally viable and valuable. In place of such an approach, there is a need to “work more tightly” to create long-term arrangements with industry to retain the operability of procured platforms.

He similarly warned against the tendency, in the competition process, to make submissions excessively “lean” out of the desire to “win,” as well as the impulse to make assumptions that fundamentally misconstrue the very requirements of the project. Such tendencies create the risk that, once

a contract is signed, the assumptions are realized to have evolved, “and then six months after contract award, you’re two years behind,” since the requirements were initially misunderstood or the Request for Proposals was misconstrued. Developing effective and purposeful strategic partnerships will be critical, in this respect, to avoid the schedule delays and capability shortfalls that can arise from these issues after contracts have been awarded.

The Defence Industrial Strategy and the Need for Patience

For Rear-Admiral Page, there is cause for optimism. First, he identified the Defence Industrial Strategy as “an excellent document” and “a fantastic commitment in many, many domains of procurement, supply chain resilience, research/innovation being advanced, the right funding, strategic partnership[s], the right advisory council for defence.” Secondly, the Defence Investment Agency offers another promising mechanism for procurement reform. However, on this note, he urged patience. Noting that the ADMs in that agency are new to their positions, having been named in the past six months, he advocated for patience “from a structure delivery point of view” and foresaw the eventual development of “an organization that will deliver quite concretely.”

Indeed, reform, he observed, generally “does not happen within 24 hours or a week. It will take strategic patience. It will take strategic perseverance. We need to remain focused. We need to remain positive.” The DIS offers promise and potential as “the right vector now to move on.” Delivering on that promise will just require sustained focus, dedication, and commitment.

HMCS EDMONTON at sea on 12 August 2025 (Photo: McKayla Ryce, CAF)



Bruce Belliveau

NAC Atlantic Region President

Bruce is retired after serving as CEO of Commissionaires Nova Scotia 2013-2018. Prior to that he served in the Royal Canadian Navy having completed a service career of 32 years. An experienced and versatile senior leader who has commanded ships, squadrons and the Canadian Atlantic Fleet as well as held senior appointments in Canada and abroad in three North Atlantic Treaty Organization Headquarters. Leadership and relationship building are hallmarks of extensive experience in maritime security and defence, which includes inter-governmental and multi-national settings with military, government, non-government and industry officials.



Concluding Remarks

**verbatim*

It's interesting that the last panel on procurement talked about all the things that I think we've all been thinking about – the requirement to drive authority levels down, risk tolerance up. The discussion between industry and government should not be adversarial. It should be collaborative, because we have to increase our agility in order to put the tools in the hands of the sailors that they need to go into harm's way and win, and that should be the focus of everything that we are doing with respect to defence procurement. It's about going into harm's way and winning. It's not about putting out forest fires. It's not about doing flood control. Our mission, the mission of the military, is to go into harm's way to defend Canada's way of life and Canada's interests. So we need to make sure that we're giving the soldiers, the airmen and women, and the sailors the best tools that we can in order to do that.

The two weeks leading up to Gulf War I the RCN was not "Ready Aye Ready". We conducted mini refits on three old ships, took modern weapon systems like the Phalanx and strapped them on to the ships. I was the Operations Officer of Athabaskan the TG Flagship, and we were doing on-site engineering in that two weeks. I was in the Ops Room, and a tradesman came in from the communications shop, and he had six boxes for secure voice comms. Where do you want these? On-the-spot decision – I want one here, one there, one there, one there, and one there. Got them installed. Was it right? As it turns out, it was. But if it hadn't been right, what would be the consequence? We can't continue to do that to our military people. We have an obligation as Canadian citizens, as taxpayers, to make sure the politicians understand that we expect them to provide all the tools and all the training to our

military people so that they can do the toughest jobs that we expect them to be able to do.

Tonight, we're having the national gala to commemorate the Battle of the Atlantic – an incredible effort by this country to help win the war in Europe. Niall Ferguson, a modern-day historian, said that, without the RCN, the Battle of the Atlantic would have been lost, and the war with it.

Think about that. Where would we be? And yet we lost 27 ships, warships, and countless merchant marine ships and sailors. You go to the Sailors Memorial in Point Pleasant Park – over 2,000 names are on that monument. Those are Canadians who paid the ultimate sacrifice to defend what it is we believe in. So we can argue whether industry or force

development is broken or procurement is slow. Doesn't matter, no excuse. At the end of the day, we have an obligation to support our people in uniform with the best equipment that we can possibly give them to be able to do the job that we want them to do. So if we can walk away with nothing else from this conference, the dialogue we had today is exactly what needs to happen, and it has to happen more often, more frequently, and at the highest levels to the lowest levels. Ask the young sailors what they want, what they need. You know, force development is a process. I get that. But how is it impacting the young Sailor 3rd Class on a ship? We need to think about that, and we need to improve.



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The Battle of the Atlantic Gala

The Battle of the Atlantic Gala Commemorates 81 Years of Naval Heritage

This April, distinguished guests gathered for an event that linked past sacrifice with present commitment. The Battle of the Atlantic Gala, hosted by the Naval Association of Canada's Maritime Branch, marked the 81st anniversary of the end of the longest campaign of the Second World War – a six-year struggle that claimed thousands of lives and shaped the nation's identity.

The Battle of the Atlantic was unlike any campaign Canada had fought before or since. From 1939 to 1945, the Royal Canadian Navy, the Canadian

Merchant Navy, and Royal Canadian Air Force personnel faced a relentless enemy across the vast expanse of the North Atlantic Ocean. Their mission was critical to Allied victory: keep the supply lines open between North America and Great Britain, ensuring that food, fuel, weapons, and troops could reach the European theater.

The statistics tell a story of extraordinary achievement. Together, the Royal Canadian Navy and Canadian Merchant Navy completed 26,000 safe crossings of the Atlantic, delivering 180 million tons of essential supplies to Great Britain. These convoys were the lifeline that kept Britain in the war during its





2026 Battle of the Atlantic Reception

Commemorating the 81st Anniversary of the end of World War Two and the Battle of the Atlantic

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darkest hours, when the island nation stood virtually alone against Nazi Germany.

But these numbers, impressive as they are, cannot capture the human cost of this achievement. The Battle of the Atlantic exacted a terrible toll on Canadian forces. Thirty-three Royal Canadian Navy ships were lost to enemy action, taking 1,990 sailors and WRENS to the bottom of the ocean. The Royal Canadian Air Force lost 350 aircraft in maritime operations, with more than 900 air crew killed. The Canadian Merchant Navy, staffed by civilian volunteers who faced the same dangers as their military counterparts, suffered over 1,700 personnel lost at sea when more than 70 Canadian merchant ships were sunk by German U-boats.

What made the Battle of the Atlantic particularly harrowing was its dual nature. Canadian sailors and merchant seamen faced not one enemy, but two. The German U-boat fleet, operating in coordinated "wolf packs," stalked the convoy routes with deadly efficiency. A single torpedo could send a ship to the bottom in minutes, often taking its entire crew with it into the frigid waters.

But the ocean itself proved nearly as deadly as the enemy. The North Atlantic is among the most hostile maritime environments on Earth. Sailors endured mountainous seas that could snap a ship in half, ice storms that coated vessels in tons of frozen spray, and darkness that lasted for months during the winter. Visibility was often measured in feet, not miles. Men worked on exposed decks in conditions that could cause frostbite in minutes. Sleep was a luxury rarely enjoyed, as the threat of attack was constant.

The story of Able Seaman Gordon Cartwright exemplifies the ever-present danger. On October 14, 1942, Cartwright was serving aboard HMCS Sackville when he was swept overboard during severe weather. Despite the best efforts of his shipmates, he was lost to the sea – one of thousands who simply disappeared into the dark waters of the North Atlantic, their final resting place unknown. At the gala, guests were led in a moment of silence for Cartwright and all those who never came home, a poignant reminder that behind every statistic was a person: a son, a brother, a father, a friend.





These leaders represent the bridge between remembrance and action, between honoring the past and preparing for the future. Their attendance at the gala signaled recognition that Canada's maritime heritage is not merely historical curiosity, but a living tradition with profound implications for national security and international stability.

One of the Naval Association of Canada's most important current initiatives involves protecting Canadian war graves at sea. HMCS Regina and HMCS Trentonian, both lost in UK waters during the Second World War, have become targets for unauthorized divers and artifact hunters who disturb these sacred sites and remove items that belong to the fallen.



Through persistent advocacy, the Naval Association has achieved a significant legislative victory: both wrecks are now designated as controlled sites under UK law, providing legal protection against disturbance. But the work continues. The Association is now focusing efforts on protecting Canadian merchant navy vessels that lie in international waters, seeking similar protections for these civilian mariners who served with equal courage and paid the ultimate price.



This initiative represents more than legal protection for underwater sites. It embodies a fundamental principle: those who gave their lives in service to their country deserve to rest undisturbed, and their sacrifice must be honored in perpetuity. The war graves protection program ensures that future generations will be able to remember these sailors not as artifacts to be collected, but as heroes to be honored.

Each year, the Naval Association of Canada, in partnership with the Royal Canadian Navy, presents the Admirals' Medal to recognize outstanding achievement in advancing maritime affairs in Canada. The award honors individuals who demonstrate vision, executive action, and contributions to science, technology, or academic studies related to naval and maritime matters.

The 2025 recipient, Dr. Rob Huebert of the University of Calgary, exemplifies these qualities. Dr. Huebert's work has significantly advanced Canadian understanding of maritime security challenges, particularly in the Arctic, where climate change and geopolitical competition are creating new strategic

The significance of the Battle of the Atlantic Gala was reflected in the distinguished guests who attended. Members of Parliament, senior military leadership from the Royal Canadian Navy and Canadian Armed Forces, diplomatic representatives, and leaders from the business and defence sectors filled the room. Their presence underscored that the lessons of the Battle of the Atlantic remain relevant today, as Canada continues to grapple with questions of maritime security, naval capability, and international responsibility.

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realities. His research and advocacy have informed policy discussions at the highest levels of government and contributed to public awareness of Canada's maritime security needs.

The presentation of the Admirals' Medal at the gala served as a reminder that the spirit of the Battle of the Atlantic – vigilance, dedication, and service to the nation – continues in different forms today.

None of the Naval Association's work would be possible without strong community support. NAC Naval Affairs Director Tim Addison took time during the gala to recognize the 21 corporate and community sponsors whose contributions enable the Ottawa Branch's naval affairs programs and outreach activities. These partnerships allow the Association to fulfill its educational mission, bringing the lessons of naval history to new audiences and advocating for the maritime capabilities Canada needs in an uncertain world.

The sponsors represent diverse sectors – defence contractors, professional services firms, community organizations, and individual supporters – all united by a common belief that Canada's naval heritage matters and that maritime security remains essential to national prosperity and security.

While the gala honored the past, much of the evening's discussion focused on the future. The Naval Association of Canada's naval affairs programs address a critical question: Why does Canada need a modern, well-armed, globally deployable navy in the 21st century? The answer lies in both continuity and change. Like their predecessors in the Battle of the Atlantic, today's Royal Canadian Navy personnel protect Canada's interests on the world's oceans, contribute to international security, and demonstrate Canadian sovereignty. But the threats have evolved. Modern challenges include territorial disputes, illegal fishing, human trafficking, piracy, and the projection of power by authoritarian states seeking to challenge the rules-based international order.

Canada's geography – bordered by three oceans and possessing the world's longest coastline – makes maritime security not optional but essential. The Naval Association's educational programs help Canadians understand this reality and support the

investments necessary to maintain credible naval capabilities.

As the Battle of the Atlantic Gala concluded, guests departed with a renewed appreciation for the sacrifices of previous generations and the ongoing importance of maritime security. The evening had woven together past and present, remembrance and action, individual stories and national strategy.

Eighty-one years after the Battle of the Atlantic ended, its lessons endure. The sailors, merchant seamen, and air crew who fought that long campaign understood that freedom and security require constant vigilance, that allies must stand together against common threats, and that some causes are worth any sacrifice.

The Naval Association of Canada Ottawa Branch, through events like the Battle of the Atlantic Gala, ensures that these lessons are not forgotten. By honoring the past, protecting war graves, recognizing contemporary excellence, and advocating for modern maritime capabilities, the Association keeps faith with those who served—and prepares the nation for the challenges ahead.

In the words spoken during the moment of silence for Able Seaman Gordon Cartwright and all those lost in the Battle of the Atlantic: We will remember them.



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Sub-Lieutenant Christian McKeage, a bridge watchkeeper onboard HMCS MARGARET BROOKE, operates on the bridge as the ship transits Shoal Passage during Operation PROJECTION (Photo: Connor Bennett).

A CH-148 Cyclone Helicopter, callsign OSPREY, in flight above HMCS CHARLOTTETOWN while sailing for Operation HORIZON 2026 on 02 April 2026. (Photo: Alexandre Heagle, CAF).

