

WEBVTT

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<v SPEAKER\_1>In this episode of Defence Deconstructed, which we recorded on March 2nd, 2026, we're talking to Vice Admiral Angus Topshee, the commander of the Royal Canadian Navy.

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<v SPEAKER\_1>We talked about a number of things related to the Royal Canadian Navy as it sits today, some of the trends towards the future, and particularly what the estimated fleet composition could look like, what the trend lines are with regard to naval personnel situations, as well as the evolving relationship with the Canadian Coast Guard.

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<v SPEAKER\_1>Enjoy the listen.

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<v SPEAKER\_1>Admiral Topshee, welcome to the Events Deconstructed.

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<v SPEAKER\_2>Thanks.

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<v SPEAKER\_2>It's always great to be a part of this podcast.

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<v SPEAKER\_1>I wanted to have a discussion with you to get a bit of a sense from your perch of the direction and current state of the Royal Canadian Navy.

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<v SPEAKER\_1>I guess for listeners, part of the background, you and I had the opportunity to participate in Sea Power Conference back in the fall that our friends at the Centre for Military, Strategic, and Security Studies at the University of Calgary put on.

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<v SPEAKER\_1>You gave a couple of different interventions there because they put you to good work to share some perspective on the future of the RCN.

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<v SPEAKER\_1>Maybe we just use that as a bit of a jumping off point and then come back into a lot of the dynamic circumstances and events around Canadian Defence, the last 13 to 14 months.

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<v SPEAKER\_1>But just some opening thoughts about where the RCN sits today and where you understand it to be going and like it to go from

this point forward.

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<v SPEAKER\_2>Yeah, I know it's certainly is a pretty interesting time right now.

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<v SPEAKER\_2>And I talked to a lot of my counterparts, sorry, my predecessors and my counterparts around the world.

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<v SPEAKER\_2>It's rare to have the level of investment that we've seen from government into the Navy and into the military as a whole.

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<v SPEAKER\_2>And it clearly reflects, I think, the state of the world today.

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<v SPEAKER\_2>Whereas the Prime Minister is being clear that if you want to protect your interests, you have to have the capacity to do so.

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<v SPEAKER\_2>So for me, I like to break things down fairly simply.

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<v SPEAKER\_2>Canadians expect us to know everything that's happening on and under our waters all of the time.

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<v SPEAKER\_2>Under Bill C-12, if that gets passed and gains royal assent, the Coast Guard will be given a surveillance mandate.

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<v SPEAKER\_2>And so we'll have a responsibility to make sure to work with them to make sure we live up to that idea of everything that's happening on and under our waters across Canada's vast maritime domain.

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<v SPEAKER\_2>And that's not a small task.

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<v SPEAKER\_2>We have 244,000 km of coastline, the longest coastline in the world to protect.

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<v SPEAKER\_2>Then you get into the need to, okay, we've got that picture of what's going on.

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<v SPEAKER\_2>How do we assess that picture?

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<v SPEAKER\_2>How do we decide about that?

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<v SPEAKER\_2>How do we communicate about that?

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<v SPEAKER\_2>So that's a whole bunch of Canadian Armed Forces D&D central projects around pan domain command and control, satellite communications, especially in the high north where those are problematic.

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<v SPEAKER\_2>And the ability really to decide, this is what we need to do in response to that.

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<v SPEAKER\_2>And then finally, that brings us to the response element.

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<v SPEAKER\_2>From the Navy point of view, do we make sure we have the ships, the submarines, all of the assets that we need to respond?

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<v SPEAKER\_2>We're very clearly at a mindset nowadays that we're looking at a hybrid force, very much like what the first Sea Lord talks about in the UK.

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<v SPEAKER\_2>It's not just going to be crewed platforms, traditional ships and submarines, but a whole host of autonomous remotely controlled and other assets.

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<v SPEAKER\_2>But at the end of the day, nothing is ever going to take the place of a surface combatant with a crew on board that's able to go and see for themselves, decide for themselves, potentially in a comms denied or degraded environment, what needs to be done about something.

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<v SPEAKER\_2>And as part of that, we've got the Halifax Class today, we've got the Victoria Class, which have their challenges given the age of those fleets, looking to replace them with the River Class destroyers already under full rate construction.

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<v SPEAKER\_2>Fraser is starting to look a bit like a ship, a very, very small part of a ship, but it is the first of the River Class destroyers in construction at the Irving Yard in Halifax.

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<v SPEAKER\_2>And I've never seen a government move as quickly on a major procurement like the submarines.

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<v SPEAKER\_2>And so today is, in fact, the day where the bids close for the two qualified suppliers.

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<v SPEAKER\_2>So I can't comment more on that process because it's obviously quite active right now, but it's exciting that we've gotten this far already.

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<v SPEAKER\_1>Just jump off from that last point.

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<v SPEAKER\_1>So the submarines, that project, the government, I think, amongst other people have been very pleasantly surprised about the speed with which Canada can work when it wants to work with speed.

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<v SPEAKER\_1>Maybe use that as a pivot to talk a little bit about some of the fleet mix, different kinds of assets that RCN is contemplating because there's submarine discussion, given the speed with which the government is working, accelerated pretty quickly.

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<v SPEAKER\_1>And that's now, if things hold, is moving remarkably fast.

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<v SPEAKER\_1>What type of forces, and you include some of the hybrid mix that you talked about there, like what is the vision of giving current direction and that you're foreseeing for the RCN?

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<v SPEAKER\_2>Yeah, so the programs of record, like so the policy approved and funded programs right now are the Joint Support Ship.

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<v SPEAKER\_2>So two of those ships being built in the C-SPAN yard in North Vancouver and the River Class Destroyer with the first batch of three ships under contract and being constructed in the Irving Yard.

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<v SPEAKER\_2>There's a policy decision by government that we will explore options for a submarine.

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<v SPEAKER\_2>That's not funded yet, but we're anticipating that clearly the government has sent a very clear signal that they intend to have it.

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<v SPEAKER\_2>Between the River Class and the submarines, that gives us a decent ability to control our waters.

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<v SPEAKER\_2>At the end of the day, Canadians expect that we will control and decide who comes into our waters, and that ultimately is what a submarine is able to do for us.

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<v SPEAKER\_2>And the reason that we're looking for a fleet size of 12 is for the first time, we really feel that there's circumstances in which we will need to do that across all of Canada's maritime borders and boundaries.

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<v SPEAKER\_2>And that requires a fleet size of 12 to make sure we've got the continuous at-sea presence and the right choke points to do that.

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<v SPEAKER\_2>When you look at the River Class Destroyer, that is a very large, very capable ship.

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<v SPEAKER\_2>It's probably going to be the best surface for a combatant in the world, pound for pound, because of the combination of its...

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<v SPEAKER\_2>Fundamentally, it's an anti-submarine warfare platform, but we've added a world-leading air defence suite of systems to it that will give it the true destroyer capability of being able to do everything in the maritime domain anywhere in the world anytime.

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<v SPEAKER\_2>But as we look, the one thing it doesn't do well is manage ice, like any surface combatant, traditional surface combatant, our current frigates, and in service in the Royal Navy, the Australian Navy, the US Navy, surface combatants don't go near ice normally.

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<v SPEAKER\_2>And so we're looking for a continental defence corvette, so it's a smaller package, a cheaper package, Canadian from the Corps as well.

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<v SPEAKER\_2>So we're going to...

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<v SPEAKER\_2>There's some American technology in the Riverclass destroyer, because it's the world-leading technology.

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<v SPEAKER\_2>We have a world-leading command management system here in Canada.

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<v SPEAKER\_2>It's been bought by the German Navy.

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<v SPEAKER\_2>It's been bought by other allies and partners around the world.

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<v SPEAKER\_2>We want to build the corvette from the base of that system, Canadian from the Corps, to make sure we've got a hedge, that if we really do have to have a sovereign defence chain entirely within Canada, that we can get as close to that as possible.

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<v SPEAKER\_2>And that's reflected in the new defence industrial strategy, where buy and partner is going to be the...

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<v SPEAKER\_2>Sorry, build and partner is going to be the absolute core of the continental defence corvette.

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<v SPEAKER\_2>A lot of range.

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<v SPEAKER\_2>You notice that when you look at us, we're looking at something around a Polar Class 6 thing, probably not rigidly adhering to that.

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<v SPEAKER\_2>The idea being, it can operate anywhere in the Gulf of St.

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<v SPEAKER\_2>Lawrence in winter.

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<v SPEAKER\_2>It could operate right up to the edge of the ice pack, with about the same fight as the Halifax Class destroyers, so really capable from an easy submarine warfare, but not the air defence capability able to protect others.

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<v SPEAKER\_2>That's the River Class job, is to protect itself and others, to command the overall effort.

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<v SPEAKER\_2>The corvette is more about the...

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<v SPEAKER\_2>just the numbers on the ground to get after the problem, because what we're learning every day with the Harry DeWolf Class, for example, so we've got this really capable Arctic and offshore patrol vessel, which is not a combatant, it's a 25 mm cannon.

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<v SPEAKER\_2>It's good, it's everything that ship needs.

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<v SPEAKER\_2>But right now, given where we're at with the fleet, it has also become the answer to every problem the Navy has, which is, hey, can you do this?

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<v SPEAKER\_2>And it's like, yeah, we can send this ship.

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<v SPEAKER\_2>It's probably not the perfect ship for it, but ships are flexible, they can do lots of things.

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<v SPEAKER\_2>We know we need numbers.

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<v SPEAKER\_2>And so the corvette is a way to get us the numbers that we think we need in a package that makes sense and is more affordable, and also delivers more quickly, because if we're building down two separate paths, we think we can get the surface force that Canada needs more rapidly.

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<v SPEAKER\_1>You talked a bit about hybrid.

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<v SPEAKER\_1>So those are sort of going to be, I guess, as you described them, I interpret to be a focus on conventionally crewed.

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<v SPEAKER\_1>Sorry, when I say conventionally crewed, I mean the same-ish number of humans in them on the actual vessel as you would think currently.

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<v SPEAKER\_1>And I know that there's been a lot of transition in terms of crew complement for the River Class destroyer is going to be significantly less than it was from our old destroyers, even less than the Halifax class, if I think I had my number squared away on the last instance.

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<v SPEAKER\_1>What do you see in terms of the complement moving forward?

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<v SPEAKER\_1>And I guess as a second question, I'm not sure how much it's related or not.

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<v SPEAKER\_1>How much does the new relationship with the Canadian Coast Guard and its evolved mandate matter in terms of how you're assessing all those pieces fitting together for the Government of Canada at large?

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<v SPEAKER\_2>Yeah, so hybrid is an interesting thing.

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<v SPEAKER\_2>So when we talk about a hybrid, we know the reality is that no surface combatant, in fact, probably increasingly even submarines, are going to operate in the battle space without also having some drones, some form of possibly fully autonomous, more likely remotely controlled or remotely an autonomous enabled, AI enabled type capacity to go out to screen, to react.

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<v SPEAKER\_2>I think the era we're in is a little bit like when an aircraft first appeared in the end of the first World War.

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<v SPEAKER\_2>You saw it very early on, Navy started putting float planes on ships so they could fly up, they could find the enemy ships, they could spot for the enemy.

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<v SPEAKER\_2>Then they realized, wait, we could put weapons on these things, we can attack, and then all of a sudden you had aircraft carriers where you had purpose-built ships to carry these things.

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<v SPEAKER\_2>I do see a future where there are probably drone carriers, like ships which are purpose-built to carry a whole lot of drones, they're probably also going to carry a lot of crude platforms initially.

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<v SPEAKER\_2>But I think that every ship is going to carry a mix of surface, sub-surface and air, remotely controlled, remotely operated things.

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<v SPEAKER\_2>The Australians and the Americans are looking at large optionally crude surface vessels, so could you put, you know, missiles are a big thing, additional missiles and radars and sensors into the battle space in a ship that's fairly large, but where the crew doesn't have to be on board if you go to a fully autonomous mode in a conflict situation, that's absolutely something we're looking at.

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<v SPEAKER\_2>I think that is the future.

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<v SPEAKER\_2>I think that's also a bound or two away from where we are right now, so our focus is very much optimizing the current force and the smaller drones that are closer to it.

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<v SPEAKER\_2>When it comes to the Coast Guard and when it comes to the surveillance task across Canada, it's too vast.

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<v SPEAKER\_2>It's 7.1 million square kilometers, 244,000 kilometers of coastline.

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<v SPEAKER\_2>To patrol that, that is a series of fixed sensors, so seabed arrays that are already in use in the Atlantic and the Pacific.

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<v SPEAKER\_2>And increasingly, we'd like to see those deployed in the Arctic as well.

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<v SPEAKER\_2>Remotely controlled and autonomous vessels, so there's some great technology out there that allows us to make sure that we've

got a continuous view of what's happening.

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<v SPEAKER\_2>But the nuance we want to bring, especially as Coast Guard comes into the picture, is full sovereignty means you know everything about the, you know, about the maritime domain, everything about the sea.

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<v SPEAKER\_2>And that means that we complete the work of actually surveying all of Canada's waters to modern charting standards.

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<v SPEAKER\_2>We're about to move to an S-100 electronic charting standard where there's live tide data, current data, weather data and all of that stuff.

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<v SPEAKER\_2>To have the right backbone to support all of that requires us to really get to modern charting standards across all of Canada's waters and we're not there right now.

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<v SPEAKER\_2>We care about where marine life is in the Navy because we want to make sure we keep clear of it and we don't harm it.

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<v SPEAKER\_2>And also we want to make sure nothing hides in it and we know foreign fishing fleets are attracted by it.

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<v SPEAKER\_2>So for us that full knowledge of everything in the environment, that's what Canada should be striving to do.

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<v SPEAKER\_2>It's not all a military responsibility, but it is a shared Canadian responsibility.

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<v SPEAKER\_2>So with the Coast Guard we're working to figure out what does this maritime awareness initiative really look like?

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<v SPEAKER\_2>And it's not going to be a one size fits all solution.

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<v SPEAKER\_2>It's going to be a whole host of different platforms, different systems, different capabilities and different actors, possibly some non-traditional actors as we bring in academics who are studying, you know, ocean salinity, ocean acidification and things

like that.

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<v SPEAKER\_2>Can we get their data and make sure that we process the parts of it that are relevant to us?

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<v SPEAKER\_2>And then anything we detect as we're out there doing work, that we can provide that to build the scientific knowledge of Canada as well, while making sure that the bits of it that are military class, that should be classified or kept back from potential adversaries are kept back from potential adversaries.

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<v SPEAKER\_1>Okay.

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<v SPEAKER\_1>How is that still a relationship that...

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<v SPEAKER\_1>So it hasn't yet, especially in the scheme of things for the Government of Canada, the Coast Guard hasn't moved that long ago.

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<v SPEAKER\_1>That new role is still relatively...

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<v SPEAKER\_1>Still developing, I guess, maybe the way to frame it.

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<v SPEAKER\_1>How much...I guess, what do you see as sort of the horizon for getting a full understanding of what the working relationships, division of labour, all of those kinds of things would be to get fully solidified between Canada's two primary federal fleets?

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<v SPEAKER\_2>So I don't think we're ever going to be fully there.

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<v SPEAKER\_2>I think we...like, I met with the Acting Commissioner of the Coast Guard earlier this morning.

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<v SPEAKER\_2>We are exactly aligned on this.

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<v SPEAKER\_2>We're looking to revitalize and revamp the Maritime Security Operations Centres that are...we've got three of them right now, one Great Lakes and St.

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<v SPEAKER\_2>Lawrence focused, and then one on each coast that's focused towards the Atlantic and the Pacific.

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<v SPEAKER\_2>We know we need to make sure we've got that same focus on the High North.

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<v SPEAKER\_2>And, you know, I'm in favor of Coast Guard potentially becoming the lead department in the MSOX with C-12 and the surveillance mandate.

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<v SPEAKER\_2>It would make sense for them to cohere all of that.

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<v SPEAKER\_2>It would also say, you know what, not everything we look for in there is...has a military nexus, but we have an interest in all of that.

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<v SPEAKER\_2>So with the Coast Guard head of it, they're used to the fisheries and science missions as well as everything else.

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<v SPEAKER\_2>And so we think they're the logical place to take the lead for that.

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<v SPEAKER\_2>But there's still going to be a role for Customs and Border Services Agency, the RCMP and others within that to make sure that we've got a full spectrum maritime awareness for Canada and that we can back that up with the right resources from the right department with the right authorities at the right time.

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<v SPEAKER\_1>Okay.

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<v SPEAKER\_1>So that was an initiative that came out of one of the many, many things that have happened in the last 14 months.

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<v SPEAKER\_1>That was direction campaign commitment from the Liberal Party that then bridged over into government and their focus.

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<v SPEAKER\_1>But we're having this conversation earlier on in March 2026 with the stated Defence Policy of the Day still being our North

strong and free from the spring of 2024.

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<v SPEAKER\_1>That obviously there's a lot that's happened since.

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<v SPEAKER\_1>Change role for the Coast Guard is part of it.

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<v SPEAKER\_1>Prime Minister's commitment to a different and new higher level of resourcing for the military.

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<v SPEAKER\_1>He's made some comments about the need to have different relationships with different allies.

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<v SPEAKER\_1>You can interpret that in a whole number of different ways.

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<v SPEAKER\_1>That's also brought up a bit of an extra focus depending on who you're talking to about and the framing of that specific issue set, but of the need for Canada to have more autonomy or independence of action, which is a whole kind of scalable set of discussions too.

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<v SPEAKER\_1>That's a whole lot there.

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<v SPEAKER\_1>I guess for our listeners, what are you as the head of the Royal Canadian Navy, what are you taking from all of that as you chart forward from our North, strong and free?

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<v SPEAKER\_1>Obviously, the submarine pieces we're just talking about, the exploration of that particular line of effort has proceeded with pace.

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<v SPEAKER\_1>What else do you take from all that's happened in the last 14 months?

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<v SPEAKER\_2>Yeah, I think the government deciding that as part of the new commitments, we're going to go to three and a half percent core spending on defense, five percent overall when you include defense-relevant infrastructure.

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<v SPEAKER\_2>That's a very different model.

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<v SPEAKER\_2>That's a significant additional investment in defense in Canada, and I think we owe a proper defense policy that says to the Canadian public, hey, here's what you're going to get for that.

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<v SPEAKER\_2>That's a lot of money from Canada, a lot of resources being dedicated to this.

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<v SPEAKER\_2>I think it's an appropriate resourcing given where the world is today and Canada's legacy of that when we've had to, we've been able to build the hard power necessary to underpin and protect Canada's national interests.

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<v SPEAKER\_2>For me, as a Commander of the Navy, and I think collectively, defence leadership right now is saying is like, we probably have one principle task we've got to be ready to do, and that's the defence of Canada.

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<v SPEAKER\_2>I'm a bit of a historian, I wrote my master's thesis on Canadian defence policy through the years.

00:16:38.360 --> 00:16:43.640

<v SPEAKER\_2>So I will tell you right now, every Canadian defence policy says it begins with the defence of Canada.

00:16:43.640 --> 00:16:46.720

<v SPEAKER\_2>Most of them didn't mean that in any meaningful way.

00:16:46.720 --> 00:16:50.940

<v SPEAKER\_2>It was really just, obviously, we're going to defend Canada, but now let's talk about what we're actually doing overseas.

00:16:51.400 --> 00:16:53.500

<v SPEAKER\_2>And the forces, we need to do all the cool things overseas.

00:16:53.500 --> 00:17:05.540

<v SPEAKER\_2>And for a long time, that was a perfectly appropriate response because the defence of Canada really did begin with a strong NATO alliance, with a strong commitment to NORAD and with a strong international rules based order.

00:17:05.540 --> 00:17:06.680

<v SPEAKER\_2>That's not the case anymore.

00:17:06.680 --> 00:17:19.040

<v SPEAKER\_2>And so I think we do need to make sure that if push comes to shove, can we guarantee no one comes into our waters without our express permission, and no one can stay here without us agreeing to let them stay here, and so that we own full control.

00:17:20.700 --> 00:17:30.900

<v SPEAKER\_2>And so we're very much focused right now on how do I make sure that I have a Navy that can, that delivers that ability to completely control Canada's maritime approaches.

00:17:30.900 --> 00:17:37.600

<v SPEAKER\_2>The good news for me is that if I do that across the three oceans that we're responsible for, I build a Navy that can go anywhere in the world.

00:17:37.600 --> 00:17:45.860

<v SPEAKER\_2>The reality of our Arctic is it is a long way from anywhere, and it is, you know, it is a very distant theatre of operations.

00:17:47.020 --> 00:17:47.980

<v SPEAKER\_2>It's a gorgeous area.

00:17:47.980 --> 00:17:53.720

<v SPEAKER\_2>Most Canadians have never been up there, but it's a truly spectacular place with the most incredible people you can imagine.

00:17:53.720 --> 00:18:00.540

<v SPEAKER\_2>And it is a lovely place that has the resources needed to sustain life up there, but not the resources needed to sustain a military.

00:18:00.540 --> 00:18:03.080

<v SPEAKER\_2>And so we treat that as an expeditionary theatre.

00:18:03.080 --> 00:18:06.300

<v SPEAKER\_2>If we go up to the north, we bring everything we need with us.

00:18:06.300 --> 00:18:11.220

<v SPEAKER\_2>And increasingly, we're working through things like Northern Operational Support Hubs to support overall CAF efforts.

00:18:11.220 --> 00:18:21.780

<v SPEAKER\_2>But just because of the distances involved, I know that if I build a force that can deploy and sustain maritime capability in our high north, I can deploy and sustain maritime capability anywhere in the world.

00:18:21.780 --> 00:18:34.700

<v SPEAKER\_2>If I have a force that's capable of making sure that no threat actor can come into Canadian waters and harm Canada, then I have a force that can go anywhere in the world and hold others at risk or defend Canadians and Canadian interests anywhere in the world.

00:18:34.700 --> 00:18:38.860

<v SPEAKER\_2>So the good news for me as a Navy commander is my task becomes relatively straightforward.

00:18:38.860 --> 00:18:40.220

<v SPEAKER\_2>I build a Navy to defend Canada.

00:18:40.580 --> 00:18:44.640

<v SPEAKER\_2>I build a Navy that protects Canadians and Canadian interests anywhere in the world.

00:18:45.660 --> 00:18:56.240

<v SPEAKER\_1>Would any of the, if there was specific direction that got fleshed out to the Navy to have more independence of action, would that change any of the thinking about some of the macro fleet structure?

00:18:56.240 --> 00:19:04.780

<v SPEAKER\_1>So we're obviously, if we go forward and 12 submarines are committed to, that's going to rebalance our fleet mix quite significantly.

00:19:04.780 --> 00:19:15.020

<v SPEAKER\_1>I guess I'm not sure I entirely have my head around about how a Corvette initiative and compliment with the Harry DeWolf, like what that would look like in a net sense with river class in terms of the composition of our surface fleet.

00:19:15.020 --> 00:19:17.440

<v SPEAKER\_1>But I guess I'm reflecting on that.

00:19:17.440 --> 00:19:25.760

<v SPEAKER\_1>Existing plans still have, I think in the scheme of things, quite modest replenishment at sea support.

00:19:25.760 --> 00:19:43.200

<v SPEAKER\_1>Not having things like dedicated vessels for intelligence support or signals intelligence collection, not having a dedicated ability to do sea lift or if you get into any of those kind of flavors of gradients of amphibious capability, amphibiosity.

00:19:43.200 --> 00:19:52.600

<v SPEAKER\_1>Is there any kind of takeaways about how you would

reflect on if there was a specific direction to have more independence of action?

00:19:52.600 --> 00:19:58.700

<v SPEAKER\_1>Would any of those other kind of capability mixes need to be revisited or relied on less from some of the existing relationships?

00:19:59.240 --> 00:20:02.020

<v SPEAKER\_1>We get most of that to the extent we need it from other allies.

00:20:03.140 --> 00:20:03.340

<v SPEAKER\_1>Yeah.

00:20:03.340 --> 00:20:09.660

<v SPEAKER\_2>I mean, so some of the things like there are countries that have intelligence collection platforms and things like that, dedicated ships to that.

00:20:09.660 --> 00:20:24.720

<v SPEAKER\_2>My feeling is being that that's a perfect place for remotely controlled and autonomous and we're looking at a whole mix of things like that, that are going to probably look a lot like the things that we use just to patrol Canadian waters and maintain that regular maritime awareness at any time.

00:20:24.720 --> 00:20:34.180

<v SPEAKER\_2>The best example of what's the change from this idea of we need to be able to project power to new, we need to be able to defend Canadian waters, and that's around the requirement for joint support ships.

00:20:34.180 --> 00:20:42.920

<v SPEAKER\_2>So when the joint support ship project began, and believe me, I worked on the first iteration of this project back in 1995 when I first came to Ottawa.

00:20:42.920 --> 00:20:43.700

<v SPEAKER\_2>The requirement was always-

00:20:43.700 --> 00:20:46.560

<v SPEAKER\_1>Was the float sea lift project started with an A, I think, if memory serves?

00:20:46.560 --> 00:20:52.640

<v SPEAKER\_2>A float logistic support capability, because we had not even confirmed that it had to be a ship.

00:20:52.920 --> 00:20:54.360

<v SPEAKER\_2>So that was Alice.

00:20:54.360 --> 00:20:56.960

<v SPEAKER\_2>It was also the multi-role support vessel.

00:20:56.960 --> 00:21:02.300

<v SPEAKER\_2>It's had a whole bunch of AOR replacement, just really simply, auxiliary oil replenishment replacement.

00:21:02.300 --> 00:21:03.720

<v SPEAKER\_2>It's been through all sorts of iterations.

00:21:03.720 --> 00:21:13.780

<v SPEAKER\_2>We had a failed procurement in 2007, where we were aiming for three ships, and we couldn't afford to deliver even two under the design and all of the constraints of the day.

00:21:13.780 --> 00:21:24.560

<v SPEAKER\_2>We got to a place where we said, you know what, we can live with two ships in the Navy because we were picturing a place where we were sustaining a task group abroad somewhere else in the world.

00:21:24.560 --> 00:21:34.920

<v SPEAKER\_2>If you had a ship in Esquimalt and you have a ship in Halifax, then between those two ships you can make sure that one was always most of the time available to be in, let's say, the Middle East.

00:21:34.920 --> 00:21:59.040

<v SPEAKER\_2>But if the requirement is, I need to be able to sustain a screening force at sea off the coast of North America, far enough away to make sure that no Chinese or Russian submarine can come with a missile at least range in North America, then I need a host of ships out there and I want to bring the gas to them because it's seven days for them to come all the way back into Harbor refuel and get back out and station, which is seven days a wasted effort where I'm not protecting North America.

00:21:59.120 --> 00:22:11.380

<v SPEAKER\_2>So in a world where you need to have a tanker to bring the fuel to the screening forces on each coast simultaneously, now I need at least two on each coast, which drives me to a force structure of at least four and possibly more.

00:22:11.480 --> 00:22:13.100

<v SPEAKER\_2>We're working through that fleet mix.

00:22:13.100 --> 00:22:15.400

<v SPEAKER\_2>You mentioned corvettes versus the Harry DeWolf class.

00:22:15.400 --> 00:22:18.020

<v SPEAKER\_2>So the purpose of the Harry DeWolf class, it's an icebreaker.

00:22:18.020 --> 00:22:28.080

<v SPEAKER\_2>It's designed to be able to go anywhere in the Arctic in the summer navigation season, but it's got the same combat powers if you took an Army LAV and just put it on the back of a barge or a ship.

00:22:28.080 --> 00:22:29.920

<v SPEAKER\_2>It's not designed to be a combatant.

00:22:29.920 --> 00:22:31.860

<v SPEAKER\_2>The corvette is designed to be a combatant.

00:22:31.860 --> 00:22:41.860

<v SPEAKER\_2>It's not going to have the same quality of icebreaking capability as the Harry DeWolf class because it's not meant to be an icebreaker, but could it go through the Northwest Passage, possibly with a bit of an icebreaker escort in the summer?

00:22:41.860 --> 00:22:43.240

<v SPEAKER\_2>Absolutely, it could.

00:22:43.240 --> 00:22:49.740

<v SPEAKER\_2>And it's going to have the range to be able to do that, and it's going to be able to bring the fight to the adversary wherever it is.

00:22:49.740 --> 00:22:58.760

<v SPEAKER\_2>You know, and then I think, yeah, we were looking through other concepts of, is there a need for lift in Canada, heavy lift, you know, to be able to deploy the Army in other places?

00:22:58.760 --> 00:23:01.940

<v SPEAKER\_2>I don't really want to get into speculation about where we might go in all of that.

00:23:01.940 --> 00:23:05.840

<v SPEAKER\_2>There's a lot of active discussions right now about how do we put all of this together?

00:23:05.900 --> 00:23:13.180

<v SPEAKER\_2>And then what vignettes of sort of security threats and scenarios can we imagine for Canada, realistically, in today's world?

00:23:13.180 --> 00:23:15.420

<v SPEAKER\_2>It's a pretty wide aperture.

00:23:15.420 --> 00:23:18.360

<v SPEAKER\_2>And what capabilities would be the right mix to respond to that?

00:23:18.360 --> 00:23:24.720

<v SPEAKER\_2>Most of the best, you know, it's not so much cost effectiveness as what's the best capability mix for Canada?

00:23:24.720 --> 00:23:28.160

<v SPEAKER\_2>How do we build Canadian industries that then support and enable all of that?

00:23:28.160 --> 00:23:30.060

<v SPEAKER\_2>And there are going to be some gaps.

00:23:30.060 --> 00:23:34.640

<v SPEAKER\_2>For example, I have not yet found a Canadian builder of air surveillance radars in a maritime context.

00:23:34.720 --> 00:23:36.420

<v SPEAKER\_2>So I know the Continental Defence Corps of that.

00:23:36.420 --> 00:23:41.000

<v SPEAKER\_2>As much as I wanted to have a Canadian air search radar, I don't know how we would be able to get there.

00:23:41.000 --> 00:23:48.420

<v SPEAKER\_2>And so that's where you get into that partner potentially by, but we definitely want to be looking at all of the tools the Defence Industrial Strategy has given us.

00:23:50.700 --> 00:23:54.140

<v SPEAKER\_1>This episode of Defence Deconstructed is brought to you by Irving Shipbuilding.

00:23:54.140 --> 00:23:56.660

<v SPEAKER\_1>Canada's national shipbuilder is currently hiring.

00:23:56.660 --> 00:24:01.740

<v SPEAKER\_1>For more information on the many jobs and opportunities currently available, please visit [www.shipsforcanada.ca](http://www.shipsforcanada.ca).

00:24:07.200 --> 00:24:12.120

<v SPEAKER\_1>Since you talked on the partner, I guess maybe the last question is sort of the bigger picture.

00:24:12.120 --> 00:24:22.680

<v SPEAKER\_1>There's been lots of engagements with lots of countries with which, I think there's been a lot of room to strengthen some of the working military relationships including Naval.

00:24:22.740 --> 00:24:34.300

<v SPEAKER\_1>I guess, are there particular strong points of emphasis or opportunities that you see that have come from some of that accelerated pace of new partner exploration in the last year and a bit?

00:24:34.300 --> 00:24:48.660

<v SPEAKER\_2>Yeah, I think when you look towards countries have realized that the Indo-Pacific strategy that the government put out in November of 22, we've maintained a near persistent presence in the Indo-Pacific since then and you've seen real gains in our relationship with the key allies that were identified in that.

00:24:48.760 --> 00:24:55.920

<v SPEAKER\_2>So, Japan, Republic of Korea, Philippines, Singapore, we're making, I mean, I think they've seen that tangible commitment.

00:24:55.920 --> 00:25:02.780

<v SPEAKER\_2>And then with the Defence Industrial Strategy, we're hearing from other allies and partners, especially across the Five Eyes with like, hey, okay, you guys are getting serious about this.

00:25:02.780 --> 00:25:05.900

<v SPEAKER\_2>We have a lot of opportunity to co-develop things.

00:25:05.900 --> 00:25:09.260

<v SPEAKER\_2>I think the submarine project offers real potential for that co-development there.

00:25:09.260 --> 00:25:13.680

<v SPEAKER\_2>But, you know, a lot will depend on what are the best investments for Canada.

00:25:13.680 --> 00:25:15.880

<v SPEAKER\_2>And then what's the capacity of Canadian companies?

00:25:15.880 --> 00:25:23.580

<v SPEAKER\_2>One of the most interesting things for me is over the last year and a half, I've probably heard from more Canadian companies that I had never had any exposure to before.

00:25:23.580 --> 00:25:29.420

<v SPEAKER\_2>I've met CEOs of Canadian companies whose market is almost entirely in the US who are coming home to Canada now.

00:25:29.420 --> 00:25:39.360

<v SPEAKER\_2>And my belief is we got about 9 to 12 months to prove to them that we're serious, that if they're building world leading kit, we want to buy it from them rather than have them sell it to our

allies first.

00:25:39.360 --> 00:25:43.720

<v SPEAKER\_2>The first sale of a Canadian company has got to be in Canada if we're serious about growing that capability.

00:25:43.720 --> 00:25:46.860

<v SPEAKER\_2>And I think the Defence Industrial Strategy puts us on the right path.

00:25:47.220 --> 00:25:52.340

<v SPEAKER\_2>There's a lot of detail to be ironed out and exactly how are we going to do that?

00:25:52.340 --> 00:26:02.020

<v SPEAKER\_2>But our promise is to work with companies, work with industry, work with PSPC and the new Defence Investment Agency to let's be clear about how we do this.

00:26:02.020 --> 00:26:15.800

<v SPEAKER\_2>I think we need to get to the place where we can make small investments in companies that have potentially world leading technology, that service chiefs could possibly make those investments with a unique approach that allows us to take that risk.

00:26:16.200 --> 00:26:28.380

<v SPEAKER\_2>Knowing that some of these bets are not going to pay off, but some of them are, and the ones that are most likely to pay off are the ones where you directly connect the warfighters, you know, it's trying to solve an operational problem with a company with the technology that might be able to do that.

00:26:28.380 --> 00:26:44.500

<v SPEAKER\_2>Once you prove that, yeah, there's something actually to this concept, then what we need to do is bring a coherence to it, bring it into the centre, into the organisations we already have, Chief of Force Development, the new Joint Forces Command, you know, our normal mechanisms, do a proper procurement at that point so we can really scale and commercialise it.

00:26:44.580 --> 00:26:49.960

<v SPEAKER\_2>But the initial innovative approach, I think we need to find ways to decentralise and accelerate that.

00:26:49.960 --> 00:26:52.560

<v SPEAKER\_2>And I'm hoping the Defence Industrial Strategy will do that.

00:26:52.560 --> 00:27:01.000

<v SPEAKER\_2>Because I know that's how Australia built Ghost Shark,

which is a world leading capability, and now a \$1.8 billion Australian contract, I believe.

00:27:01.000 --> 00:27:03.840

<v SPEAKER\_2>You know, so there are models out there that we know work.

00:27:03.840 --> 00:27:08.360

<v SPEAKER\_2>And we just, I don't believe it's wrong to steal other people's ideas when they're good ideas.

00:27:08.360 --> 00:27:11.460

<v SPEAKER\_2>Not copyrights, not, you know, intellectual property and all that.

00:27:11.460 --> 00:27:13.100

<v SPEAKER\_2>But absolutely, we'll respect that.

00:27:13.100 --> 00:27:15.680

<v SPEAKER\_2>But if someone's got a good idea, I am absolutely willing.

00:27:15.680 --> 00:27:20.920

<v SPEAKER\_2>In fact, I've told my team, let's go plagiarize every good and steal every good idea out there.

00:27:22.300 --> 00:27:27.120

<v SPEAKER\_1>To pivot off that on a focus on some new ideas, a shift to personnel.

00:27:27.120 --> 00:27:34.400

<v SPEAKER\_1>One of the things that you initiated early in your tenure was a new approach on some, I think at the time was pretty innovative.

00:27:34.400 --> 00:27:38.500

<v SPEAKER\_1>The focus on the Canadian experience program for sailors.

00:27:39.400 --> 00:27:43.200

<v SPEAKER\_1>Maybe just reflect on how that has evolved over time.

00:27:43.580 --> 00:27:48.020

<v SPEAKER\_1>Give a bit of a sense of the state of the RCN in terms of its personnel.

00:27:48.020 --> 00:27:57.540

<v SPEAKER\_1>Then cast your eye forward because presumably if you get up to 12 submarines, you're going to need an extra sailor or two to crew them as well as some of the other assets.

00:27:58.020 --> 00:28:01.440

<v SPEAKER\_1>What's the state of the personnel situation for the RCN?

00:28:01.440 --> 00:28:06.900

<v SPEAKER\_2>Yeah, I think for the first time in a long time, there's a reason for cautious optimism on the personnel front.

00:28:07.640 --> 00:28:14.400

<v SPEAKER\_2>When I took command of the Navy in May of 22, I set out three priorities and the first priority was people.

00:28:14.400 --> 00:28:19.500

<v SPEAKER\_2>We've been working really hard to revitalize our entire People Corps.

00:28:19.500 --> 00:28:25.220

<v SPEAKER\_2>We have been for most of my tenure, seeing our trained effective strength and total strength decline inexorably.

00:28:25.740 --> 00:28:28.280

<v SPEAKER\_2>We arrested it, but we couldn't quite stop it.

00:28:28.280 --> 00:28:29.120

<v SPEAKER\_2>We now have.

00:28:29.120 --> 00:28:30.480

<v SPEAKER\_2>We now see it bouncing back.

00:28:30.480 --> 00:28:40.320

<v SPEAKER\_2>Total strength has been growing for a while and the trained effective strength, the number of those sailors not just in the Navy, but who are qualified to do the jobs we need them to do, that number is finally growing again.

00:28:40.320 --> 00:28:42.280

<v SPEAKER\_2>The Naval Experience Program was a big part of that.

00:28:42.280 --> 00:28:45.400

<v SPEAKER\_2>So it was a new initiative launched less than three years ago.

00:28:45.400 --> 00:28:48.100

<v SPEAKER\_2>Gives Canadians the opportunity to come in, try the Navy out.

00:28:48.100 --> 00:28:50.680

<v SPEAKER\_2>No strings attached for up to a year.

00:28:50.680 --> 00:28:54.480

<v SPEAKER\_2>That's now a source of one third of all of the recruits into the Navy.

00:28:54.480 --> 00:28:58.980

<v SPEAKER\_2>We keep expanding that program and Canadians keep signing up for it and filling it.

00:28:58.980 --> 00:29:00.820

<v SPEAKER\_2>As we when we began, we set a target.

00:29:00.820 --> 00:29:04.660

<v SPEAKER\_2>We wanted 80 percent of the people who completed the program to remain within the Canadian Armed Forces.

00:29:05.020 --> 00:29:06.500

<v SPEAKER\_2>We are meeting that target.

00:29:06.700 --> 00:29:10.400

<v SPEAKER\_2>Not all of them are staying in Navy hard sea trades where their job is to go to sea.

00:29:10.400 --> 00:29:18.000

<v SPEAKER\_2>We're hitting about 52 to 55 percent of people are staying in hard sea trades, which is actually about right where we hope to be.

00:29:18.000 --> 00:29:24.020

<v SPEAKER\_2>Half of all of our recruits, in other words, that get the trained effective strength, are coming that way in one sense.

00:29:24.020 --> 00:29:33.720

<v SPEAKER\_2>We've already had seven Naval Experience Program candidates get all the way through to our most in-demand trade, Marine Technician to reach what we call the occupational functional point.

00:29:33.780 --> 00:29:35.860

<v SPEAKER\_2>In other words, fully trained effective strength.

00:29:35.860 --> 00:29:43.140

<v SPEAKER\_2>So to have seven get through what has previously been nearly three years of training is a real sign that we are changing the way we do business.

00:29:44.780 --> 00:29:56.140

<v SPEAKER\_2>We've basically gone and done a root and branch overhaul of our training system to really reduce the burden on the training system, to reduce the exposure to the training system, to what are the touch points we really need to have.

00:29:56.140 --> 00:30:00.780

<v SPEAKER\_2>It used to be that the Navy would require, every time you got promoted, you had to do a rank qualification course.

00:30:01.280 --> 00:30:07.320

<v SPEAKER\_2>We've changed that, so instead of nine different courses, we're down to no more than four at various different points in your career.

00:30:07.320 --> 00:30:16.040

<v SPEAKER\_2>We have shortened and focused those on the things that sailors really need, augmented with the knowledge of being available to them on their ships and wherever they're serving.

00:30:16.040 --> 00:30:17.400

<v SPEAKER\_2>And so we've seen a payoff.

00:30:17.400 --> 00:30:25.420

<v SPEAKER\_2>And for example, the Naval Warfare Officers, the ones who lead ships, command ships, drive ships, we have historically produced 31 a year.

00:30:25.420 --> 00:30:27.100

<v SPEAKER\_2>We've produced 65 last year.

00:30:27.160 --> 00:30:28.380

<v SPEAKER\_2>It will be 85 this year.

00:30:28.380 --> 00:30:34.900

<v SPEAKER\_2>And steady state going forward is 90 to 100, which will not only meet the demand going forward, but fills all the holes behind us.

00:30:34.900 --> 00:30:35.820

<v SPEAKER\_2>And we're doing that.

00:30:35.820 --> 00:30:39.280

<v SPEAKER\_2>And it used to be it took more than three years on average to produce those.

00:30:39.280 --> 00:30:41.160

<v SPEAKER\_2>Now it's taking less than two years.

00:30:41.160 --> 00:30:46.800

<v SPEAKER\_2>So we've effectively, we've got a system now that has tripled our output and reduced the time to do it without changing.

00:30:46.800 --> 00:30:53.020

<v SPEAKER\_2>In fact, I'm talking to commanding officers who tell me the quality, if anything, has improved because we're much more focused on the output.

00:30:53.020 --> 00:30:55.160

<v SPEAKER\_2>For marine technicians, still a challenging area.

00:30:55.720 --> 00:31:00.600

<v SPEAKER\_2>But because of the Naval Experience Program, one of the strengths of it is that we can route people into occupations.

00:31:00.600 --> 00:31:08.540

<v SPEAKER\_2>Now the number one choice of the Naval Experience Program candidates is marine technician, and we're doing really well in recruiting those.

00:31:08.540 --> 00:31:11.820

<v SPEAKER\_2>We've got a model for the future which really sort of builds on all of that success.

00:31:11.820 --> 00:31:15.580

<v SPEAKER\_2>We want to completely revamp all initial enrollment training into the Navy.

00:31:15.580 --> 00:31:19.400

<v SPEAKER\_2>We're going to start doing it where we used to do it through our Naval Reserve divisions.

00:31:19.400 --> 00:31:21.320

<v SPEAKER\_2>There's 24 of them across Canada.

00:31:21.320 --> 00:31:23.140

<v SPEAKER\_2>We're creating a detachment in Whitehorse.

00:31:23.400 --> 00:31:27.540

<v SPEAKER\_2>We're going to tear in some of our current detachments into full-blown divisions.

00:31:27.880 --> 00:31:31.380

<v SPEAKER\_2>We see that footprint going to 30 or 32 across Canada.

00:31:31.380 --> 00:31:36.560

<v SPEAKER\_2>That's going to be where Canadians get recruited into the Navy, where they start their basic Navy training.

00:31:36.560 --> 00:31:48.980

<v SPEAKER\_2>We're going to go back to doing a basic Navy training that still meets the Canadian Armed Forces' requirements for basic training, but does it in a Navy context that at the end of it delivers a sailor who is fully employable in general duties.

00:31:48.980 --> 00:31:57.560

<v SPEAKER\_2>Right now, when we get a basic training qualified sailor, we still have to send them off for four more weeks at a minimum of training before they're fully qualified for our duties.

00:31:57.560 --> 00:32:03.380

<v SPEAKER\_2>We're changing to a system that brings people in and gives them that stuff upfront before they complete that basic training.

00:32:03.380 --> 00:32:07.660

<v SPEAKER\_2>And along the way is also going to give them a Transport Canada Deck Watch certification.

00:32:07.660 --> 00:32:18.940

<v SPEAKER\_2>So if the Navy doesn't work out for them, or if they choose to go down a different path, they've got a qualification that they can take and they can go to sea with all sorts of other great companies or even the Coast Guard in the Canadian Marine sector.

00:32:19.100 --> 00:32:22.480

<v SPEAKER\_2>So we're really cautiously optimistic on the personnel front.

00:32:22.480 --> 00:32:23.780

<v SPEAKER\_2>There's a lot of work still to be done.

00:32:23.780 --> 00:32:26.020

<v SPEAKER\_2>We're reshaping all of our occupations.

00:32:26.360 --> 00:32:45.160

<v SPEAKER\_2>We're going to heavily leverage Canada's outstanding network of post-secondary education institutions, colleges, universities, polytechnics, all of them, because if I can get a sailor taught something in a local community college, polytechnic or university, rather than my instructors using their time to teach that, that's perfect.

00:32:45.160 --> 00:32:45.900

<v SPEAKER\_2>That's a win-win.

00:32:46.320 --> 00:32:51.180

<v SPEAKER\_2>It helps out the local community college and post-secondary institutes.

00:32:52.280 --> 00:32:54.520

<v SPEAKER\_2>It helps that whole ecosystem.

00:32:54.520 --> 00:32:58.860

<v SPEAKER\_2>It exposes more Canadians to the great sailors that we have, and it takes the burden off my training system.

00:32:58.860 --> 00:33:02.060

<v SPEAKER\_2>So there is a path to produce the number of people that

we need.

00:33:02.060 --> 00:33:03.280  
<v SPEAKER\_2>And we've done the math.

00:33:03.280 --> 00:33:10.840  
<v SPEAKER\_2>So we know that right now our force of submarines, to operate the four submarines we've got, we've got roughly 400 submariners.

00:33:10.840 --> 00:33:14.400  
<v SPEAKER\_2>The force of 12 that we envision needs about 1,000 qualified submariners.

00:33:14.460 --> 00:33:16.420  
<v SPEAKER\_2>So we're not tripling the size.

00:33:16.420 --> 00:33:18.580  
<v SPEAKER\_2>We've got a path to get there.

00:33:18.580 --> 00:33:24.140  
<v SPEAKER\_2>Part of the deal with the qualified suppliers is they have to show us how they would assist us in training the number of submariners that we need.

00:33:24.140 --> 00:33:25.320  
<v SPEAKER\_2>You know, so bids are closing today.

00:33:25.320 --> 00:33:27.240  
<v SPEAKER\_2>So I don't know what those answers look like yet.

00:33:27.240 --> 00:33:31.200  
<v SPEAKER\_2>But I know that the qualified suppliers were very committed to hitting those targets.

00:33:31.200 --> 00:33:34.160  
<v SPEAKER\_2>So, you know, yeah, a lot of work still to be done.

00:33:34.160 --> 00:33:39.060  
<v SPEAKER\_2>But it's a far more positive place than it was three and a half years ago when I took this job.

00:33:39.060 --> 00:33:40.480  
<v SPEAKER\_1>Well, that's very good to hear.

00:33:40.480 --> 00:33:43.680  
<v SPEAKER\_1>Is there anything you can share about some of the look at the occupations piece?

00:33:43.740 --> 00:33:58.340

<v SPEAKER\_1>So, I know that just for the Navy in the last couple of years, and there's been a wider, I guess, to my view, sort of these cascading waves of structure reviews that have happened in different ways inside Defence in the last couple of decades.

00:33:58.340 --> 00:34:04.020

<v SPEAKER\_1>I know the Navy, just off the top of my head, the steward trade was discontinued a few years ago.

00:34:04.020 --> 00:34:13.160

<v SPEAKER\_1>Are there any kind of obvious things that you're thinking that are going to be parts of a look at not just the quantity but the composition of the people that you're employing right now?

00:34:13.280 --> 00:34:23.580

<v SPEAKER\_1>I presume if you get to the space that you're talking about before employing more autonomous vessels, you may be having a dedicated role or at least an enhanced focus on that kind of a capacity.

00:34:23.580 --> 00:34:28.020

<v SPEAKER\_1>But are there any sort of initial thoughts about what that might look like in terms of the composition?

00:34:28.020 --> 00:34:34.660

<v SPEAKER\_2>Yeah, one of our major efforts was we took a look at all of what we call the hard sea trades that are related to Naval operations.

00:34:34.660 --> 00:34:51.400

<v SPEAKER\_2>So not the ones that do the sort of core engineering, the marine technician and the bosons who are the general duty sailors, but the Naval Combat Information Operators, Naval Communicators, Sonar Operators, Naval Electronic Sensor Operators and Weapons Engineers, those five occupations.

00:34:51.400 --> 00:34:57.300

<v SPEAKER\_2>We studied them all together along with Naval Warfare Officer and the Combat Systems Engineering Officer.

00:34:57.300 --> 00:35:03.180

<v SPEAKER\_2>So basically everybody who touches the combat system of a ship to either operate it or maintain it.

00:35:03.180 --> 00:35:06.560

<v SPEAKER\_2>We looked at those, tore the tasks apart with an eye to the future.

00:35:06.640 --> 00:35:15.580

<v SPEAKER\_2>We're going to be operating an Aegis class air defence

system down the road with some of the most powerful radars in the world, some really powerful missiles.

00:35:15.580 --> 00:35:19.640

<v SPEAKER\_2>Electromagnetic spectrum is really critical these days and we know information systems are critical.

00:35:19.640 --> 00:35:22.580

<v SPEAKER\_2>How do we break that all up in ways that are manageable?

00:35:22.580 --> 00:35:31.160

<v SPEAKER\_2>We were actually expecting that we'd go from five down to two or three because you consolidate, you simplify things, but in fact, we went the opposite direction.

00:35:31.160 --> 00:35:33.660

<v SPEAKER\_2>We're breaking it apart into 11 different areas.

00:35:33.660 --> 00:35:37.880

<v SPEAKER\_2>So for example, we will have information system specialists and communication specialists.

00:35:37.880 --> 00:35:48.960

<v SPEAKER\_2>So people more focused on the computer and network side of things, the ones and zeros that go into actually exchanging data across networks and systems, and then others who work in the radio part of the spectrum.

00:35:48.960 --> 00:35:52.300

<v SPEAKER\_2>How do you actually set up all of this stuff, including up to and including space?

00:35:52.300 --> 00:36:00.380

<v SPEAKER\_2>And then we'll have electromagnetic warfare specialists who are designed to how do you go after defeating the ability to use radios and all of those things.

00:36:00.380 --> 00:36:05.540

<v SPEAKER\_2>We'll have a naval combat operator still, so someone whose responsibility is to put the picture together.

00:36:06.000 --> 00:36:21.220

<v SPEAKER\_2>But most of our occupations are actually going to be structured around the idea that in order to be capable in this area, as a communication specialist, for example, you're not only going to need to know the theories of how radios work, you're going to be able to need to maintain it, and you're going to need to be able to talk on it and use it.

00:36:21.220 --> 00:36:25.340

<v SPEAKER\_2>So it's a bit of a, you know, some people have called it an operator-maintainer model.

00:36:25.340 --> 00:36:28.580

<v SPEAKER\_2>That implies we're expecting people to be able to do everything.

00:36:28.580 --> 00:36:30.220

<v SPEAKER\_2>It's like, no, not quite.

00:36:30.220 --> 00:36:33.360

<v SPEAKER\_2>What we're expecting to do is own that capability area.

00:36:33.360 --> 00:36:38.120

<v SPEAKER\_2>And as you go through, initially, we're going to show you that, hey, here are the basics of radio theory.

00:36:38.120 --> 00:36:40.620

<v SPEAKER\_2>Here's, you know, here are some really basic stuff.

00:36:40.620 --> 00:36:42.080

<v SPEAKER\_2>Go off and be a journeyman.

00:36:42.080 --> 00:36:45.040

<v SPEAKER\_2>And you're going to start off at that level just learning the system.

00:36:45.040 --> 00:36:51.140

<v SPEAKER\_2>And then as you move on through your career, and additional training comes, we expect some people will focus a little bit more on the maintenance side.

00:36:51.140 --> 00:36:53.660

<v SPEAKER\_2>Some people will focus a little bit more on the operator side.

00:36:53.660 --> 00:37:02.160

<v SPEAKER\_2>We learned from studying Australia's adaption of the Aegis weapon system is that there's a model there where actually you start as a maintainer.

00:37:02.160 --> 00:37:07.680

<v SPEAKER\_2>And for years, you're just working on how the fire control system works, how you do everything needed to make it work.

00:37:07.680 --> 00:37:15.540

<v SPEAKER\_2>But then ultimately, you become such an expert on all the basics of the algorithms and the underlying stuff that you become the best possible operator of the system.

00:37:15.540 --> 00:37:17.740

<v SPEAKER\_2>And so that's the system we sort of had in mind.

00:37:17.840 --> 00:37:21.420

<v SPEAKER\_2>Let's start with, you're responsible for a radar.

00:37:21.420 --> 00:37:27.020

<v SPEAKER\_2>Okay, you're going to know everything about the radar, including how to make it work, like how to actually break the picture down.

00:37:27.020 --> 00:37:32.300

<v SPEAKER\_2>And then as we go on, we expect some people will be more on the application side of things and some people more on the maintenance side.

00:37:32.660 --> 00:37:36.000

<v SPEAKER\_2>But honestly, it's going to be, I think, a really interesting model.

00:37:36.000 --> 00:37:40.100

<v SPEAKER\_2>The best thing from my perspective is that we're deliberately structuring those 11 occupations.

00:37:40.460 --> 00:37:51.860

<v SPEAKER\_2>How much of that can we parcel out into courses and curricula that already exist in that post-secondary institute ecosystem again, so that I don't have to take the burden on in my training system.

00:37:51.860 --> 00:37:57.420

<v SPEAKER\_2>I can simply go out to industry and say, hey, this is the number of people I need trained in these areas that already exist.

00:37:57.420 --> 00:38:07.020

<v SPEAKER\_2>So wherever we can align to an existing industry or academic standard, that's what we're doing and we're doing that up front as we go through the implementation process to simplify things.

00:38:07.020 --> 00:38:17.900

<v SPEAKER\_2>There will always still be a military naval layer over top of that that we will provide, but the bones of a lot of it exists in the current academic environment.

00:38:20.140 --> 00:38:27.580

<v SPEAKER\_1>Maybe the last thing we can touch on here at the time we've got, the most recent is the readiness piece that you touched on a little bit earlier.

00:38:27.580 --> 00:38:44.900

<v SPEAKER\_1>I think the most recent comment on that I've seen from the Government of Canada, Paulus, a statement of any kind was the industrial strategy, which is part of the results it wants to achieve for Canada to come through the Defence industrial strategy is one of them is to raise maritime fleet serviceability to 75%.

00:38:46.900 --> 00:38:55.220

<v SPEAKER\_1>What exactly does that mean and how would you contextualize for listeners how to think about that target and where we are today in the path forward?

00:38:55.260 --> 00:38:59.320

<v SPEAKER\_2>Yeah, so maintenance in a maritime context, well, maintenance in all contexts is challenging.

00:38:59.320 --> 00:39:06.140

<v SPEAKER\_2>And so in Canada for a long time, we took a look in times of this ship goes into a maintenance period.

00:39:06.140 --> 00:39:09.540

<v SPEAKER\_2>Here's all of the maintenance that needs to be done.

00:39:09.540 --> 00:39:11.280

<v SPEAKER\_2>And so that's the total demand.

00:39:11.280 --> 00:39:14.800

<v SPEAKER\_2>What's the capacity of industry to deliver maintenance?

00:39:14.800 --> 00:39:16.600

<v SPEAKER\_2>And then that's the executable demand.

00:39:16.600 --> 00:39:19.640

<v SPEAKER\_2>How much could we actually get done within that period?

00:39:19.640 --> 00:39:21.460

<v SPEAKER\_2>And then how much can we afford to do?

00:39:21.460 --> 00:39:28.400

<v SPEAKER\_2>For a long time, the amount of maintenance we did was not governed by how much we needed to do or how much industry could do, but how much we could afford.

00:39:28.400 --> 00:39:29.420

<v SPEAKER\_2>And so we were constantly...

00:39:29.420 --> 00:39:30.900

<v SPEAKER\_1>For a very long time.

00:39:30.900 --> 00:39:31.400

<v SPEAKER\_2>Yes.

00:39:31.400 --> 00:39:31.680  
<v SPEAKER\_2>Yeah.

00:39:31.680 --> 00:39:34.000  
<v SPEAKER\_2>And so we dug ourselves into a pretty deep hole.

00:39:34.920 --> 00:39:47.600  
<v SPEAKER\_2>And the other thing is, if you design a ship to last for 30 years, as you get to year 32 to 35, a lot of the systems that you designed to never be replaced in the life of that ship have to be replaced.

00:39:47.600 --> 00:39:49.200  
<v SPEAKER\_2>It's just the simple reality.

00:39:49.200 --> 00:39:56.900  
<v SPEAKER\_2>So rudder posts, the fire main, a whole bunch of stuff across all of our frigates has to be replaced completely.

00:39:56.900 --> 00:39:58.900  
<v SPEAKER\_2>And we never planned to do that.

00:39:58.900 --> 00:40:00.680  
<v SPEAKER\_2>So the challenge is, we've got the money now.

00:40:00.680 --> 00:40:04.580  
<v SPEAKER\_2>We're seeing a substantial investment into maintaining our ships.

00:40:04.580 --> 00:40:09.460  
<v SPEAKER\_2>And so what we've been able to do is increase the executable demand of the shipyards to get to that point.

00:40:09.460 --> 00:40:19.100  
<v SPEAKER\_2>The problem is we left ourselves such a deep hole of work to be done that the length of our docking work periods is now measured in years when it used to be measured initially, actually, when the ships first came out, it was measured in weeks.

00:40:19.100 --> 00:40:20.460  
<v SPEAKER\_2>Then we started measuring it in months.

00:40:20.600 --> 00:40:23.860  
<v SPEAKER\_2>Now we measure it in multiple years.

00:40:23.860 --> 00:40:25.300  
<v SPEAKER\_2>We need to get that back down.

00:40:25.300 --> 00:40:30.900

<v SPEAKER\_2>So I have seven ships right now, seven of the 12 frigates are in deep maintenance periods.

00:40:30.900 --> 00:40:35.860

<v SPEAKER\_2>That should never be more than four to six ideally, given where the ships are at in their fleet.

00:40:35.860 --> 00:40:38.040

<v SPEAKER\_2>That's a realistic number.

00:40:38.040 --> 00:40:45.620

<v SPEAKER\_2>We're working with industry to pioneer different techniques to accelerate those timelines to get back down under the two-year mark for all of our docking work periods.

00:40:46.400 --> 00:40:53.800

<v SPEAKER\_2>And if we are able to do that, then we're going to get back to a place where we can maintain a higher fleet availability rate across the frigates.

00:40:53.800 --> 00:40:55.560

<v SPEAKER\_2>But the reality is, they're older.

00:40:55.560 --> 00:41:09.160

<v SPEAKER\_2>And so realistically, the most that we'd be able to put out in operations on a routine basis available to be scheduled is never going to be more than six, surging to perhaps eight in sort of like we're in an absolute crisis.

00:41:09.160 --> 00:41:14.020

<v SPEAKER\_2>The number I look at is we have a managed readiness plan that factors in all of that.

00:41:14.020 --> 00:41:16.460

<v SPEAKER\_2>So what is the availability we should expect?

00:41:17.040 --> 00:41:18.560

<v SPEAKER\_2>What do I have from a personnel point of view?

00:41:18.600 --> 00:41:20.860

<v SPEAKER\_2>Because there have been times when we're also personnel limited.

00:41:20.860 --> 00:41:22.580

<v SPEAKER\_2>I don't have enough sailors to put the ship to sea.

00:41:22.580 --> 00:41:27.700

<v SPEAKER\_2>The ship is technically capable of sailing, but not enough sailors exist.

00:41:27.960 --> 00:41:31.160

<v SPEAKER\_2>I strive to be above 95% on that managed readiness plan.

00:41:31.160 --> 00:41:35.500

<v SPEAKER\_2>So in other words, if we say a ship should be available to go to sea today, it should go to sea.

00:41:35.500 --> 00:41:39.060

<v SPEAKER\_2>And we should be able to do that, you know, 19 days out of 20.

00:41:39.060 --> 00:41:44.680

<v SPEAKER\_2>With the age of the ship, we expect that every once in a while there be an unexpected arising that causes us to miss that schedule.

00:41:44.680 --> 00:41:53.980

<v SPEAKER\_2>So based on the fact that internally I'm shooting for 95%, we said, yeah, we'll definitely go for 75% in the Defence Industrial Strategy as long as that's supported.

00:41:53.980 --> 00:42:06.500

<v SPEAKER\_2>But if the metric is, what is someone posting on X gonna say, will they take the number of frigates that they see at sea, divide by the total number of ships in the class, we're never gonna be able to 50% in normal circumstances in that, just because of where the fleets are at.

00:42:06.500 --> 00:42:14.180

<v SPEAKER\_2>They hired a Wolf class on the other hand though, relatively new, you know, early in their service lives, the maintenance availability overall is much greater of that ship.

00:42:14.180 --> 00:42:19.560

<v SPEAKER\_2>So you should routinely see four to five of those ships available for operations at sea.

00:42:19.560 --> 00:42:20.980

<v SPEAKER\_2>So it's a more complicated thing.

00:42:20.980 --> 00:42:24.440

<v SPEAKER\_2>For me, what matters is, what does our plan say we should be able to do?

00:42:24.440 --> 00:42:29.560

<v SPEAKER\_2>How am I making sure I develop a plan that maximizes the operational availability with the resources assigned?

00:42:29.560 --> 00:42:31.860

<v SPEAKER\_2>And then how well can I hold to that plan?

00:42:31.860 --> 00:42:33.440

<v SPEAKER\_2>And like I said, my metric, 95%.

00:42:35.020 --> 00:42:47.720

<v SPEAKER\_1>Okay, so I guess my takeaway from all that is that we have to re-baseline our assumption about what you can produce out of a ship, given that we're operating it past the design life of a bunch of parts that were never meant to be replaced.

00:42:47.720 --> 00:42:52.800

<v SPEAKER\_1>The parts were only meant to work for 25 or for 30 years, and they're now past that.

00:42:52.800 --> 00:43:22.280

<v SPEAKER\_1>So when you're taking it into the shop, you're doing, and I've had a chance to go in and see some of this, you're doing a much broader and extensive set of repair and replacement of parts and components that there was never an intent to do, you hadn't do to do before, and in some cases the ship was not designed and built in a way on the expectation that you'd need to be able to get into some of the nooks and crannies to replace some things because it wasn't designed to run as long as we were now running them.

00:43:22.280 --> 00:43:22.980

<v SPEAKER\_2>That's exactly it.

00:43:22.980 --> 00:43:31.320

<v SPEAKER\_2>And if you're familiar with the whole story of the ship of Theseus, you know, someone who goes in one piece at a time and replaces the entire ship, and at the end of the day, once you've replaced every piece, is it the same ship?

00:43:31.320 --> 00:43:32.980

<v SPEAKER\_2>Yeah, we're about in that part of the discussion.

00:43:32.980 --> 00:43:34.320

<v SPEAKER\_2>We haven't replaced the tally plates.

00:43:35.080 --> 00:43:39.320

<v SPEAKER\_2>So I guess there is an original piece of all of the ships.

00:43:39.320 --> 00:43:45.140

<v SPEAKER\_2>But yeah, by the time they're done their service, the actual steel that was assembled in St.

00:43:45.140 --> 00:43:50.120

<v SPEAKER\_2>John, New Brunswick, or in the Davie Yard in Quebec, how much of that is still there?

00:43:50.120 --> 00:43:52.440  
<v SPEAKER\_2>It's not going to be a lot.

00:43:52.440 --> 00:44:04.680  
<v SPEAKER\_2>But at the same time, the good news is for us, we've lost sight of just how game-changing the technology of those ships were when they were introduced in the early, you know, designed in the 1980s, introduced in the early 1990s.

00:44:04.680 --> 00:44:09.140  
<v SPEAKER\_2>They had the first integrated communication system, where you could pick up a phone anywhere on that ship.

00:44:09.140 --> 00:44:14.400  
<v SPEAKER\_2>You could use it to call all the cabin next door, or broadcast around the world, or make a PA announcement across the entire ship.

00:44:14.400 --> 00:44:16.520  
<v SPEAKER\_2>All of that stuff is routine today.

00:44:16.520 --> 00:44:24.000  
<v SPEAKER\_2>That was game-changing back then, because at the time, the communication you had to do was a different system, a different handset and things.

00:44:24.000 --> 00:44:30.020  
<v SPEAKER\_2>We had the first combat management system that was designed to be able to integrate all of the different weapons and sensors into a single display.

00:44:31.300 --> 00:44:34.560  
<v SPEAKER\_2>That is now the system that we just sold to the German Navy.

00:44:34.560 --> 00:44:37.620  
<v SPEAKER\_2>That's still Canadian intellectual property and everything else.

00:44:39.120 --> 00:44:42.700  
<v SPEAKER\_2>We had an integrated machinery control system, IMCS, when the ships were delivered.

00:44:42.700 --> 00:44:44.380  
<v SPEAKER\_2>We continued to iterate and develop that.

00:44:44.380 --> 00:44:48.840  
<v SPEAKER\_2>That became an integrated platform management system and a battle damage control system.

00:44:48.840 --> 00:44:52.660

<v SPEAKER\_2>Those are the systems that are used on board the Royal Navy's aircraft carriers today.

00:44:52.660 --> 00:44:57.160

<v SPEAKER\_2>Canada has got this history of innovation and expertise in building ships.

00:44:57.540 --> 00:45:00.560

<v SPEAKER\_2>Unfortunately, we stopped doing it in the 1990s.

00:45:00.560 --> 00:45:01.900

<v SPEAKER\_2>We are rebuilding those skill sets.

00:45:01.900 --> 00:45:06.200

<v SPEAKER\_2>But the good news is, the muscle memory, it's still there.

00:45:06.200 --> 00:45:07.360

<v SPEAKER\_2>It's deep within it.

00:45:07.360 --> 00:45:10.540

<v SPEAKER\_2>It's going to take a lot of work to break it all free again.

00:45:10.540 --> 00:45:17.360

<v SPEAKER\_2>But our history, going back, is we've always been world leaders in anti-submarine warfare innovation at sea.

00:45:17.360 --> 00:45:21.640

<v SPEAKER\_2>Almost every major technology that's used in that today was invented in Canada.

00:45:21.640 --> 00:45:35.160

<v SPEAKER\_2>We're just going back to our roots and becoming the experts and the world leaders in these domains again, and the Defence Industrial Strategy does a great job of mapping out how we should get after that with the incredible Canadian technology and companies that we've got here at home.

00:45:35.160 --> 00:45:37.120

<v SPEAKER\_1>That's a great note to end it on.

00:45:37.120 --> 00:45:40.200

<v SPEAKER\_1>Admiral, thanks for joining us again on Defence Deconstructed.

00:45:40.200 --> 00:45:42.580

<v SPEAKER\_1>Last question to you, what are you reading?

00:45:43.940 --> 00:45:49.640

<v SPEAKER\_2>I just finished a great book called Pirate of the Adriatic by Sean Livingston.

00:45:49.640 --> 00:45:56.280

<v SPEAKER\_2>I would encourage anyone who's interested in the maritime domain, interested in how you work within systems.

00:45:56.760 --> 00:45:57.520

<v SPEAKER\_2>It's outstanding.

00:45:57.520 --> 00:46:14.780

<v SPEAKER\_2>It tells the story of Tom Fuller, who is a Canadian from right here in Ottawa, insisted on fought his way into the military at the age of 31, against that all odds, and became a very rare distinction of being awarded the Distinguished Service Cross three times for his innovation.

00:46:14.780 --> 00:46:22.860

<v SPEAKER\_2>The book also tells the story of his experiences with what we would now call PTSD and how he managed that during the war and everything else, how he innovated.

00:46:23.260 --> 00:46:27.960

<v SPEAKER\_2>He became a hero of Yugoslavia because of all the work he did for Marshal Tito and his partisans.

00:46:27.960 --> 00:46:36.360

<v SPEAKER\_2>It's an incredible tale of initiative, of resilience, and of the best of the Canadian Sailor.

00:46:36.360 --> 00:46:36.860

<v SPEAKER\_1>Okay.

00:46:36.860 --> 00:46:39.780

<v SPEAKER\_1>Well Admiral, thanks again for joining us on Defence Deconstructed.

00:46:39.780 --> 00:46:40.120

<v SPEAKER\_2>Alright.

00:46:40.120 --> 00:46:40.400

<v SPEAKER\_2>Thanks.

00:46:40.400 --> 00:46:42.020

<v SPEAKER\_2>My pleasure.

00:46:42.020 --> 00:46:44.220

<v SPEAKER\_1>Thanks for listening to Defence Deconstructed.

00:46:44.220 --> 00:46:49.680

<v SPEAKER\_1>For more of our work, go to [cgai.ca](http://cgai.ca) or follow us on LinkedIn, Twitter, Instagram or Facebook.

00:46:49.680 --> 00:46:56.260

<v SPEAKER\_1>If you like what we do and want to keep us going, think of donating to us at [cgai.ca](http://cgai.ca) slash support.

00:46:56.260 --> 00:46:58.880

<v SPEAKER\_1>Defence Deconstructed is brought to you by our team in Ottawa.

00:46:58.880 --> 00:47:00.360

<v SPEAKER\_1>Music credits go to Drew Phillips.

00:47:00.360 --> 00:47:02.520

<v SPEAKER\_1>This episode was produced by Jordyn Carroll.