

Interviewer: Hello, and welcome to the second day of [Movin'On](#). We are live in the aquarium. Today, I am lucky enough to be joined by Robert Orr, managing partner at [Cuna del Mar](#), and also one of the founding members of the [Canadian Ocean Supercluster](#), which we're going to get into. How's it going, Robert?

Robert: It's going great. Happy to be here this morning.

Interviewer: Thanks a lot for joining us. Before we get into Cuna del Mar specifically, I want to start with the Supercluster that you were talking about. Give me a basic briefing on the Canadian Ocean Supercluster.

Robert: Supercluster is [one of five superclusters](#) that have been nominated by the federal government as areas for economic development. There's one in Montréal – on AI – and there's three others across the country, but the premise is that in Atlantic Canada, of which Nova Scotia is part, we've had this massive capacity for research around the oceans.

In Halifax, as an example, there are over 450 marine-related PhD's, and so we've had this intellectual capacity, but we really haven't done a great job of commercializing that intellectual capacity. So, the thought process is that a private sector-led initiative to work on collaborative R&D projects would put Atlantic Canada at the forefront of ocean technology, which we think over the next 25 years or so is going to be a key area of growth around the world.

Interviewer: I see. Okay. And technology is ... I'm sure that takes many forms, but the key challenges that this technology might address - maybe paint a picture of that for me. What are we facing in terms of ocean challenges?

Robert: Anyone who is concerned about the global environment has to be concerned about the environmental sustainability of our oceans. They're still 70 percent of the planet, and more than that when you look at it in a three-dimensional, rather than a two-dimensional, way.

Interviewer: Hmm. Oh, three-dimensional. I see.

Robert: Yeah. So, one of the challenges, particularly, around ocean conservancy has been, it's kind of out of sight, out of mind, so if it's not on the surface, you don't see it, you don't see the impacts that may be going on. So, I think that there's a lot to do around oceans. Ocean transportation is still the most efficient – on a per-ton basis – transportation mode by a factor of probably 10.

But there's still a lot of opportunities, whether that's in ships that are using new technology, whether that's solar power technology or other forms of technology that are emerging, so transportation is going to change over the next 50 years in

the oceans. How we use the oceans, how we feed ourselves out of the oceans, which is a particular interest of Cuna del Mar, obviously.

But what we have seen, for instance, in the supercluster is ... offshore oil and gas, for instance, or looking at turbine energy from tidal energy and so forth, there's a need to instrument, there's a need to understand what's going on in the ocean. There's a need to be able to communicate that back to folks on land, and to do that remotely and in harsh environments, and so there's a lot of commonality, and one of the things about the supercluster is we're looking for new models of collaboration between private companies in different sectors.

Interviewer: Right, okay.

Robert: And part of the whole supercluster initiative is to, at a minimum, have two different private-sector companies investing in a new R&D technology that would then get some matching funding from the federal government.

Interviewer: I see. As public opinion grows, or this visibility of some of the problems that we're facing in the ocean grows, is that helping in terms of investment and technology? Are people investing more in looking to the ocean and how to solve those things?

Robert: Yeah. I think there's a lot of money looking at the oceans now and trying to identify things that can we develop energy from the ocean, so whether that's hydrogen or whether that's salt water battery technology, other forms of technology that may emerge.

And again, on the food side, on the sustainability side, there's a lot of ocean technology going on. We don't know a lot about that environment. Even things like the Arctic starting to open up and how we make sure that if we're going to operate in that part of the world, we can do so in a sustainable way so we're not doing any environmental harm. And I think that's the key thing, from a Cuna del Mar point of view, that we're interested in, is we're starting to think about things in a whole-systems way.

Nova Scotia is a relatively small province with a population of a million people, but we've got a huge community college infrastructure and university infrastructure that people are unaware of, so we've got an educated workforce, a capacity to communicate, and what we're looking to do is leverage that and start to build a real global center of excellence for ocean technologies.

Interviewer: Okay. Wow. You mentioned this whole-systems thinking. Is this part of the mandate of the Supercluster, to make sure that this is taken into account among so many other pieces here?

Robert: I don't know that the federal government was thinking in terms of whole-systems thinking. I think they were looking to introduce these new models of collaboration, because I think in a 21st-century collaboration, new models of collaboration are essential for success.

But I think what we also see, I'm starting to see from a business point of view, is that corporations don't live in isolation. We're part of a whole system. We're part of the communities in which we work. We're part of the environment in which we work. So, starting to think about solutions, and starting, not, you're looking at sustainability from a bolted-on point of view, but starting as how does the whole system function effectively from the get-go in building the business models.

Yes, you need to be profitable, but if you're thinking about environmental sustainability and profitability and social responsibility as a way of being as you enter into your corporate activities at the essence of who the corporation is, then you start to make different decisions. And I think we're looking at that kind of thinking that we think will serve us well as we go into the 21st century from an Atlantic Canadian and from a Nova Scotia base.

Interviewer: I can feel the optimism in the way you speak about it and I've seen some of the stuff you've spoken about before, but what are the reasons to be optimistic here? What do you see in the not-too-distant future that makes you very hopeful?

Robert: Well, the thing that always keeps me optimistic is that I think, at our nature, human beings are creative, and we live in a faster and faster-moving world. Information is changing so fast. But what we have as a capacity is the ability to create our own future. Historically what we've done is we've had enough time, when innovation was moving at a slower rate, to kind of take things out of the past and assimilate them into the future.

I think what we've got to do now is stand grounded in the information that we can garner out of the past, but not be guided by it. Real leadership is about identifying what's the future that we want to create and then assembling the resources, partnerships, collaborations that are going to align around creating that kind of future. I think that's what we're trying to do in Nova Scotia.

Why we're here is, most people don't know that there are 3,200 Michelin employees in Nova Scotia. The province of Nova Scotia is here supporting this event as a sponsor, and we're making connections and understanding how innovation works as we're looking to become an innovation economy.

Interviewer: Right. I did not know that, so that's an amazing piece. Are there any investments, maybe on the Cuna del Mar side, that you're particularly excited about that are worth shedding light on?

Robert: Yeah. Recently, we made an investment in a Nova Scotia-based company called [Vemco](#). Most people have heard of the global fish tracking network, which uses acoustic telemetry to tag fish or other large mammals and put receivers out there and we can track their behaviours and patterns. But what we saw in that basic technology was that that technology could be used in a number of other ways, so we're investing in an offshore sustainable aquaculture.

Our basic premise is that in the 21st century we should be able to feed ourselves, and we're worried about 9 billion people on the planet in another 30 years or so, so how do we feed ourselves and honour the planet simultaneously? These should not be mutually exclusive concepts.

And so what we saw is this acoustic telemetry, this ability to communicate subsurface and above, this monitoring system, so one of the things we're excited about is building monitoring systems that can identify the quality of what's going on in the ocean, eventually looking at developing using AI to be able to understand the health of fish in their natural habitat, even though they're enclosed, and so there's a lot of things around how we can use technology to put fish in their natural environment but farm them.

People in the traditional fishery don't like it, but I don't see any need 50 years from now that we need to be out harvesting wild fish. We don't get any of our other protein sources through wild capture anymore. We just haven't developed efficient systems to do it, healthy systems to do it. And with time, our oceans can recover their ecosystems and that part of the planet can continue to serve us and make sure we're living in an environment for my grandchildren and their grandchildren so it's going to be an efficient, effective, healthy place for people to live and consuming healthy food that's grown in harmony with the ocean.

Interviewer: That is a future I want to be part of. Thank you so much. That was wonderful. Robert Orr, Managing Partner of Cuna del Mar and also a founding member of the Canadian Ocean Supercluster. Thank you so much.

Robert: Yeah. My pleasure.

Interviewer: Thanks.