

WEBVTT

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<v SPEAKER\_1>Hello again, and welcome to Global Exchange, part of the Canadian Global Affairs Institute's Podcast Network.

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<v SPEAKER\_1>I'm your host Colin Robertson.

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<v SPEAKER\_1>On this episode, recorded on October 31, we talk about science and diplomacy with Valerie La Traverse, Rosann Runte, and Maggie Gorman Velez.

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<v SPEAKER\_1>Valerie La Traverse is Vice President, Corporate Affairs at the Social Sciences and Humanities Research Council of Canada.

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<v SPEAKER\_1>Rosann Runte is President of Runte Associates and previously served as President of the Canadian Foundation for Innovation and prior to that as President of Carleton University, amongst other executive positions.

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<v SPEAKER\_1>Maggie Gorman Velez is Vice President, Strategy, Regents and Policy for the International Development Research Centre, better known as the IDRC.

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<v SPEAKER\_1>Welcome, Maggie, Rosann and Valerie.

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<v SPEAKER\_2>Thanks very much for having us.

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<v SPEAKER\_1>For listeners, Canada is entering a period of major foreign policy reevaluation.

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<v SPEAKER\_1>The Carney government has promised both a foreign policy review and a national security strategy, as well as a new industrial policy and a defence industrial policy.

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<v SPEAKER\_1>In all of these initiatives, science, research and development and innovation in new technologies involving artificial intelligence and quantum physics will play a part.

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<v SPEAKER\_1>Science has always been part of our diplomacy, but in the world we now live in matters more than ever as we strive to deal with challenges like pandemics, climate change and apply innovation, including robotics and manufacturing.

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<v SPEAKER\_1>But how should we proceed and what are Canada's strengths and weaknesses?

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<v SPEAKER\_1>What should we be making in terms of strategic investments?

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<v SPEAKER\_1>Who should we be seeking as partners and how does the government work with both industry and our research community?

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<v SPEAKER\_1>These are kind of some of the questions that we're going to discuss in the following moments.

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<v SPEAKER\_1>Let me start off though with, and I'm going to ask Roseann to lead on this one, how would you define science diplomacy for our listeners and why does it matter for Canadians?

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<v SPEAKER\_1>Roseann.

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<v SPEAKER\_3>Well, thank you very much.

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<v SPEAKER\_3>Let's start with diplomacy and you probably know more about that than anybody here, but diplomacy is providing a space and a context for communicating across borders, cultures, and ways of thinking.

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<v SPEAKER\_3>Science diplomacy provides a transactional space for dialogue that goes beyond politics.

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<v SPEAKER\_3>It allows us to bring together scientists around the world to solve big problems that cannot be solved by one nation by itself.

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<v SPEAKER\_3>It enables the world to create large scientific experiments such as CERN where the Higgs boson particle was discovered

not too long ago.

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<v SPEAKER\_3>We have the big telescopes around the world that scientists are working together to find out the meaning of the universe.

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<v SPEAKER\_3>And projects right here in Canada like SnowLab where Art McDonald has worked with the neutrinos and received a Nobel Laureate.

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<v SPEAKER\_3>Science diplomacy enables us in a moment of absolute panic when there's a pandemic to have scientists work from around the world to find solutions to immediate problems.

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<v SPEAKER\_3>Science diplomacy also helps the economy.

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<v SPEAKER\_3>The last three Nobel laureates in economics talk about periods of creative destruction.

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<v SPEAKER\_3>And that creative destruction depends on scientific innovation to bring the cycles back.

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<v SPEAKER\_3>And then there are the huge, huge problems that we have in the world, like the environment.

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<v SPEAKER\_3>And scientists around the world will help provide the clues to solving that problem.

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<v SPEAKER\_3>And by providing those clues, they provide the basis for a dialogue for other topics that will enable, hopefully, the people of the world to come together and discuss things like how do we set critical agendas for the future?

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<v SPEAKER\_3>How do we understand what is true and what is not true?

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<v SPEAKER\_3>How do we trust science?

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<v SPEAKER\_3>Because science is an international, global good for the world.

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<v SPEAKER\_1>Thanks Rosann.

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<v SPEAKER\_1>Maggie, when I listen to Rosann, it strikes me that science really does transcend boundaries and also probably politics and sometimes the geopolitics side of things because it focuses on things that matter to everybody, no matter what's your creed or your colour or where you're living.

00:05:03.800 --> 00:05:08.140  
<v SPEAKER\_1>Is that a fair observation?

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<v SPEAKER\_2>Yes, I think you're right Colin.

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<v SPEAKER\_2>And first of all, just thanks very much for the invitation to join today.

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<v SPEAKER\_2>It's great to be here with Rosann and Valerie to discuss this topic.

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<v SPEAKER\_2>But as you said at the outset Colin, I think there are two major drivers right now that are really influencing Canada's thinking.

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<v SPEAKER\_2>One is obviously that we need to rightly sharpen our foreign policy, trade and defence position and goals right now.

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<v SPEAKER\_2>But we're also seeing that, as you said, this growing interlinked challenges that Canada can't resolve necessarily on our own.

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<v SPEAKER\_2>So to me, that's where international collaboration on science, research and innovation, which some may call science diplomacy, can make a huge difference.

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<v SPEAKER\_2>I think there are really three key reasons why there's so much potential.

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<v SPEAKER\_2>This is such an important foreign policy tool for Canada.

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<v SPEAKER\_2>The first is really that think climate, think AI governance and fending off threats.

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<v SPEAKER\_2>These are things that Canada cannot address on its own.

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<v SPEAKER\_2>These are areas that where we can find deep common interests, not only across Canadian provinces, but internationally.

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<v SPEAKER\_2>The second area is really around, you know, is a kind of an economic argument.

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<v SPEAKER\_2>Science, research and innovation is a smart way that we can invest in improving lives and livelihoods globally.

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<v SPEAKER\_2>And it can also help us stretch our international assistance dollars.

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<v SPEAKER\_2>So the part of the Canadian government apparatus that I work in, as part of IDRC, we believe that research, science and innovation funding can actually help the rest of our international assistance investments be placed in the right places.

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<v SPEAKER\_2>And then the third area is, you know, what's getting so much talk right now in terms of Canada's need to diversify relationships.

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<v SPEAKER\_2>And I think science through, you know, through our government engagement with other countries and through international assistance to other countries, we can use those tools to diversify our relationships through our universities and, you know, researchers themselves and their relationships with researchers abroad.

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<v SPEAKER\_2>That's another way, another important way that Canada can deepen its relationships, for example, in Asia, which is a key priority for us right now.

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<v SPEAKER\_1>Maggie, is it fair to say that the science diplomacy almost transcends, as I said, the geopolitics earlier, so that we can

deal with countries with whom we may not agree, I think Russia, China, Iran.

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<v SPEAKER\_1>Isn't that a piece of what this is about, because we're looking at common problems and trying to find shared solutions?

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<v SPEAKER\_2>Yeah, I think it's interesting.

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<v SPEAKER\_2>One of the things that I think we're seeing happening at the same time as Canada is looking at its traditional relationships with its major collaborators in the world is we're seeing that low and middle income countries, for example, don't want to be seen or don't want to engage with Canada on kind of a funder recipient basis, but instead want to come to the table to talk about issues that are of mutual interest.

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<v SPEAKER\_2>So what you're saying in terms of trends, our understanding of the world is much more complex and nuanced, and people, organizations and countries want to come to the table to talk about areas of mutual concern.

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<v SPEAKER\_2>They don't necessarily want to sign on, as you say, to everything and say that we agree on everything, but they want to come to the table and engage on trade, or they want to come to the table and engage on how AI for example, could cause damage and how we can work together to fend off and encourage responsible use of AI.

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<v SPEAKER\_2>So I absolutely think you're right on that transcendence point.

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<v SPEAKER\_1>Valerie, how would you define science diplomacy?

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<v SPEAKER\_4>Thanks for the question Colin.

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<v SPEAKER\_4>And Rosann, I think, articulated it extremely well.

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<v SPEAKER\_4>I have to say though that we've been, it's interesting, the term was coined in 2010 or so in Washington actually by the American Association for the Advancement of Science.

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<v SPEAKER\_4>And there are three definitions for science diplomacy that I think we still use today.

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<v SPEAKER\_4>And Maggie and Rosann have alluded to them.

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<v SPEAKER\_4>So it's really leveraging the international networks that are made through science and technology because science is a global endeavour.

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<v SPEAKER\_4>But, and as you just said, Colin, I think, and the US has used that probably more than Canada, but deepening relations through science and technology in areas where there were no political relationships such as in Cuba, for example.

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<v SPEAKER\_4>But I think another area which we haven't talked about really is the importance of science to inform foreign policy.

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<v SPEAKER\_4>So, as you've all said, science underpins many of the global issues that we're tackling today, climate change, AI, quantum.

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<v SPEAKER\_4>But even in the area of social sciences, I would say, so mistrust, misinformation, governance, there's a lot of research that's being done on that.

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<v SPEAKER\_4>I think if we better connected our science to our policymakers to provide a more evidence-based policy-making, I think that's also a definition of science diplomacy.

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<v SPEAKER\_4>But to make it simple, it's really a tool to advance our national interests.

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<v SPEAKER\_4>I'll leave it at that.

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<v SPEAKER\_1>Thank you.

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<v SPEAKER\_1>Stay with me, Valerie, because you and I first met when you were hosted in Phoenix, and I was in Los Angeles in Washington, and you were doing science diplomacy in the field.

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<v SPEAKER\_1>Can you sort of tell our listeners about that experience and what you did in a practical sense?

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<v SPEAKER\_1>Because you were literally doing it in the field.

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<v SPEAKER\_4>Yes.

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<v SPEAKER\_4>Thank you for that opportunity, Colin.

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<v SPEAKER\_4>I think you hired me, so thanks for that.

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<v SPEAKER\_4>Occasionally I make good decisions.

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<v SPEAKER\_4>I'm glad we stayed in touch.

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<v SPEAKER\_4>But we opened in 2004, the Government of Canada opened an office in Phoenix which you would think is maybe an unlikely place to have a consulate.

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<v SPEAKER\_4>But we were seeing some opportunities, not only in the tech sector, but there was a big semiconductor industry there, but also there were real university strengths as there are today at the University of Arizona and at Arizona State University.

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<v SPEAKER\_4>I'd say one of the deepest relationships at the time, and probably still today, was a relationship between University of Arizona and University of Ottawa, in the area of photonics.

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<v SPEAKER\_4>Don't ask me to explain photonics, but it's simply put, it's the technology of generating, manipulating and detecting light in the form of photons, and it plays a role in many modern applications, including in quantum.

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<v SPEAKER\_4>And so these kinds of relationships really, I think, informed and helped to see the future.

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<v SPEAKER\_4>So what I was doing on the ground is really making connections between the universities and industry, and also, ultimately, with the state governor at the time, who, so through science, we were able to reach the governor of the state of Arizona, which I think in this time today, are really valuable way, you know, we need to find all ways to reach those decision makers, particularly in the US, and at the time, this was a way to do that.

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<v SPEAKER\_4>I could go on and on about my role in Washington, but it was a science and technology counselor.

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<v SPEAKER\_4>I was the key point of contact on US science and technology and innovation policy and partnerships.

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<v SPEAKER\_4>And again, my role there was to develop those networks, not only to form partnerships, but to advise the Canadian government on issues where the US was seen to be ahead of Canada, including on things like commercialization, which we're still talking about today, where Canada still needs some help translating those discoveries into products and services.

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<v SPEAKER\_4>And so by better understanding the US system and seeing trends and providing advice, some of this contributed to policy making in Canada.

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<v SPEAKER\_4>And then I'll just give you a couple of examples, but two of my files, which are applicable today.

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<v SPEAKER\_4>But at the time, one of my files related to Rare Earths.

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<v SPEAKER\_4>And the then ambassador, Michael Wilson, called me into his office.

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<v SPEAKER\_4>And of course, nobody really knew what those were and how important they would become.

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<v SPEAKER\_4>And apparently we had a lot of them.

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<v SPEAKER\_4>But we were seeing that the United States was developing a strategy on Rare Earths.

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<v SPEAKER\_4>So part of my role was to work with the US Department of Energy and sort of try to uncover what they were doing, sharing that information with our policymakers in Canada.

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<v SPEAKER\_4>And of course, China came into the conversation there.

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<v SPEAKER\_4>So and here we are today, 15 years later, talking about this very issue.

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<v SPEAKER\_4>And so by having people on the ground, we were able to kind of foresee, I guess, something that was going to become very important in the future.

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<v SPEAKER\_4>And the other one I wanted to talk about was the H1N1 virus, which was a big, big crisis at the time.

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<v SPEAKER\_4>Again, my role there was to connect with the Health and Human Services Department in the US government, working with Health Canada.

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<v SPEAKER\_4>And we created a, I guess, a collaboration with the United States on better sharing of information on pending crises.

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<v SPEAKER\_4>And we saw in the pandemic how closely we worked with the United States, you know, sometimes competitively.

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<v SPEAKER\_4>But again, just to reinforce the fact that having those scientific networks contributed to, you know, a better crisis in a crisis situation, finding solutions.

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<v SPEAKER\_1>I think that's exactly right.

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<v SPEAKER\_1>And as you underline, the relationships are absolutely vital because when you do get crisis, having those relationships and protocols that have been placed, they do help us, especially when it's a crisis, as you say, like climate or pandemic or something like that.

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<v SPEAKER\_1>I'm going to come back to universities.

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<v SPEAKER\_1>Go ahead.

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<v SPEAKER\_4>Yeah, I'll add one more thing, if I may, just because again, on pandemics, but also the value of networks.

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<v SPEAKER\_4>I think one underutilized asset we have is the Canadian diaspora working in science and technology and innovation all over the world.

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<v SPEAKER\_4>And you may not be aware, but I was in Boston after, well, up until 2021 during the pandemic.

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<v SPEAKER\_4>And again, through leveraging Canadian diaspora who had a contact, working at a Boston hospital, who was able to, again, through scientific channels, able to connect us to a source of PPE during a time of crisis.

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<v SPEAKER\_4>So again, boots on the ground, access to networks, solutions for Canada.

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<v SPEAKER\_1>Makes all the difference.

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<v SPEAKER\_1>Thank you.

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<v SPEAKER\_1>I'm going to come back to universities, and I'm going to ask Rosann on that side, but I want to turn to the IDRC, Maggie, because to me, it's one of our not always appreciated, as I tell people, diplomatic gems.

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<v SPEAKER\_1>Can you tell us about your work in developing partnerships and supporting developing countries with Canadian expertise and how this serves both our interests, particularly as it obviously relates to science, innovation, research, development, and where we may be going in the future?

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<v SPEAKER\_2>Yeah, thanks.

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<v SPEAKER\_2>And you're right that IDRC isn't always very well known in Canada, and I would say we would really like to change that.

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<v SPEAKER\_2>So, a big thanks for inviting me today to speak about our work, because I do feel, you know, especially at this time, Canada, and as Valerie has said, Canada has to use all of its tools in its toolbox, and IDRC is one of those.

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<v SPEAKER\_2>We support research, science, and innovation as a smart investment, as part of our aid apparatus.

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<v SPEAKER\_2>And, for example, you know, as I said before, research on what works in education policies, for example, mean that governments are able to put precious resources in more effective areas that have been proven to work.

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<v SPEAKER\_2>So, we're also a modest tool.

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<v SPEAKER\_2>I think at this time, we're all thinking about how to spend our dollars well.

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<v SPEAKER\_2>IDRC represents only about 2% of Canada's international assistance, but we think it warrants a significant footprint of partnerships and relationships abroad that create these linkages that the other speakers were talking about.

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<v SPEAKER\_2>And we also do all of our programming predominantly with other like-minded funders, research funders.

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<v SPEAKER\_2>So, we work a lot with the UK government on common areas, with Sweden, with Australia, with others, in addition to with the Canadian granting councils, to try to leverage what's really a small Canadian investment into bigger impacts that we can achieve together.

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<v SPEAKER\_2>So, just maybe building on Valerie's examples, I want to give a few examples of what this looks like in practice.

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<v SPEAKER\_1>Please do, because that helps the listeners understand what the IDRC is actually about.

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<v SPEAKER\_2>Yeah, so I just returned, for example, from South Africa, where the South Africans are leading G20 efforts on responsible AI.

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<v SPEAKER\_2>And these are really well aligned with similar objectives that Canada put forward this year, for example, in the G7 presidency.

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<v SPEAKER\_2>And this is an area where we need to rally as many like-minded allies as possible in this fast changing space.

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<v SPEAKER\_2>So to help with this, IDRC, for example, is funding research and innovation alongside the UK on efforts on the African continent so that Africans, and now we're moving into Asia, Africans and Asians have the capacities on the ground to reduce harm from AI, but also to harness the positive potential of AI, for example, to make it more useful in service delivery and health and education and so on.

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<v SPEAKER\_2>So I think this is an example of how Canada is wanting to play a leadership role on responsible AI and it can't go it alone.

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<v SPEAKER\_2>It has to do it by building partnerships with others in this area.

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<v SPEAKER\_2>So this is one area where we think we are building the capacities in Africa and Asia that really complement the broader global governance aims that Canada is trying to promote.

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<v SPEAKER\_2>Another example is more directly related to using Canada's expertise as you asked in the question.

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<v SPEAKER\_2>So IDRC has a history of bringing together Canadian and low and middle income scientists on common areas of interest.

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<v SPEAKER\_2>An example would be in the agricultural field.

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<v SPEAKER\_2>We've worked with Valerie's Council, the Social Science Council, as well as the other granting councils in this type of way, where we twin Canadian expertise with that in low and middle income countries.

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<v SPEAKER\_2>So an area, a concrete example there would be where we were working with Western universities in Alberta on soil and pulse science, where we were trying to improve the nutrient composition of pulses, which helps address a major issue with malnutrition in the countries we were collaborating with.

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<v SPEAKER\_2>But it's also where we can use the innovation to, for example, improve drought resistance here at home.

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<v SPEAKER\_2>So it's this idea that innovations don't necessarily sit within borders and can be used for multiple, in multiple ways, north, south, east, west, that can create the shared value.

00:23:54.780 --> 00:23:58.200

<v SPEAKER\_5>Hi, I'm Dave Ferri, the President and CEO of the Canadian Global Affairs Institute.

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<v SPEAKER\_1>No, and you mentioned Pulse and of course, that's also one of Canada's major exports, particularly to India and parts of Asia, where the Prime Minister now wants to double our exports.

00:24:29.380 --> 00:24:39.020

<v SPEAKER\_1>So again, this research, as you say, has great application in a practical sense to Canadians as well as to those whom we partner with.

00:24:40.860 --> 00:24:42.660

<v SPEAKER\_2>Absolutely.

00:24:42.660 --> 00:24:45.720

<v SPEAKER\_1>Roseann, I want to move to universities.

00:24:45.720 --> 00:24:56.280

<v SPEAKER\_1>And I can't think of many people who have your experience in promoting innovation at the universities, but particularly through your leadership of the Canadian Foundation for Innovation.

00:24:56.280 --> 00:24:58.400

<v SPEAKER\_1>Can you tell us a bit about the work of the CFI?

00:24:58.400 --> 00:25:00.380

<v SPEAKER\_1>Because it is a relatively recent organization.

00:25:00.500 --> 00:25:03.020

<v SPEAKER\_1>As I recall, you're the founding president.

00:25:03.020 --> 00:25:07.360

<v SPEAKER\_1>And how this supports our efforts in science diplomacy?

00:25:07.360 --> 00:25:12.540

<v SPEAKER\_3>Well, actually, the CFI is 25 years old.

00:25:12.540 --> 00:25:18.900

<v SPEAKER\_3>And I was around 25 years ago, but maybe a little bit green for founding organizations.

00:25:20.280 --> 00:25:24.660

<v SPEAKER\_1>Well, it took off, which was a great, significant time to your leadership.

00:25:25.800 --> 00:25:27.760

<v SPEAKER\_3>Thank you very much.

00:25:27.760 --> 00:25:31.280

<v SPEAKER\_3>It's an absolutely brilliant organization.

00:25:31.280 --> 00:25:45.420

<v SPEAKER\_3>And it is at arm's length from the government, but works closely with the government, with universities, with researchers, hospitals, colleges, and not-for-profit organizations.

00:25:45.420 --> 00:25:48.340

<v SPEAKER\_3>And they fund research infrastructure.

00:25:49.460 --> 00:25:53.420

<v SPEAKER\_3>And they do this by competitions.

00:25:53.420 --> 00:25:56.620

<v SPEAKER\_3>And the competitions are big.

00:25:56.620 --> 00:25:59.380

<v SPEAKER\_3>They're not little individual for one professor.

00:25:59.380 --> 00:26:01.460

<v SPEAKER\_3>They're for teams of professors.

00:26:01.460 --> 00:26:08.880

<v SPEAKER\_3>And we always encouraged international members, the Canadians, to bring in international members on their teams.

00:26:08.880 --> 00:26:20.120

<v SPEAKER\_3>And the most recent stats that I saw, 60 percent of the projects that were funded included international members on their teams.

00:26:20.120 --> 00:26:21.920

<v SPEAKER\_3>So Canadians were reaching out.

00:26:21.920 --> 00:26:25.700

<v SPEAKER\_3>And the reason for that is to learn from others.

00:26:25.700 --> 00:26:30.500

<v SPEAKER\_3>And others can learn from us, share facilities around the world.

00:26:30.500 --> 00:26:37.880

<v SPEAKER\_3>The CFI funds facilities, the big facilities, start with the Amundsen, the icebreaker.

00:26:37.880 --> 00:26:40.160

<v SPEAKER\_3>Now, that goes up into the Arctic Ocean.

00:26:40.200 --> 00:26:41.740

<v SPEAKER\_3>That's great research.

00:26:41.740 --> 00:26:43.780

<v SPEAKER\_3>How is that international?

00:26:43.780 --> 00:26:52.260

<v SPEAKER\_3>Every year, they bring in international post-docs from around the world to join Canadians on a tour of the Arctic.

00:26:52.260 --> 00:27:01.320

<v SPEAKER\_3>It shares science, but it creates a community among those future researchers that lasts forever.

00:27:01.320 --> 00:27:08.780

<v SPEAKER\_3>We, all of the projects that we fund include international experts on the evaluating teams.

00:27:09.340 --> 00:27:16.940

<v SPEAKER\_3>And this is really good because internationally, people know, begin to know more and more about how great science is in Canada.

00:27:16.940 --> 00:27:20.600

<v SPEAKER\_3>But we know about the standards being applied elsewhere.

00:27:22.120 --> 00:27:26.260

<v SPEAKER\_3>We share information with international organizations.

00:27:26.320 --> 00:27:37.860

<v SPEAKER\_3>And so I was and still am an advisor to the INR, the Research Association in France, the National Research Association.

00:27:37.860 --> 00:27:50.800

<v SPEAKER\_3>And when they change the way they look at things, I bring that back to Canada and I suggest to them ways that they might benefit from our expertise.

00:27:50.800 --> 00:27:57.100

<v SPEAKER\_3>So all of that is really, really good in what you would expect an organization to do.

00:27:57.100 --> 00:28:09.360

<v SPEAKER\_3>But the CFI went beyond that and undertook a few years ago a survey of young people right across Canada to find out what did they think about science?

00:28:09.360 --> 00:28:13.420

<v SPEAKER\_3>Would they want to have a career in science?

00:28:13.420 --> 00:28:17.080

<v SPEAKER\_3>Do they understand what fake science is and fake news?

00:28:17.080 --> 00:28:19.480

<v SPEAKER\_3>And do they know how to distinguish it?

00:28:19.480 --> 00:28:50.360

<v SPEAKER\_3>And we published the results of that and then didn't just stop and making the information available, but we had a national conference bringing together teachers, university professors, print media experts, television experts, and international advisors to discuss how we can better educate young people and encourage them to pursue careers in science.

00:28:50.360 --> 00:28:53.920

<v SPEAKER\_3>So that's a little bit what we did at the CFI.

00:28:54.720 --> 00:29:03.800

<v SPEAKER\_3>And everybody knows that at universities we really like

to be international.

00:29:03.800 --> 00:29:06.820

<v SPEAKER\_3>Most Canadians don't travel around the world.

00:29:06.820 --> 00:29:09.440

<v SPEAKER\_3>They don't have a year abroad.

00:29:09.440 --> 00:29:16.980

<v SPEAKER\_3>And having international students in the classes in Canada is an international experience for them.

00:29:16.980 --> 00:29:29.180

<v SPEAKER\_3>When I was at Carleton, we purposely put Indian business students sharing rooms with Canadian business students in the business.

00:29:29.180 --> 00:29:33.960

<v SPEAKER\_3>Because we realized that when they graduated, they were going to create businesses.

00:29:33.960 --> 00:29:40.140

<v SPEAKER\_3>But in Canada, while we had the expertise, we had a very small market.

00:29:40.140 --> 00:29:47.600

<v SPEAKER\_3>If you're from North Bay, pretty soon you've sold everything to all your neighbors and friends, and there's an anymore market.

00:29:47.600 --> 00:29:49.140

<v SPEAKER\_3>You need the Indian market.

00:29:49.140 --> 00:29:55.220

<v SPEAKER\_3>And the Indians needed the technology and way of operating, of Canadians.

00:29:55.220 --> 00:30:00.500

<v SPEAKER\_3>So people learn from each other, and that's really very important.

00:30:00.500 --> 00:30:17.400

<v SPEAKER\_3>Something that when we talk about the importance of international students, people think about it as economics, but it's also about what we can do for Canadians, because there are topics like photonics, Valerie.

00:30:19.060 --> 00:30:28.860

<v SPEAKER\_3>There are not that many people in physics who want to specialize in photonics in Canada, a small number.

00:30:28.860 --> 00:30:39.840

<v SPEAKER\_3>If we want to grow that number, and we want to provide more opportunities for them, we need to provide the education and training.

00:30:39.840 --> 00:30:59.360

<v SPEAKER\_3>If we don't have enough photonics at this one university to offer, without international students added in to make it a good class, we will lose that subject, and then there will be no photonics in Canada.

00:30:59.360 --> 00:31:03.240

<v SPEAKER\_3>I don't mean, really, nobody should think that photonics is going away.

00:31:03.240 --> 00:31:13.900

<v SPEAKER\_3>It was just an example, but we will not be able to offer all the specialties that we currently offer, which are opportunities for Canadians.

00:31:13.900 --> 00:31:16.940

<v SPEAKER\_3>And so it's supporting Canadian opportunities.

00:31:16.940 --> 00:31:19.700

<v SPEAKER\_3>It's not just about money.

00:31:19.700 --> 00:31:23.000

<v SPEAKER\_3>It's about knowledge and sharing knowledge.

00:31:24.260 --> 00:31:27.200

<v SPEAKER\_3>Does that sort of answer your question, Colin?

00:31:27.200 --> 00:31:31.300

<v SPEAKER\_1>It does, and you've also anticipated what's going to be my final question.

00:31:31.300 --> 00:31:43.520

<v SPEAKER\_1>But so stay with me because I was going to ask you, each of you, but I'm going to start with you, Rosann, because you partly answered this with the importance of international students and the contribution they make, and I had never thought of the way you applied it.

00:31:43.520 --> 00:31:51.680

<v SPEAKER\_1>But based on your personal experience, Prime Minister Carney turned to you and said, where should I be making future investments in science and technology?

00:31:51.680 --> 00:31:52.580

<v SPEAKER\_1>What would you tell them?

00:31:52.580 --> 00:32:03.860

<v SPEAKER\_1>And the international student side of it, I hadn't thought of, and I think it's a brilliant idea and it makes good sense because we are going to have a budget on Tuesday and going forward.

00:32:03.860 --> 00:32:14.100

<v SPEAKER\_1>So you have had a tremendous amount of experience at university level and at the Canadian Foundation for Innovation and just throughout your career.

00:32:14.280 --> 00:32:20.660

<v SPEAKER\_1>The Prime Minister turns to you and says, where should I be making the future investments and what's the priority?

00:32:20.660 --> 00:32:22.260

<v SPEAKER\_1>Please start this conversation.

00:32:22.260 --> 00:32:23.560

<v SPEAKER\_3>What a responsibility.

00:32:25.440 --> 00:32:30.740

<v SPEAKER\_1>Are you going to share it with Valerie and Maggie as well?

00:32:30.740 --> 00:32:40.400

<v SPEAKER\_3>So I did actually write a strategic plan for funding research in Canada last year, and that's sitting on a shelf somewhere getting dust.

00:32:40.400 --> 00:32:49.500

<v SPEAKER\_3>But let me put it in a very simple way for today, because I'm sure that Prime Minister Carney, if he were to listen to me, would only have a couple of minutes.

00:32:50.720 --> 00:32:55.840

<v SPEAKER\_3>Any investment that the government makes right now has to be dual purpose.

00:32:56.140 --> 00:33:15.220

<v SPEAKER\_3>And when I say dual purpose, I'm not talking about defence that can also be used for, you know, something that could be used for a big cannon, as well as a scarecrow to get away the crows in the field.

00:33:15.220 --> 00:33:25.260

<v SPEAKER\_3>We have to go beyond dual purpose building, but we can think of dual purpose investment, and we must do that.

00:33:25.260 --> 00:34:23.740

<v SPEAKER\_3>If we are going to invest in defence, if you go to NATO and look at what they say are three major targets of concern for defence and deterrence, Russia, China and terrorism, down in a sub-paragraph is beginning to emerge the question of the environment, and I believe that should be right up there in the top, and that deterrence for the environment will eliminate, not eliminate, but it will make, it will ease the need for putting up forest fires and floods, and it will also be a way to bring all the nations of the world together, because everybody in the world is affected by the environment today.

00:34:24.360 --> 00:34:34.020

<v SPEAKER\_3>And so it's a way for Canada to find first a lens through which we can look, and that would be the environment.

00:34:34.020 --> 00:34:57.000

<v SPEAKER\_3>Secondly, we want to develop Canadian industry, and the science and industry behind the environment have been developing strongly in Canada, and we have the, we are potentially able to be world leaders in that field, and that is very important.

00:34:57.700 --> 00:35:21.520

<v SPEAKER\_3>The next thing is that we know that the Arctic and the North are extremely important to Canada today, but to the rest of the world, there are now seven nations in NATO that border on the Arctic, and then there's Russia and China, Russia with half of the seacoast, and China sharing it with Russia.

00:35:21.520 --> 00:35:39.640

<v SPEAKER\_3>It's an area of potential danger, but it's also an area that requires care for an environment that is failing because of global warming, and we have to worry and work with the population there.

00:35:39.640 --> 00:35:52.040

<v SPEAKER\_3>That's something that is an agenda that Canada has for its national good, but it could be an international leader, and it could be both environment and defence.

00:35:52.040 --> 00:35:54.680

<v SPEAKER\_3>And if you look, am I going on too long?

00:35:54.680 --> 00:35:55.960

<v SPEAKER\_1>No, this is fine.

00:35:55.960 --> 00:36:15.120

<v SPEAKER\_3>Okay, if we look at the north, we notice that the icebergs are melting, and that's going to dilute the sea water, and the salt water is not going to support the life that it currently

supports, and land like Florida will be underwater.

00:36:15.420 --> 00:36:17.560

<v SPEAKER\_3>Well, and maybe even New York City.

00:36:17.560 --> 00:36:19.220

<v SPEAKER\_3>So there's that.

00:36:19.220 --> 00:36:36.360

<v SPEAKER\_3>But there's also the permafrost, and not very many people have been talking about the permafrost, but it is the ice under the surface that is all in the Arctic, and it melts every year at the top part of it.

00:36:36.360 --> 00:36:41.840

<v SPEAKER\_3>And since it's warmer more of the year, it never is totally refreezing.

00:36:42.480 --> 00:36:46.880

<v SPEAKER\_3>And therefore, what's happening is things are sinking.

00:36:46.880 --> 00:36:55.180

<v SPEAKER\_3>When I was at the CFI, we were supervising the Marine Observatory in Churchill.

00:36:55.180 --> 00:37:04.340

<v SPEAKER\_3>The rail line sunk because of the permafrost, and we had to fly supplies into people building the observatory.

00:37:05.500 --> 00:37:20.840

<v SPEAKER\_3>A year ago, in the Northwest Territories, a bank was built, and a week before the bank was to be opened, a little branch of a bank, a week before it was to open, it sank under the earth.

00:37:20.840 --> 00:37:34.000

<v SPEAKER\_3>All throughout Siberia, they're propping buildings up on poles and columns to hold them up because the permafrost is melting, but it keeps melting.

00:37:34.000 --> 00:37:43.560

<v SPEAKER\_3>If you look at aerial pictures, you see whole towns that look like the whole places, the Leaning Tower of Pisa, and they've all been abandoned.

00:37:43.560 --> 00:38:04.740

<v SPEAKER\_3>One city in Siberia had them underneath the methane, underneath the permafrost, there are bubbles of methane, and when they come out, they burst, and one burst under an oil tank and completely polluted a river in the ocean around it.

00:38:04.740 --> 00:38:16.520

<v SPEAKER\_3>There's a report to the US Senate that I read the other day that said there are 30 towns in Alaska that in the next two years are going to have to be evacuated and moved.

00:38:18.080 --> 00:38:21.480

<v SPEAKER\_3>Permafrost is a big issue.

00:38:21.480 --> 00:38:34.500

<v SPEAKER\_3>If we could put our scientific effort there, and we have the world's leading permafrost experts at actually at Carleton University, we should get going on that issue.

00:38:35.240 --> 00:38:43.080

<v SPEAKER\_3>It is an infrastructure issue because if you want to have planes in the north, you need a runway.

00:38:43.080 --> 00:38:48.440

<v SPEAKER\_3>If the runway is sunk under the ground, you can't land a plane.

00:38:48.440 --> 00:38:50.020

<v SPEAKER\_3>You can't have the port.

00:38:50.020 --> 00:38:51.920

<v SPEAKER\_3>You can't have the facilities.

00:38:51.920 --> 00:38:53.960

<v SPEAKER\_3>So it is something that's very important.

00:38:53.960 --> 00:39:01.080

<v SPEAKER\_3>So if I were a prime minister, I would say I have only a little bit of money.

00:39:01.080 --> 00:39:14.500

<v SPEAKER\_3>But if the same money helps the environment, it helps defence, it builds industry here, and it's supported by research in Canada, I would say you can't have a triple header with four things.

00:39:14.500 --> 00:39:15.940

<v SPEAKER\_3>It's a four header.

00:39:15.940 --> 00:39:17.500

<v SPEAKER\_3>It's a win.

00:39:18.060 --> 00:39:36.660

<v SPEAKER\_1>You have given an excellent example of something where Canada does have expertise and where it applies, as you say, a crosswalks to defence and to the environment, and it serves Canadian interests, especially at a time when we're looking for big innovative

projects and certainly the Port of Churchill is on the radar now.

00:39:36.660 --> 00:39:37.960

<v SPEAKER\_1>Thank you, Roseann.

00:39:39.820 --> 00:39:41.440

<v SPEAKER\_1>Maggie, let me turn to you.

00:39:41.440 --> 00:39:45.880

<v SPEAKER\_1>You get in the elevator and the Prime Minister turns to you and said, oh, you're from the IDRC.

00:39:45.880 --> 00:39:49.380

<v SPEAKER\_1>Where should I be making future investments in science and technology?

00:39:50.700 --> 00:40:13.980

<v SPEAKER\_2>Well, I don't know that I would be so bold as to pick a particular entry point in Canada's arsenal, but I would really strongly make the case that to become a leader as, you know, was part of the speech from the throne and innovation domestically, we need to build, yes, our domestic ecosystem.

00:40:13.980 --> 00:40:21.040

<v SPEAKER\_2>But we can't be so short sighted as to see it as either or, you know, Canada versus the world.

00:40:21.040 --> 00:40:32.440

<v SPEAKER\_2>We need to think about this as, you know, as a middle power, as something that depends on our international partnerships in terms of research, science and innovation.

00:40:32.440 --> 00:40:36.300

<v SPEAKER\_2>This is about talent flows.

00:40:36.300 --> 00:40:45.160

<v SPEAKER\_2>As Roseann had mentioned, it's about the ability to leverage international science teams.

00:40:45.160 --> 00:40:51.420

<v SPEAKER\_2>And that's really what Canada is known for and what Canada can really use to its advantage.

00:40:52.020 --> 00:41:08.380

<v SPEAKER\_2>I think I would also say, something that doesn't necessarily cost more dollars, but that we need to address, is some of the deficiencies in our science, innovation, research ecosystem.

00:41:08.380 --> 00:41:17.200

<v SPEAKER\_2>Both, and these are not just strictly Canadian issues,

these are kind of international issues with respect to science funding overall.

00:41:18.680 --> 00:41:29.600

<v SPEAKER\_2>So I think we need to better connect up our research, science and innovation production with the use of that research and science and innovation.

00:41:29.600 --> 00:41:46.520

<v SPEAKER\_2>And this is something I think Canada can be a leader on, in making sure that research and science is seen as a valued area for society, for our economy, for solving some of our greatest challenges.

00:41:47.140 --> 00:41:52.400

<v SPEAKER\_2>And I think that how issue also applies on our foreign policy side.

00:41:52.400 --> 00:41:54.960

<v SPEAKER\_2>This doesn't necessarily cost more money.

00:41:54.960 --> 00:42:21.560

<v SPEAKER\_2>But I think the way we work together as a team Canada to take advantage of our international science networks, to take advantage of our international cultural networks, no matter what the entry point, I think there's much to do here at home to better connect up our domestic capabilities and our foreign policy goals.

00:42:21.560 --> 00:42:22.680

<v SPEAKER\_1>No, I think that makes sense.

00:42:22.680 --> 00:42:32.860

<v SPEAKER\_1>The ability for Canada to convene, and as you say, to connect and taking a team Canada approach is something that we've seen it in the past and we've done it, it works.

00:42:32.860 --> 00:42:34.580

<v SPEAKER\_1>Valerie, let me turn to you.

00:42:34.580 --> 00:42:40.540

<v SPEAKER\_1>Prime Minister says, okay, science diplomacy, you've been doing it, where should I be making investments?

00:42:40.540 --> 00:42:47.000

<v SPEAKER\_4>Well, I hate to say this, but I completely had the same answer as Maggie.

00:42:47.000 --> 00:42:52.520

<v SPEAKER\_4>But maybe with and not surprisingly, because we both worked in the international sphere.

00:42:52.520 --> 00:43:09.720

<v SPEAKER\_4>But I think what I would say is we need to ensure that we invest sufficient resources in the participation in those international networks and pair these up with our diplomatic network and foreign policy objectives.

00:43:09.900 --> 00:43:29.640

<v SPEAKER\_4>Because as I've observed and as Maggie has mentioned, we tend to work in silos and we need to be building bridges, not only between government policy makers, universities and academia at large, but also with business.

00:43:29.640 --> 00:43:58.640

<v SPEAKER\_4>I think this is not that I would have the solution for Prime Minister Carney, but I think my first recommendation, enough resources in those international networks, whether they're people on the ground at Global Affairs Canada, it could be financial resources, sustaining the level of investment in research and technology in Canada.

00:43:58.640 --> 00:44:06.340

<v SPEAKER\_4>We're not keeping up with our OECD partners in terms of the GDP.

00:44:07.840 --> 00:44:11.860

<v SPEAKER\_4>And so we really need to be looking at that.

00:44:11.860 --> 00:44:25.120

<v SPEAKER\_4>Investing in talent, as Roseann said, young talent particularly bringing that international, the graduate students, the Canadians that we funded abroad, bring them home.

00:44:25.120 --> 00:44:26.680

<v SPEAKER\_4>They're our future.

00:44:28.180 --> 00:44:32.420

<v SPEAKER\_4>And then this is related to what I would suggest.

00:44:32.420 --> 00:44:42.220

<v SPEAKER\_4>Just generally speaking, science or research, however you want to call it, it needs to be integrated more strategically with our priority partners.

00:44:42.220 --> 00:45:01.140

<v SPEAKER\_4>So as we see Prime Minister Carney, you know, traveling all over the world, you know, in Asia Pacific just formed a partnership with Malaysia, traveling to the Nordic countries, the UK, whatever.

00:45:01.500 --> 00:45:09.380

<v SPEAKER\_4>There, we have strong science and technology relationships or ones that are emerging with those countries.

00:45:09.380 --> 00:45:21.320

<v SPEAKER\_4>And I think these need to be taken into consideration when we are, you know, developing and diversifying our relationships around the world.

00:45:21.320 --> 00:45:23.600

<v SPEAKER\_4>So those are just a couple of things.

00:45:23.600 --> 00:45:41.780

<v SPEAKER\_4>I didn't want to specifically say which area he should invest in, because what I think is, while we all know we're strong in AI and quantum right now and areas like photonics, for example, or business and economics, I mean, we punch above our weight.

00:45:41.780 --> 00:45:49.940

<v SPEAKER\_4>There are other research strengths in Canada across the country that I think we are not aware of.

00:45:49.940 --> 00:46:19.120

<v SPEAKER\_4>So unless you are, you know, sitting in a university and you would really understand where those strengths are, but I think to Maggie's point too, we need to pull that out, understand our strengths as a country, promote those strengths, leverage our connections internationally, and advance these areas in tandem with all these other areas that the Prime Minister is trying to advance.

00:46:19.120 --> 00:46:22.740

<v SPEAKER\_4>So there's a bit of a breaking down silos.

00:46:22.740 --> 00:46:24.960

<v SPEAKER\_4>There's a communication piece.

00:46:26.600 --> 00:46:36.500

<v SPEAKER\_4>There's a bit of an assessment piece, really understanding what we are about and talking about it and advancing it.

00:46:36.500 --> 00:46:37.920

<v SPEAKER\_1>Good advice.

00:46:37.920 --> 00:46:40.620

<v SPEAKER\_1>My final question, and I'll let you lead on this one, Valerie.

00:46:40.620 --> 00:46:43.800

<v SPEAKER\_1>What are you reading or streaming these days?

00:46:43.800 --> 00:46:45.460

<v SPEAKER\_4>Oh dear.

00:46:45.460 --> 00:46:53.260

<v SPEAKER\_4>I am reading a book by Adam Grant, who's a social science professor.

00:46:54.480 --> 00:46:56.200

<v SPEAKER\_4>Actually, I think he's in the management school.

00:46:56.200 --> 00:46:59.140

<v SPEAKER\_4>It is unfortunately in the US.

00:46:59.140 --> 00:47:01.500

<v SPEAKER\_4>He's very, very popular right now.

00:47:01.500 --> 00:47:04.080

<v SPEAKER\_4>But the book is called Rethink.

00:47:09.340 --> 00:47:19.120

<v SPEAKER\_4>I think this is what we're at this particular moment in time, is to take the scientific method and rethink our assumptions.

00:47:19.120 --> 00:47:24.760

<v SPEAKER\_4>Scientists are always experimenting, trying new things, and that's okay.

00:47:24.760 --> 00:47:27.440

<v SPEAKER\_4>Sometimes it fails, sometimes it works.

00:47:27.440 --> 00:47:42.140

<v SPEAKER\_4>But I think it's a bit of a mindset that we all need to adopt, whether we're in the public service, scientists obviously use that method, but in business as well and not be afraid to take risks.

00:47:42.140 --> 00:47:49.740

<v SPEAKER\_4>So I'm summarizing it very summarily, but it's a great book and he's a great thought leader.

00:47:49.740 --> 00:47:50.900

<v SPEAKER\_1>Adam Grant, Rethink.

00:47:50.900 --> 00:47:51.960

<v SPEAKER\_1>All right, Maggie, what about you?

00:47:52.020 --> 00:47:54.700

<v SPEAKER\_1>What are you reading or streaming these days?

00:47:54.700 --> 00:47:57.580

<v SPEAKER\_2>Well, I'm streaming a lot of baseball games.

00:47:57.580 --> 00:48:00.080

<v SPEAKER\_2>These days, I play and I'll be streaming them tonight.

00:48:00.080 --> 00:48:01.220

<v SPEAKER\_1>That's the rest of the country.

00:48:01.220 --> 00:48:03.420

<v SPEAKER\_2>Yes.

00:48:03.420 --> 00:48:07.180

<v SPEAKER\_2>But one thing I recently heard Dani Rodrik speak.

00:48:07.180 --> 00:48:10.020

<v SPEAKER\_2>He was at a, well, virtually.

00:48:10.060 --> 00:48:11.800

<v SPEAKER\_1>Sure, he's at Harvard, isn't he, Dani Rodrik?

00:48:11.800 --> 00:48:12.680

<v SPEAKER\_2>Yes.

00:48:12.680 --> 00:48:16.980

<v SPEAKER\_2>He spoke at the Group of 78 recent conference.

00:48:18.220 --> 00:48:26.680

<v SPEAKER\_2>His new book is coming out, so I haven't read it yet, but got a sneak preview and it's called Shared Prosperity in a Fractured World.

00:48:26.680 --> 00:48:28.880

<v SPEAKER\_2>It's coming out in November.

00:48:28.880 --> 00:48:47.900

<v SPEAKER\_2>But it talks about China's role in the green economy and its industrial policies and its science, technology and innovation policies on spurring a green economy domestically but also internationally.

00:48:47.900 --> 00:48:49.420

<v SPEAKER\_2>So I think that's really interesting.

00:48:49.560 --> 00:48:59.380

<v SPEAKER\_2>But it also pairs that driver with how do we work towards rebuilding the middle class globally.

00:48:59.380 --> 00:49:10.660

<v SPEAKER\_2>So it kind of brings together science, technology, innovation with kind of more social science and poverty related economic issues.

00:49:10.660 --> 00:49:12.920

<v SPEAKER\_2>And I'm excited to read it.

00:49:12.920 --> 00:49:13.480

<v SPEAKER\_1>Excellent.

00:49:13.480 --> 00:49:16.500

<v SPEAKER\_1>Shared Prosperity in a Fractured World, Dani Rodrik.

00:49:16.500 --> 00:49:17.400

<v SPEAKER\_1>Good recommendation.

00:49:17.860 --> 00:49:18.760

<v SPEAKER\_1>Rosann, what about you?

00:49:18.760 --> 00:49:20.680

<v SPEAKER\_1>What are you reading or streaming these days?

00:49:20.680 --> 00:49:25.280

<v SPEAKER\_3>Well, I just finished Jared Diamond's book Collapse.

00:49:25.280 --> 00:49:32.240

<v SPEAKER\_3>And he talks about why governments fail and succeed.

00:49:32.240 --> 00:49:43.660

<v SPEAKER\_3>And he specifically talks about Finland, Japan, Chile, Germany, and Indonesia.

00:49:43.660 --> 00:49:46.260

<v SPEAKER\_3>But it was actually kind of depressing.

00:49:48.560 --> 00:50:00.040

<v SPEAKER\_3>But it was very interesting if anybody has read about those countries before and meditated a bit about why they failed at certain times and why they came back or didn't.

00:50:00.040 --> 00:50:01.620

<v SPEAKER\_3>So that was what I was reading.

00:50:01.620 --> 00:50:09.740

<v SPEAKER\_3>But, you know, I could give a shameless advertisement for my own book, Canadians Who Innovate, because that will raise your spirits.

00:50:09.740 --> 00:50:20.700

<v SPEAKER\_3>And I believe that as the other panellists said, and we have expertise across the country, brilliant people doing incredible things.

00:50:20.700 --> 00:50:40.880

<v SPEAKER\_3>And they haven't had life handed to them on a silver platter, but they have all actually succeeded and admirably want to be here, serving the population and creating things in AI and photonics and medicine.

00:50:41.460 --> 00:50:45.020

<v SPEAKER\_3>And it's a real privilege to be in this country.

00:50:45.020 --> 00:50:51.100

<v SPEAKER\_3>And Colin, I thank you because you allow us to talk about that.

00:50:51.100 --> 00:50:52.700

<v SPEAKER\_1>Well, it's important.

00:50:52.700 --> 00:50:53.520

<v SPEAKER\_1>That's why we did this.

00:50:53.520 --> 00:51:03.940

<v SPEAKER\_1>In fact, the idea for this podcast came when Valerie and Maggie and I were at a conference that CG had put on, sort of Future Horizons, looking at this and got thinking, we said, well, let's do this.

00:51:03.940 --> 00:51:07.040

<v SPEAKER\_1>And Roseann, of course, you had to be part of this.

00:51:07.040 --> 00:51:10.000

<v SPEAKER\_1>And so this has gone extremely well.

00:51:10.000 --> 00:51:11.080

<v SPEAKER\_1>Well, I thank you very much.

00:51:11.080 --> 00:51:17.180

<v SPEAKER\_1>As Rosann's book, Canadians Who Innovate, is certainly one we should look at and collapse by Jared Diamond.

00:51:17.180 --> 00:51:20.140

<v SPEAKER\_1>I heard him speak when I was posted in Los Angeles at UCLA.

00:51:20.140 --> 00:51:24.780

<v SPEAKER\_1>And as you say, he certainly makes you think.

00:51:24.780 --> 00:51:28.520

<v SPEAKER\_1>And that's really what today's episode was all about, make us think.

00:51:28.520 --> 00:51:29.440

<v SPEAKER\_1>Thank you all.

00:51:29.440 --> 00:51:32.500

<v SPEAKER\_1>And thanks for listening to this episode of The Global Exchange.

00:51:32.500 --> 00:51:37.340

<v SPEAKER\_1>We were joined today by Valerie La Traverse, Rosann Runte, and Maggie Gorman Velez.

00:51:37.980 --> 00:51:41.740

<v SPEAKER\_1>You can find The Canadian Global Affairs Institute on Facebook, Twitter and LinkedIn.

00:51:41.740 --> 00:51:45.400

<v SPEAKER\_1>Global Exchange is brought to you by our team at The Canadian Global Affairs Institute.

00:51:45.400 --> 00:51:50.260

<v SPEAKER\_1>My thanks go to our producer, Jordyn Carroll and Drew Phillips for providing our music.

00:51:50.260 --> 00:51:51.740

<v SPEAKER\_1>I'm Colin Robertson.

00:51:51.740 --> 00:51:53.600

<v SPEAKER\_1>Thanks for joining us today on The Global Exchange.