



University of Manitoba: “What’s the Big Idea?”
Series 4, Episode 5: ANDREA CHARRON

TITLE

Strategic Real Estate: Canada's Quiet Power in North American Defence

INTRO MUSIC FADES IN

INTRODUCTORY MONTAGE

Media clip

<https://www.youtube.com/watch?v=sFBkNX1-cbg>

Prime Minister Carney: “It seems that every day, we're reminded that we live in an era of great power rivalry, that the rules-based order is fading, that the strong can do what they can and the weak must suffer what they must.”

Media clip

<https://www.youtube.com/watch?v=jOGSHnoaHEE>

President Trump: We’re building a golden dome. It’s going to, by its very nature, be defending Canada. “Canada gets a lot of freebies from us, by the way. They should be grateful also but they’re not- Canada lives because of the United States. Remember that.”

Andrea Charron

“So maybe I'll put it in language that Trump himself would understand and that's that Canada is strategic real estate. The reason why we're talking a lot about missile and air defense these days is because we front the Arctic Ocean and the Arctic Ocean being the smallest of all the-oceans means that it's the fastest avenue of attack. If Canada can host radar systems and sensors and have satellite systems connected to them, we provide the United States, Canada and allies with all domain awareness and better situational awareness. And that's really the goal of all militaries around the world. And that's why Canada is so vital to the United States.”

INTRODUCTION

MICHAEL: Welcome back to What's the Big Idea? I'm your host, Michael Bennaroch, President and Vice-Chancellor at the University of Manitoba. My guest is Andrea Charron, the Director of the Centre for Defence and Security Studies, a national centre of excellence located at UM.

Professor Charron has the ear of the Department of National Defence because she's a rare academic who works closely with the Canadian Armed Forces. She will share big ideas about the state of North America's defence, in an age of nuclear treaties expiring, rogue nations rising, and a rupture of the values-based geopolitical order. Please enjoy this conversation about the state of our national defence.



MUSIC FADES OUT

MAIN INTERVIEW

MICHAEL: Andrea, welcome.

ANDREA CHARRON: Thank you.

MICHAEL: I'm really excited about sitting down with you because what we're going to talk about today is obviously incredibly topical at this time in Canada, but we'll have a big impact on our future also. So, I'm really interested to hear your thoughts.

Most Canadians have come to think that we rely quite a bit on the United States for our defence. It's obviously a point the United States has been making, for a while, but certainly, since this government has come in place. Your big idea is that, in the age of missiles and Arctic threats, the U.S. actually relies on us as well, if not more, for advance warnings of air threats. So, tell us, how important is Canada to the North America's defence?

ANDREA CHARRON: Maybe I'll put it in language that Trump himself would understand and that's that Canada is strategic real estate. The reason why we're talking a lot about missile and air defence these days is because Canada is the second largest Arctic state, in the world, and that means we front the Arctic Ocean and the Arctic Ocean, being the smallest of all the oceans means that it's the fastest avenue of attack. If you can launch a missile or an air threat, using the Arctic Ocean as the sort of avenue of attack, you can hit just about any target in the world and especially Canada and the United States. And so, our Arctic is 40% of our landmass and it's the reason why we have the largest coastline in the world. If Canada can host radar systems and sensors and have satellite systems connected to them, we provide the United States, Canada and allies with all domain awareness and better situational awareness. And that's really the goal of all militaries around the world. And that's why Canada is so vital to the United States.

It's also that we are interoperable with the United States. We have a long-standing history of cooperation. We have more than a hundred memorandums of understanding that connects our navies, our coast guards, our transportation departments, our customs departments, our police. And we have a history and a habit of working together to defend North America. We really are vital to the United States because we are often the first state that a missile is going to fly over if its intended target is the United States.

MICHAEL: That's pretty striking when you think of it. I mean, I knew it, but I didn't think about it in terms of missiles attacking us, that the Arctic would be the shortest line. So, that's where they're more likely to come from.

ANDREA CHARRON: That's right, and that's been the case since the Cold War, and that's why, for example, because of where Russia is situated, next to Alaska and very close to Canada's Arctic, the bear bombers, the Soviet bear bombers would use that as an avenue of attack, and then they would



use gravity bombs to threaten and deter both Canada and the United States from helping other allies, and holding us hostage, basically, in North America.

MICHAEL: So, we're obviously at a critical time, right? Clearly the world is changing and moving in a more dangerous direction. So, let's start with some context. If you had to brief our Prime Minister, say you had two minutes, what would you say are the most important or most serious threats facing Canada today? And are we at risk of seeing something akin to an armed conflict involving North America? Two minutes might not be enough for that.

ANDREA CHARRON: I would suggest there are four overarching themes. One of the first threats is the escalating geopolitical tension around the world. That's definitely one. Second is the vulnerability of the Arctic. Third is the fact that climate change is a security threat multiplier. And then fourth, I would say, it's the number of emerging and disruptive technologies that are coming online that can disrupt us. So, first by escalating geopolitical competition, we know that the likelihood of an interstate conflict involving one of Canada's close allies and adversaries that can include Russia or China or North Korea or Iran has never been higher. And as a result of us being part of both the NATO alliance, part of the North American Aerospace Defence Command, and one of the U.S.'s closest allies and neighbours, that means that if there is a conflict that involves especially the United States, there will be both intended and unintended consequences for Canada and we've got to be prepared for them. Second, in terms of Arctic vulnerability, there are two. First, currently we cannot see persistently the full extent of our Arctic territory until we get some of these NORAD modernization projects and sensors and interceptors on board. We also have under-resourced and underdeveloped our Arctic communities, and vulnerable communities are more likely to fall prey to foreign interference. In terms of climate change, as a threat multiplier, we know that the Arctic is heating up at a rate of four times the rest of the world. Because of climate change, we are seeing more climate disasters, which means there are more calls on the Canadian Armed Forces to assist, which means that they can't train and exercise and prepare for conflict, either in Canada or the rest of the world. And then the emerging and disruptive technologies, and we're learning many lessons from the war in Ukraine, little drones that cost next to nothing can be unbelievably disruptive. But we also know that China and Russia are attacking us through cyberspace and through dis- and mal-information campaigns every day. And that is causing us to be polarized within society and among allies. And so, all of that puts us at greatest risk. Now I am not concerned about a land invasion of Canada, but because of all these threats and the vulnerabilities and insecurities we have, it is highly likely that if one of our allies do go to war, we will be called upon to assist and or we could be targeted to prevent such assistance. And so, there is this greater risk of conflict right now.

MICHAEL: Let's talk about these threats. There's a map in our show notes called Golden Dome Threat Graphics. It shows arrows from around the world pointing towards North America, representing the range of different missiles that countries like China, Russia, Iran, and North Korea could use to strike the continent. From your perspective, what story is this map telling us about the kinds of threats North America faces today and Canada's role in defending against them?



ANDREA CHARRON: That picture from the U.S. Defence Intelligence Agency shows the different types of missiles that our adversaries have and most notably it's Russia and China which have intercontinental ballistic missiles, sub-launch ballistic missiles, land attack cruise missiles and hypersonic weapons, all of which, if they use, the Arctic is going to be able to hit any target in North America.

We also have North Korea, which is perfecting its intercontinental ballistic missile technology, and Iran is likely to have such technology in the future. So, we are at risk with more lethal weapons, with more range, with more adversaries and these adversaries seem to be starting to coordinate. And that means that we're not just dealing with one at a time, we could be dealing with a panoply. And that's why the U.S. is really talking about this new technology called Golden Dome.

I need to unpack this because Golden Dome, as it's often described, sounds like it's this one exquisite system that will create a bubble over the U.S., that will deflect any incoming missiles, and the fact of the matter is that's just impossible.

Instead, what we're really talking about is integrated air and missile defence, and this is where Canada is so vital. Because of Canada's strategic positioning, with our sensors, in the right place, and being able to see far beyond the Arctic Ocean eventually, we can warn of these missiles incoming and that gives us more decision-making time and more options.

The goal is really always to go after what we call the archers, to get these missiles before they're launched, rather than after they're launched because it's so much more difficult, especially when we're talking about hypersonics and cruise missiles, which can change direction. So, you really don't know where the final target might be. And NORAD right now, the North American Aerospace Defence Command has a critical role of aerospace warning. So, they right now are warning of, for example, incoming intercontinental ballistic missiles. And so, NORAD for me is going to be essential in an integrated air and missile defence system. And it's something that Canada is now thinking about the defeat side, because Minister McGinty, in June, said the no we had indicated in 2005, to participate in the U.S. intercontinental ballistic missile defeat system, we are now opening the door to conversation.

Canada is not unique in wanting integrated air missile defence systems. It's something that NATO is working hard at. And because we have an alliance, and if we can actually integrate these systems, we are going to have advanced warning, on any potential missile strike from around the world, which is a huge advantage.

MICHAEL: And so, the Arctic, it's obviously our biggest security asset, but also a very big vulnerability. And so, how do we manage that?

ANDREA CHARRON: It's absolutely both. On the one hand it's a vulnerability because we are challenged to see the full extent of our Arctic territory and because we have such a large coastline, we've got to make sure that we have the capability to be able to not only see what's happening but to be able to react, and so that's why these NORAD modernization projects, which are really focused first and foremost on domain awareness, are going to be so essential.



But the other vulnerability that we have is that our Arctic is a homeland, but we have under invested in the infrastructure and development. I think that relationship is changing with rights holders, but vulnerable communities around the world are the most likely to be impacted by foreign interference. They are the targets that our adversaries want to go at, to foment dissent, to suggest that the Canadian government, doesn't care about the Arctic and therefore encourages them to make deals with adversaries that then might have unintended consequences in the future.

MICHAEL: Yeah, I think this idea of under-investing, especially in the most needed areas, it seems like across Canada, we lost focus, somehow became comfortable with the way we were and weren't keeping up with the changes happening in the world.

ANDREA CHARRON: I call it Arctic distraction disorder. So, every Prime Minister sort of discovered the Arctic and said, quick, we need to do something, look busy, spend some money. And then they get the final tally and all of a sudden, well, maybe that's not the priority. Maybe we can focus on something else. And that's because we need to make generational investments, in both the defence of Canada and especially in the Arctic. And for the first time, I actually have hope, especially with the amount of money that is being put towards, not only the NORAD modernization projects, but development in the Arctic, and with rights holders, in leading what is required. This gives me the most hope I've ever had.

MICHAEL: And we need to get it right this time. And so, I wanted to ask you a little bit more about the Golden Dome. Clearly, we're intrinsically tied with the United States, regardless of what President Trump might say about going it alone. That's obviously very difficult to do. And the U.S. is pursuing kind of a really ambitious missile defence system, with a huge price tag and the tens of billions of dollars. How is this different from NORAD and our commitments we've made there? You talked about so many agreements that we already have. And would this system actually make us safer?

ANDREA CHARRON: Well, the United States is our closest ally and partner by proximity, history, and it's important that that relationship continues. And the North American Aerospace Defence Command, I want to stress, despite the political tensions, is still operating as it should be, as what we call the fraternity and sorority of the uniform. These are professionals, and they are in the business of defending North America.

And so, that continues. I think what the United States is after is very, very ambitious. I don't think Golden Dome is going to unfold as perhaps Donald Trump envisions. It'll be a system of systems. And so, we first need this domain awareness layer. And that's highly dependent on NORAD and the NORAD modernization projects like the Arctic Over the Horizon radar system you may have heard about and other ones like Northwatch. We have some maritime sensors that will be coming online and new satellite systems and all of these provide the first layer that allows us to see if there are air threats and missiles coming inbound to Canada and to North America.

And then, we're going to need different layers of systems because there is not one defeat platform that can manage hypersonics, intercontinental ballistic missiles, cruise missiles, drones, you name it. It has to be a different defeat system for different missile trajectories. And so, it will be a matter of



choosing what we call the defended asset list. So, it's a combination of the critical infrastructure, and the defence infrastructure that we absolutely must protect, in order for Canada or the United States to continue on, even after a missile attack. And so, Golden Dome or whatever variant comes out, and Canadian national systems is not going to be a bubble, all over, for every Centre and every square inch of land and territory in Canada. It's going to be aimed at protecting those really critical infrastructures that we need, as Canadians, to continue and fight on, and again, we're getting a lot of lessons learned from Ukraine. Things like our energy infrastructure is obviously essential to being able to survive and continue a fight. And so, that's what Golden Dome is ultimately trying to achieve, albeit on a very ambitious scale that nobody really thinks will come to fruition as it's currently outlined.

MICHAEL: I think President Trump leans towards exaggerating sometimes. But you know some of the really interesting things you said here is that there's no one defeat system and that this is layered. There's many different layers to this, in terms of defending this system.

And the North American Aerospace Defence Command represents nearly seven decades of Canada defending the continent jointly with the United States. Billions of dollars have been invested. But given now President Trump's willingness to threaten U.S. allies, whether it's real threats or threats to extract something from an ally. Does that model where we rely on an American partnership for continental defence still serve our interests as Canada?

ANDREA CHARRON: Yeah, I think it still does and that's because the lesson we learned, in the 1950s, and remember that was the Cold War, at a time when we were most at risk from nuclear annihilation. We quickly discovered that adversaries like the Soviet Union were not going to distinguish between attacking Canada and the U.S. And so, if we defended North America, as if we can only defend Canada or the United States, and there's this lovely jurisdictional scene between us, that is just a gift for adversaries because that's exactly what they exploit. And so that's why NORAD, this binational command, is so novel. It means that we don't have to think about our national jurisdictions when it comes time to dealing with an air threat and that has huge advantages. Think about the Chinese air balloon that came over, in February of 2023. It was absolutely seamless. The transition from Canada into the United States and you had both Canadians and U.S. personnel, both in Canada and the United States, tracking it and ultimately responsible for its defeat. And that alliance is such an advantage. Canada also gains incredible training opportunities and exercising opportunities by being allied with the United States. The Canadian NORAD headquarters is less than five kilometres from this campus and the second in command is a U.S. Brigadier General and he operates as if he is Canadian, when he's in the Canadian NORAD region, even though he is a U.S. citizen. There are more than 160 U.S. personnel operating within Canada to help us defend Canada and likewise we have Canadian personnel in the U.S. defending the U.S. and we gain from that intelligence and training but also the U.S. gains from us strategic advantage, and a reminder of the importance of allies, which sometimes is a hegemon you can often forget, but when you're serving, shoulder to shoulder with other nationals, it's an opportunity for those conversations and so, I really hope that this relationship continues because it's to the benefit of both of us.



MICHAEL: Well and Alaska, right? NORAD's in Alaska. I mean, it's isolated from the rest of the States. It connects to Canada. And when you explain it this way, you hope that it's a bargaining tool that's trying to get Canada to invest more. And from that perspective, it's worked. I mean, Canada is going to invest more. And so, there's an opportunity here to reinvest in in NORAD. So, there's been talk about modernizing NORAD. What does that mean?

ANDREA CHARRON: So, NORAD modernization for me is really the shortcut for a rethink of how to defend North America writ large. It goes beyond simply the binational command, but there are many assets that NORAD uses like fighter jets that we also use in overseas contexts and for strictly Canadian purposes. So, in getting capabilities that will assist NORAD, we're really helping Canada and our allies. And you may have heard of a memorandum of understanding that we've just signed with the Kingdom of Denmark for closer defence cooperation. And again, that's so important in an Arctic context because Canada is really dependent on Greenland and the U.S. base, Pituffik, in the north of Greenland to be able to resupply our Canadian Forces base alert, which is at the top of Ellesmere Island.

And when we look again at the Arctic, NORAD has the west of the Arctic, our north of the Arctic, and our east of the Arctic, but allies can be so beneficial because of their strategic placement and because we have more access to more capabilities. We're actually really concerned about Chinese and Russian activity in Alaska. It's the only place outside of Russia where we see the two of them working together, in both the air and maritime space. As I mentioned, we are highly dependent on Greenland to help us resupply alert. And in a Greenlandic perspective, it's the maritime approaches, the Greenland, Iceland, UK gap that we've been concerned about because that's where the Russian second-strike capability in their subs hangs out to hold us to risk. So, the U.S. is essential, Greenland and the Kingdom of Denmark are essential, Canada is essential and if North America is safe then it means the NATO alliance has one fewer thing to worry about and let's face it, NATO has a lot on its plate these days.

MICHAEL: Is it time to expand NORAD to include partnerships with Greenland, Denmark?

ANDREA CHARRON: Well, my partner James Ferguson and I have long argued, yes, we absolutely do. And we need to consider Mexico, as well. But at this geopolitical moment, nobody is interested in opening the binational agreement with the United States. We have to remember it is cancelable on 12 months notice, and we don't want to introduce that option because NORAD is so vital. But what we are seeing, for example, is more bilateral connections between the U.S. and the Kingdom of Denmark and Greenland or Kalaallit Nunaat and between Canada. And it's this combination of NORAD, NATO, the bilateral relationships and we often forget that we have the NATO Joint Forces Command in Norfolk, Virginia. So, we have NATO allies in the U.S. responsible for defending the North Atlantic and the Arctic. All of these relationships and associations and agreements are the reason why the West is at such an advantage to our adversaries. They don't have alliances. They really don't have allies. They really are one-off with marriages of convenience that can be broken instantly.

MICHAEL: That is, again, fascinating at how deep the relationships have been over time. So, you



just spoke about fighter jets as being a part of that defense. And it always seems in Canada, when we buy a new military piece, whether it's a ship or a fighter jet or, it's like a national crisis, and then it seems by the time we get to it, it's all outdated. There's been a lot of conversations recently about whether Canada should pursue F-35s or Gripens. From your perspective, what are the major strategic trade-offs for Canada that we have to navigate in selecting a new fighter jet?

ANDREA CHARRON: I think you raised two really important competing priorities, and one is what the Canadian Armed Forces wants versus politically what may or may not be expedient. And so, from the perspective of the Canadian Armed Forces, our current CF-18s came online in the 1980s. When you think about the threat picture back in the 1980s, it was very different. I mean, we were still talking about fighter jets and maybe bear bombers. We're now talking about hypersonic weapons and drones. The F-35, we started thinking about this fifth-generation fighter because the CF-18 is a fourth-generation fighter, back in 1997. The fifth-generation capability that the F-35 has is really not to think of it like a fighter jet but to think of it as a data vacuum.

And these myriad threats, coming from all domains, and the amount of integration of tracking and queuing and targeting that we're going to need, we need an F35 with that kind of fifth-generation data vacuum capability, in order to be able to withstand conflicts in the future. It's also for our pilots, a fourth-generation fighter will not survive against a fifth-generation fighter. But then, there is the issue of trying to detangle ourselves or to be less reliant on the U.S. from a supply chain perspective. And this is where the Swedish Gripen, which is a fourth generation plus fighter jet, is really an interesting choice.

But again, it is more akin to the CF-18 than it is the F-35. So, it also needs to be reminded that in an Arctic context, when Denmark, out of nuke, the Joint Arctic Command has F-35s, the U.S. has F-35s. From the perspective of NORAD and NATO being interoperable and interchangeable so that we can get supply chains from our allies with the same sort of capabilities, that is a real advantage. Right now, we have CF-18s, we will have F-35s, at least 16 or more. But the question is, can the Canadian Armed Forces, given our size, maintain, potentially, two or three fighter jet capabilities? And what the Canadian public may not understand, this is not like a choice between a Volkswagen and a Honda and I have a Volkswagen; you have a Honda. Can I borrow your Honda? Well, sure. I mean, I may not have driven a Honda, but I can figure it out pretty darn quickly. That's not the case between a fourth-generation and a fifth-generation fighter. You need completely different training. The pilots need different skills, in many cases. You need different supply chains. You need different infrastructure. F-35s, for example, need longer runways. It is a big difference between the capabilities. And my concern is the ability of Canada to be able to maintain, you're going to need different mechanics for both platforms, we're already going to have to try and keep two running, the CF-18 and the F-35, until we have that full changeover. To add a third one that may be too much of a stretch.

MICHAEL: And we've heard people in the military, the Air Force, allude to this, exactly these issues. I find it amazing that we've been thinking about this since 1997. I think there's a problem there, right? And I think our Prime Minister has recognized that. Whether we know the solution to the



procurement issues that we have or not, I think it's now been identified as a process which is bogged down in bureaucracy and in politics.

This Prime Minister has been very pragmatic. And I know there's this notion of wanting to diversify, but even around tariffs, he hasn't levied tariffs back on the United States when he felt it would hurt Canada more economically, even though from a kind of feel-good standpoint, it might be nice to levy those tariffs and say, we're standing up to you. One would hope that a more pragmatic perspective along the lines of what you're saying will at the end of the day rule the decision. 1997 to now is 29 years. We don't have another 29 years to make this decision.

ANDREA CHARRON: The Canadian pilots who have been identified as the future F-35 pilots are down in the United States and starting the training. We know that we are committed to at least 16 and I actually think we will get more just because of the timing. And so, we really are in the F-35 bucket to begin with. It's whether or not we have future ones and you mentioned the importance of Canadian businesses and technology getting an advantage in some of these big procurement projects and you're right and that's what the Defence Industrial Strategy is trying to signal to everyone with the catch line, "build, partner, buy." And so, build in Canada with Canadian technology and resources and companies. And this is where the F-35 is an example of that, because for example, the tail of the F-35 is built right here in Winnipeg with Magellan Aerospace. So, we have some Canadian skin in the game. And then there's the partner aspect to that and this is where you're seeing a bit more diversification. So, for example, the ice pact is between Finland, Canada and the U.S. to get new icebreakers online faster and we're already starting to see benefit of that, and the shipbuilding company Davy is one of the winners of this pact. But then there's also a new pact with the United Kingdom, Australia and Canada, who have started a consortium to start thinking about the sixth-generation fighter. And while it seems ridiculous that we started thinking about the F-35 fighter in 1997, in many cases, it had to anticipate technology that hadn't yet been fully brought online. So now, with quantum computing and AI, the possibilities of what a sixth-generation fighter might incorporate. It may involve technology that we haven't even conceived of yet and so, it's putting the best minds to think about what might be the future of war, in the future, as well as what are the capabilities that we will need.

MICHAEL: So, the strategy has come out. Obviously, we want to focus on Canada, as much as we can. You talk about the F-35 or the Gripen, if we buy them, they're not Canadian. We can't build one of these in Canada. We're a small country. We import, we export, it's part of our economy. But there's going to be a massive investment that's coming forward and there's an opportunity to build some of the expertise and maybe double down on the areas where we're really good at. Do you think that this strategy fits in with your view of how NORAD will be modernized?

ANDREA CHARRON: I think it does. For example, the Arctic over the horizon radar system, we've chosen an Australian system, the Jindalee system. So, it will be the system we have operating in Canada. And then the information the system picks up, we will then feed to the United States. So, this is an example of partnering, but with somebody other than the United States, but still to benefit both Canada and the United States. All of the forward operating locations, so Nunavik, Iqaluit and Yellowknife, which will see new infrastructure, in some cases extended runways. That's all being



done with Canadian personnel, with hopefully rights holder, defense companies, front in line. So, for example, Nassittuq is an Inuit majority-owned company which has the maintenance contracts for the North Warning System that's still operating and still an important deterrent. And also, for our Canadian forces based in Alert, they maintain Alert as well. So, this is where we can have Canadian companies and especially rights holders with benefits and development opportunities in the Arctic, as a part of this wider NORAD modernization projects that we have coming online.

MICHAEL: That's fascinating. And I imagine you've traveled up to the Arctic, speak to communities. What are you hearing from them?

ANDREA CHARRON: I think mostly what they want is just clarification because one of the things that the Canadian government aspires to is to send strong signals to companies and to Canadians about what to expect and what money can and cannot do. But when it comes to the billions and billions of dollars that are going to be spent on behalf of the Department of Defence, and that's where the messaging gets a bit fuzzy because it's a lot of money. It's something we've never experienced before. This is generational amounts of money. And trying to get our heads around what will be the priorities, what will be done first, to what ends, involving whom. In some cases, we're still trying to figure that out. So, for example, the Northwatch system that used to be called the Polar Over the Horizon radar system is a good example.

Mostly because there's technology that we still need to develop, for radar systems operating that far north, with the ionospheric environment that we have deep in the Arctic. And so, what the communities would really like to see from the government of Canada is clear communication about what defence money can and cannot spend on because the Department of Defence is not in the business of building hospitals and training and attracting new education teachers and mental health professionals. They're in the business of being able to project power and so that's radars and runways and hangars and things like that. So, making sure that the Government of Canada is very clear about what the monies can and cannot do and why is it so essential.

The other thing I don't want the Arctic communities to feel like is that they are simply a bullock to an attack on Canada and they're sort of a speed bump. They are integral to the defense of Canada and the more resilient they are, happy, healthy communities that are growing and thriving are the best defence against the daily attacks that we really worry about, which is foreign interference.

MICHAEL: Right and some of these technologies could have dual use, right? Runways and locations.

ANDREA CHARRON: So, multi multipurpose is the term I would use. But there again, there are limits. So, for example, when it comes to the F-35s, you can't have an F-35 hanger by day in a bingo hall by night because of the sensitivity of the capability. So, making sure that that's clearly communicated to communities and giving them the opportunities to benefit where possible is critical.

MICHAEL: You just talked a lot about the threats that we face. I don't know how you sleep at night thinking and knowing all that. But also, you've thought a lot about how we prepare ourselves for that



and how we defend our country and we're so grateful that you're doing this from the University of Manitoba. And you've helped really educate people here at the university, but also with your national profile on some really important issues. And I think, as academics, we can bring up issues that sometimes politicians can't. And we can debate those issues in a way that politicians can't, to educate the population. I want to turn to kind of a hopeful message. Do you see hope that we can sustain peace on this continent?

ANDREA CHARRON: So, there are a couple of advantages that we have that do give me hope. And I'm generally sort of a glass half empty and poisoned sort of person, but I do see some really important advantages that we have. First of all, I think North America still has one of the world's most stable security architectures. And it's not just with the MOUs and alliances we have with the United States, but the growing alliances we have with Denmark, for example. And here maybe we should be thanking Trump for forcing the NATO allies to discover each other as opposed to always being so dependent on the United States. I think the fact that we are all democracies too is really important because democratic societies retain a resilience and an adaptive capacity that authoritarian regimes just don't have. I think our alliances in many cases are deepening, even though our adversaries would love to suggest we're fracturing. I don't think that's the case.

But then there are two that are directly applicable to the University of Manitoba. I mean, Canada has some incredible research and expertise, and I think about the aerospace and space research we do here at the University of Manitoba and some of the incredible medical technology and research we're doing and, in the humanities, as well. So, we have a wealth of new technologies and research coming online and we have a supportive atmosphere that does allow us to ask the questions maybe politicians aren't asking. And finally, I'm most hopeful when I speak to students, who are some of the best educated, they're multilingual, they're some of the best traveled, they're some of the most open-minded people. And their focus is on where it should be, the future economy, and that depends on peace and stability. They are deeply concerned about climate change, and that's where we should be spending more attention to deal with that. And also, they are very focused on equity and diversity. And that's a strength as well. So, I think between Canada, and especially here at the University of Manitoba, we have a lot of advantages that Russia and China and others simply don't hold a candle to us.

MICHAEL: Andrea, thank you so much for a fascinating conversation. I mean, this is going to continue, this work. We're just at the beginning of a massive investment in security here in Canada. It's going to obviously have repercussions, not just in the Arctic, but across Canada. And I want to thank you for your contributions to this. I think you've enriched Canadians' understanding, and I know you're in conversations with government also, in a way that I think moves us towards a safer world. Thank you.

ANDREA CHARRON: Thank you.

MUSIC FADES IN

EXTRO



MICHAEL: I hope you enjoyed this episode. Join me next time when my guest is David Gerhard, head of UM's Department of Computer Science. We're going to talk about artificial intelligence and unpack some of the big ideas from the godfather of AI, Professor Geoffrey Hinton, who will deliver the 2026 Knight Lecture on our campus on April 13th. Until then, keep thinking big.