THE
PLOUGHSHARES MONITOR

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A MIDDLE POWER ADRIFT

Canada's defence and security posture has entered uncharted waters

ARMS TRADE
Canada's Soaring Arms Exports

NUCLEAR WEAPONS
Carrying the Lessons of Hiroshima Forward

EMERGING TECH
Venture Capital and Big Tech

SPACE SECURITY
Absent Voices and Fragile Diplomacy

"and they shall beat their swords into ploughshares, and spears into pruning hooks; nation shall not lift up sword against nation; neither shall they learn war any more." Isaiah 2:4

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Canada's search for security in an era of fractured alliances

A Middle Power Adrift

Written by Branka Marijan

Canada's defence and security posture has entered uncharted waters. At the heart of this shift lies the country's relationship with its southern neighbour. As Prime Minister Mark Carney bluntly observed, "Our old relationship with the United States, a relationship based on steadily increasing integration, is over." This marks not just a rhetorical pivot but a foundational rupture in Canada's approach to security. For decades, Canadian strategy has leaned on the assumption of unshakeable partnership with the United States. That assumption now looks precarious at best.

U.S. President Donald Trump's threats of annexation, however blustering they may appear, have stoked public anxieties and emboldened voices supporting greater defence spending and a rise of Canadian nationalism. What was once considered unthinkable, Canadians debating whether the nation should develop nuclear weapons, has, remarkably, become a topic of mainstream discourse. A decade ago, such proposals would have been dismissed as fringe. Today, those same ideas echo not only in think tanks but also in everyday conversations among friends.

The debate reveals a deeper unease: Canadians are no longer confident in their traditional security beliefs. Yet the question of what truly keeps Canadians safe demands vision, leadership, and the active engagement of civil society. As my colleague Jessica West notes in this issue, civil society itself is under immense strain and even attack — and it needs support.

A World in Disorder

The shifting context is global as well as bilateral. In early September, Chinese President Xi Jinping hosted a military parade marking the 80th anniversary of the end of the Second World War and the defeat of Japan. Flanked by Russian President Vladimir Putin and North Korean leader Kim Jong-un, Xi declared that the world faces a choice between "war or peace." The display of authoritarian solidarity appears aimed at signalling a new order. Meanwhile, President Trump's unpredictable diplomacy has alienated not only adversaries but also long-standing allies. For middle powers like Canada, the sense of a world slipping into disorder is palpable.

In this environment, Canadians are grappling with profound questions: Can the country continue to rely on American security cooperation? Should Ottawa pour scarce resources into new weapons systems? And what does sovereignty mean when technological disruption, climate instability, and great-power rivalry all erode the foundations of security?

Defence Spending Increases

For years, Canada's North Atlantic Treaty Organization (NATO) allies have criticized its low levels of defence spending. Successive governments, Liberal and Conservative alike, resisted raising expenditures to the 2% target, in part because it remained deeply unpopular with the Canadian public. Project Ploughshares has long argued that such spending targets are arbitrary benchmarks that do not inherently reflect the actual security needs or values of citizens.

The new NATO target —5% of GDP, with 3.5% on defence and 1.5% on related security spending — marks an even greater leap for Canadians. Yet recent polling suggests a shift: a growing majority now believe Canada should strengthen its ability to defend its borders, even without assuming U.S. backing. According to Nanos polling from July 2025, 52% of Canadians support meeting NATO's 2% defence spending target, while 32% would back an increase to 5%.

The debate over increased spending is not new, but the urgency is. Ottawa faces calls to invest not just in conventional forces but also in cyber defence, space security, and AI-enabled military technologies. Some argue that without these investments, Canada risks becoming irrelevant in both NATO and North American defence arrangements. Others warn that pouring money into expensive platforms risks crowding out essential social spending, which defines our national identity and which Canadians rely on for well-being in their everyday lives.

What is actually needed for Canada's defence and security of its population is the key question, as support for increased defence spending will likely wane as economic pressures continue, tariffs and trade uncertainty lead to growing unemployment, and social spending cuts start impacting the public.

The Nuclear Temptation

The most striking and concerning shift in discourse is the renewed discussion of nuclear weapons. For decades, Canada prided itself on being a champion of nuclear non-proliferation, playing constructive roles in arms-control negotiations and supporting international disarmament regimes. That record had become less stellar over the last two decades as Canada became increasingly less active and engaged on nuclear disarmament. Still, the suggestion that Canada should pursue its own deterrent signals the depth of insecurity gripping the national psyche.

Supporters of a Canadian nuclear option argue that in a world where authoritarian states brandish nuclear threats and America's reliability wavers, only an independent deterrent guarantees sovereignty. However, for nearly 50 years, organizations such as Project Ploughshares have demonstrated why this logic provides only a false sense of security. Far from enhancing safety, nuclear weapons make the world far more dangerous.

The need for Canadian voices to educate the public on the risks of nuclear warfare and the catastrophic consequences for humanity and the planet has never been greater.

A Diplomatic Middle Power in a Harder World

Historically, Canada's strengths lay less in hard power and more in diplomacy. From Lester Pearson's Nobel-winning peacekeeping efforts to middle-power bridge-building in multilateral forums, Ottawa carved a role as a broker of compromise. Over the last two decades, though, Canada has largely ridden the coattails of its earlier contributions. In a harsher geopolitical climate, Canada will need to determine its priorities so that various headwinds do not push it in directions that undermine its own interests and security.

One domain where Canada cannot afford drift is the Arctic. Melting sea ice is opening new shipping lanes, attracting resource exploitation, and intensifying strategic competition. Russia has expanded its military footprint in the region. China, styling itself a "near-Arctic state," is investing in polar research and infrastructure. For Canada, the Arctic is both an opportunity and a vulnerability. Defending sovereignty in the North will take more than rhetoric. Investments in infrastructure are a critical example of where increased defence spending could be directed, delivering multiple benefits for the economy, strengthening Indigenous and northern communities, and enhancing national security.

> The need for Canadian voices to educate the public on the risks of nuclear warfare and the catastrophic consequences for humanity and the planet has never been greater.

Technology and Autonomy

Another frontier is technology. AI, drones, cyber tools, and space systems are reshaping warfare. Canada, with its vibrant tech sector, could help steer innovation in ways that uphold ethics, protect civilians, and prevent arms races. But integrating emerging technologies into defence raises thorny questions of ethics, transparency, and accountability. There is growing pressure on Canada to embrace a more flexible approach to acquiring new technologies and speed up procurement, citing lessons from Ukraine. Yet whether those lessons truly fit the Canadian context remains far from clear and demands much closer scrutiny.

At the same time, reliance on American and allied supply chains for advanced technologies underscores Canada's dependency. Semiconductors, satellites, and AI algorithms are increasingly entangled in geopolitical rivalries. Pursuing "sovereign" capabilities may sound appealing, but achieving technological independence is prohibitively costly. Meanwhile, Canada seems to be lining up to join the controversial "Golden Dome" multi-threat defence system, a puzzling choice if deeper integration with the United States is no longer on the horizon. The risk is that Canada ends up neither fully autonomous nor adequately integrated.

Governing in an Age of Anxiety

The larger question is one of governance. Canada's political institutions are ill-prepared for a national-security debate of this magnitude. Public opinion is divided, regional interests clash, and minority governments lack the stability to pursue long-term strategies. The temptation will be to muddle through, spending a bit more on defence here, issuing lofty declarations there, without grappling with fundamental choices.

Yet muddling through may no longer suffice. The combination of an unpredictable United States, assertive authoritarian powers, and disruptive technologies leaves Canada exposed. To preserve sovereignty, Ottawa must rethink its security doctrine from the ground up.

Interestingly, Canada's experience in peacebuilding may offer guidance. As analysts often note, peace processes seem impossible until they succeed and then require painstaking follow-through to endure. The same lesson applies to national security. Building credible defences, strengthening alliances, and investing in diplomacy will require patience, persistence, and political courage.

A Future in the Balance

Canada is not without options. It can strengthen its diplomatic capacity while carving out niche leadership in areas such as Arctic security and responsible AI governance. It can deepen partnerships with like-minded democracies beyond the United States, from Europe to the Indo-Pacific. It can harness its diplomatic tradition to push for guardrails on emerging technologies and renewed arms-control efforts.

But all of these require financial resources and political resolve. Above all, it requires vision and leadership. This in an incredible moment of opportunity for Canada to chart its own course, addressing anxieties and public concerns. Fighter jets and weapons may offer the appearance of strength or reassurance to an anxious public. But it is diplomacy that delivers security. □

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A conversation between Yui Fujiki and Branka Marijan

Reflecting on Hiroshima and the Future of Nuclear Disarmament

This summer, Project Ploughshares was honoured to welcome Yui Fujiki, a young researcher from Hiroshima, to support our work on nuclear disarmament in the lead-up to the 80th anniversaries of the Hiroshima and Nagasaki bombings. Born and raised in Hiroshima, Yui brings a deeply personal perspective to questions of historical memory, peace, and the urgent need to prevent nuclear weapons from ever being used again. Over several weeks, she contributed research and helped shape materials that connect the past to the present, encouraging new conversations about how to build a safer world.

In this conversation with Ploughshares Senior Researcher Branka Marijan, Yui reflects on her experience, what inspires her work, and how younger generations can carry forward the lessons of Hiroshima in today's uncertain world.

Branka Marijan: Yui, thank you so much for sharing your time with us today. Growing up in Hiroshima, you carry a unique connection to its history. Can you tell us what makes the reality of nuclear weapons feel personal for you?

Yui Fujiki: Thank you, Branka. For me, the reality of nuclear weapons has always been close, not just because I was born in Hiroshima, but because the legacy is something you grow up with. You see it in the stories hibakusha (survivors of the bombs dropped on Hiroshima and Nagasaki) continue to share, in the spaces of remembrance around the city, and in the way people talk about peace as something active. The reality of nuclear weapons is personal because it raises universal questions: whose lives are protected, whose voices are heard, and what kind of peace are we really building?

And as I've come to understand more about how nuclear harm has affected other communities, from Indigenous people impacted by uranium mining to survivors of nuclear testing across the Pacific Islands, the issue has grown even more personal. It is about the world we live in, and the shared responsibility we all hold to ensure these weapons are never used again.

BM: This summer you've been researching and helping craft messages that connect Hiroshima's past to the present. What was something you discovered in your research that surprised you or made you see things differently?

YF: One thing that really stood out for me was how often nuclear weapons are talked about in abstract terms like deterrence or national security, without much attention to the real human impact. Even today, people who've been directly affected by nuclear policies aren't always included

in the conversation, and that really surprised me.

As I learned more, I kept thinking about the communities that have been harmed by testing and mining, often without prior consent or compensation. It reminded me of how much of the nuclear story is still untold or unheard in global policy spaces. That shifted something for me. I started to see nuclear disarmament not just as getting rid of weapons but as a question of justice. How do we make sure those most impacted are at the centre of the conversation?

I believe that centring the voices of those most affected is not merely a matter of representation, it is essential to redefining the framework through which disarmament is understood and pursued. When decision-making excludes the lived experiences of impacted communities, we risk perpetuating the very harms disarmament efforts are meant to address.

BM: Many people today see nuclear weapons as something abstract or something that belongs in history books. From your perspective, what's the biggest misunderstanding people have about nuclear weapons today?

Researcher Yui Fujiki, born and raised in Hiroshima, brings a personal perspective to nuclear disarmament research.

YF: I think one of the biggest misunderstandings is the belief that nuclear weapons are just symbolic, or that they're unlikely to ever be used again.

Many people assume that because they haven't been used in war since 1945, the danger has somehow passed. But the truth is, the status quo is fragile. Right now, nuclear weapons are still central to the security doctrines of powerful states. They are maintained, modernized, and prepared for use. The fact that the world continues to treat them as legitimate tools of national defence, even as we face rising geopolitical tensions, makes the risk of actual use much more real than people often realize.

What's also overlooked is that the harm caused by nuclear weapons isn't just hypothetical or historical. From uranium mining to nuclear testing, these weapons have already inflicted lasting damage. So, to me, the biggest misunderstanding is thinking of nuclear weapons as static relics of the Cold War. They are active parts of today's global insecurity, and the longer we treat them as normal, the greater the risk becomes.

BM: You've spoken with young people here and back home. What have you learned about what resonates most with your generation when talking about peace and disarmament?

YF: I've noticed that many young people care deeply about global justice, but they don't always see nuclear weapons as part of that conversation until the connections are made clear. When we talk about how nuclear weapons are tied to colonial histories and environmental destruction, or how uranium mining disproportionately impacts communities, the dangers of nuclear weapons start to resonate in a different way. The concern is no longer just about distant threats or abstract policy; it becomes about fairness, about whose lives are valued, and about systems of harm that are still active today.

I've also found that young people want more than symbolic language. When peace is discussed only in idealistic terms, it can feel disconnected from the realities we're facing. But when we talk about peace as something that requires structural change that challenges the normalization of violence and militarization, it sparks real engagement.

I've seen how young people respond when they're given space to reflect, ask questions, and see themselves as part of the conversation. And

they start feeling a sense of urgency because they understand that the system we've inherited is not sustainable. I believe that peace and disarmament are not abstract ideals, but part of a broader struggle for justice that we have both the right and the responsibility to shape.

BM: This work can be heavy at times. What gives you hope when you think about the future of nuclear disarmament? Are there any small signs of change that inspire you?

YF: Yes, this work can be emotionally heavy at times. But what truly sustains me is the shared commitment I see in the people around me. At Project Ploughshares, I've witnessed how powerful it can be to work alongside others who are equally passionate about the cause. It's inspiring to see how our collective efforts — whether through research, policy advocacy, or public outreach — contribute to a larger movement that refuses to forget the human cost of nuclear weapons. This work may be slow, but it is persistent. The quiet yet vital contributions of individuals who share this common mission give me confidence and remind me that even small actions can create ripples of change.

What also fuels my hope is the way in which the conversation about nuclear disarmament is evolving. Over time, there has been a significant shift from a purely strategic, security-centred conversation to one that more seriously incorporates the voices of those most affected. The inclusion of victim assistance and environmental restoration in the Treaty on the Prohibition of Nuclear Weapons (TPNW) is one example, and it shows a more human-centred understanding of what disarmament should entail.

Sometimes hope is found in the most unexpected places, in the strength of a survivor's testimony, or in the moments of collaboration with colleagues who share your passion. It reminds me that this is not just a political struggle; through solidarity and shared purpose, we begin to pave the way for a more peaceful future.

BM: What simple action would you recommend for a young person who wants to do something about nuclear weapons but doesn't know where to start?

YF: I believe the most meaningful place to begin is with listening not only to facts or policy debates but to the lived experiences of those most impacted. Hibakusha, communities affected by testing, those who have fought for recognition and justice — these voices offer more than history. They offer a way of seeing the world that invites responsibility, humility, and care.

Too often, we are made to feel that action must be immediate or visible to be valid. But the work of peace often begins quietly: in how we choose to remember, in how we reflect, and in how we carry the stories and struggles of others with care and integrity. From this foundation, engagement can take many forms — through writing, education, organizing, or creating space for dialogue in our own communities.

Disarmament is not the responsibility of experts alone. It is collective work rooted in solidarity, historical awareness, and long-term commitment to justice. If you are guided by compassion, curiosity, and the willingness to learn with others, then you are already part of this broader effort. So, rather than asking what you can do alone, ask: Who can I listen? Who can I stand alongside? I believe that this is where meaningful change begins.

BM: As we mark 80 years since the bombings of Hiroshima and Nagasaki, what do you most want Canadians — and the world — to remember or do differently?

YF: I believe what is most needed is not only remembrance, but reflection that leads to responsibility. The legacy of Hiroshima and Nagasaki should not be confined to annual ceremonies but should serve as a lens through which we critically examine how security is defined, whose lives are protected, and whose experiences are left out of mainstream narratives.

For Canadians, and for the international community more broadly, this anniversary is an opportunity to assess our roles within the global nuclear order. This includes reflecting on Canada's historical contributions to the development of nuclear weapons through uranium extraction as well as its current position within NATO, which continues to rely on nuclear deterrence. Canada's continued hesitation to engage meaningfully with the TPNW reflects a broader reluctance to

Nagasaki hibakusha and peace advocate Terumi Kuramori speaks at Simon Fraser University this summer. Researcher Yui Fujiki supports a human-centred approach to nuclear disarmament. *Yui Fujiki*

reconcile commemoration with concrete policy commitments.

It is important to remember that hibakusha have consistently called for action: for nuclear disarmament grounded in human dignity, for recognition of ongoing harm, and for inclusive policymaking. To truly honour Hiroshima and Nagasaki today requires more than an expression of regret. It demands political will, ethical clarity, and a sustained commitment to addressing the structural injustices that have allowed nuclear weapons to persist. Peace cannot be built on memory; it must be built on shared responsibility.

BM: When you're not researching nuclear disarmament, what do you enjoy doing that helps you feel peaceful or hopeful?

YF: When I step away from research, I often find grounding in nature. Walking through forests, hiking along quiet trails, and listening to the sounds of wind, water, birds help me reconnect with a sense of calm and perspective. In those still moments, I'm reminded that the world we are trying to protect is already full of beauty and resilience and that peace isn't just a vision, but something we can observe and learn from in the everyday.

Nature also reminds me that change doesn't always happen quickly or visibly. It happens quietly, season by season, through steady growth, through care, and through connection. And in the same way, I've come to value the people around me with whom I share a sense of purpose, even if we're contributing in different ways. Whether through friendship or collaboration, there is something powerful about walking alongside others who are also trying to live with integrity and hope.

For anyone feeling uncertain about their place, I'd say: Start by noticing what is already around you, the people who care for you, the places that bring you stillness, the values that keep you grounded. I do believe that there is strength in choosing to care, in appreciating those who walk with you, and in trusting that even small, thoughtful acts can move us closer to the world we hope to build.

BM: Yui, your reflections remind us that the stories of Hiroshima and Nagasaki are not just episodes in a history book. They are calls for a world without nuclear weapons. As we mark this solemn anniversary, your words challenge us to listen to survivors, to pass on their lessons, and to act with courage to ensure that future generations never endure the horrors of nuclear war. Yui, thank you so much. □

Canada's Soaring Arms Exports: What the 2024 Numbers Reveal

Written by Kelsey Gallagher

Canada is exporting weapons at some of the highest levels in its history. The latest government report, released in June, shows $2.5-billion in arms exports to countries outside the United States in 2024, including to states with troubling human rights records and those engaged in active conflicts.

Each year, Global Affairs Canada (GAC) publishes its annual report on military exports, detailing the weapon systems and associated components that Canada transferred to foreign countries in the previous calendar year. The 2024 report paints a stark picture: Canada's non-U.S. arms exports were valued at $2.504 billion, the third-highest total on record, surpassed only by 2019 ($4.4 billion*) and 2021 ($3.102 billion).

And that's only part of the story. Because weapons transfers to the U.S.—traditionally, the largest consumer of Canadian weapons—are largely exempt from Canadian export controls, they don't appear in the official report. Yet Project Ploughshares estimates these unreported sales at more than $1 billion annually.

So where are these billions in Canadian weapons going?

Saudi Arabia: Canada's Top Non-U.S. Export Destination

In 2024, Saudi Arabia remained the leading destination for Canadian arms exports, receiving $1.293 billion in military goods. The vast majority of this total, $1.231 billion, was for Light Armoured Vehicles (LAVs) and associated components. These LAVs are manufactured by General Dynamics Land Systems–Canada in London, Ontario.

This ongoing transfer of military hardware is part of the 2014 Canada–Saudi Arabia LAV deal, the largest arms deal in Canadian history. Canada also reports separately to the United Nations and the Arms Trade Treaty (ATT) Secretariat on the number of weapons exported. In 2024, these filings show that 63 individual LAVs were sent to Saudi Arabia.

Canada's arms exports to Saudi Arabia, which are largely, but not exclusively, LAVs, have faced intense scrutiny by the Canadian public and civil society. This is not only due to the Saudi government's troubling human rights record, but also because of Saudi Arabia's deployment of Canadian LAVs in the Yemeni civil war, a conflict that resulted in

the deaths of an estimated 377,000 people. Further highlighting these concerns, the UN Group of Eminent Experts on Yemen named Canada as a country that was fueling the civil war through its continued shipment of arms to combatants.

Canada's Arms Transfers to Germany

Beyond Saudi Arabia, European states are also major recipients of Canadian weapons. In 2024, Germany was the second-largest non-U.S. recipient of Canadian military goods, with exports totaling $186.5 million.

The largest category of these exports, valued at $51.2 million, was "Ground vehicles and components" (Heading 2-6 of Canada's Export Control List). It is likely that some of these armored vehicles were ultimately sent to Ukraine as military aid via Germany.

Following this, the next-largest categories were military software, valued at $45.5 million, and military aircraft and components, at $21.2 million. Canada's annual filing to the UNROCA for the same year confirms a transfer of a single aircraft from Canada to Germany for use by German security forces, which corresponds with the latter export category.

Canadian Military Aid to Ukraine

The third-largest non-U.S. recipient was Ukraine, which received direct arms transfers valued at $172.6 million. The largest weapons categories outgoing to Ukraine were ground vehicles and components ($141.5 million), small arms and associated components ($23.8 million), and ammunition and associated components ($5.5 million).

Since Russia's full-scale invasion of Ukraine in February 2022, Canada has provided billions of dollars' worth of military goods to Kyiv, mostly in the form of military aid. Unlike traditional arms exports, military aid is managed and delivered by the Department of National Defence through a separate regulatory process that typically does not require traditional export permits. As a result, the total value of these transfers is not always included in Canada's annual report on military exports, which means the country's true export volume is understated.

From Systems to Components: Making the ATT Work

On August 26, at the Conference of States Parties to the Arms Trade Treaty (ATT) in Geneva, Senior Researcher Kelsey Gallagher spoke at a Control Arms coalition side event on treaty compliance in the years since the war in Yemen.

Kelsey spotlighted a critical gap: while the ATT regulates the transfer of full weapons systems, the parts and components that make them work often slip across borders with far less scrutiny.

Without stronger oversight, these loopholes risk undermining the treaty's central goal: reducing the human cost of irresponsible arms transfers. By pressing states to act, Kelsey underscored Ploughshares' role in pushing for comprehensive, accountable arms trade governance.

"Parts and components must be regulated to the same degree as the full systems in which they are integrated."

Senior Researcher
Kelsey Gallagher

In 2024, Canadian military aid to Ukraine that was not captured in the reported $172.1 million included 277 units of Mk-83 bombs, chassis for both Coyote LAVs and M113 armoured personnel carriers, and 184 units of LAU-7 guided missile launchers.

Türkiye: A Renewed Arms Trade Relationship

Another major development in 2024 was the renewal of Canadian arms exports to Türkiye.

In 2020, Canada suspended the transfer of weapon systems to Türkiye after it was revealed that the Turkish government had diverted Canadian technology to its ally Azerbaijan for use in the invasion of Nagorno-Karabakh. The equipment in question—L3Harris Wescam CMX-15D targeting sensors, mounted on Turkish-made Bayraktar TB2 drones—was used to guide airstrikes during the conflict. In the years before the 2020 export freeze, Türkiye had procured hundreds of millions of dollars' worth of these systems, which were also diverted to other conflict zones, including Libya, in violation of a standing UN arms embargo.

> “While the Annual Report often highlights significant arms transfers to individual countries with problematic human rights records, a broader trend is also apparent: Canada’s total arms exports to the rest of the world are growing.

Yet, following pressure from the Turkish government, in 2024, Türkiye was the next-largest non-U.S. recipient of Canadian military goods, receiving $107.8 million. Since 2024, Canada has transferred more than $100 million worth of targeting systems alone to the country. While GAC has stated that these renewed exports are supported by end-use assurances, Türkiye's past disregard for end-use controls raises questions about the reliability of new promises.

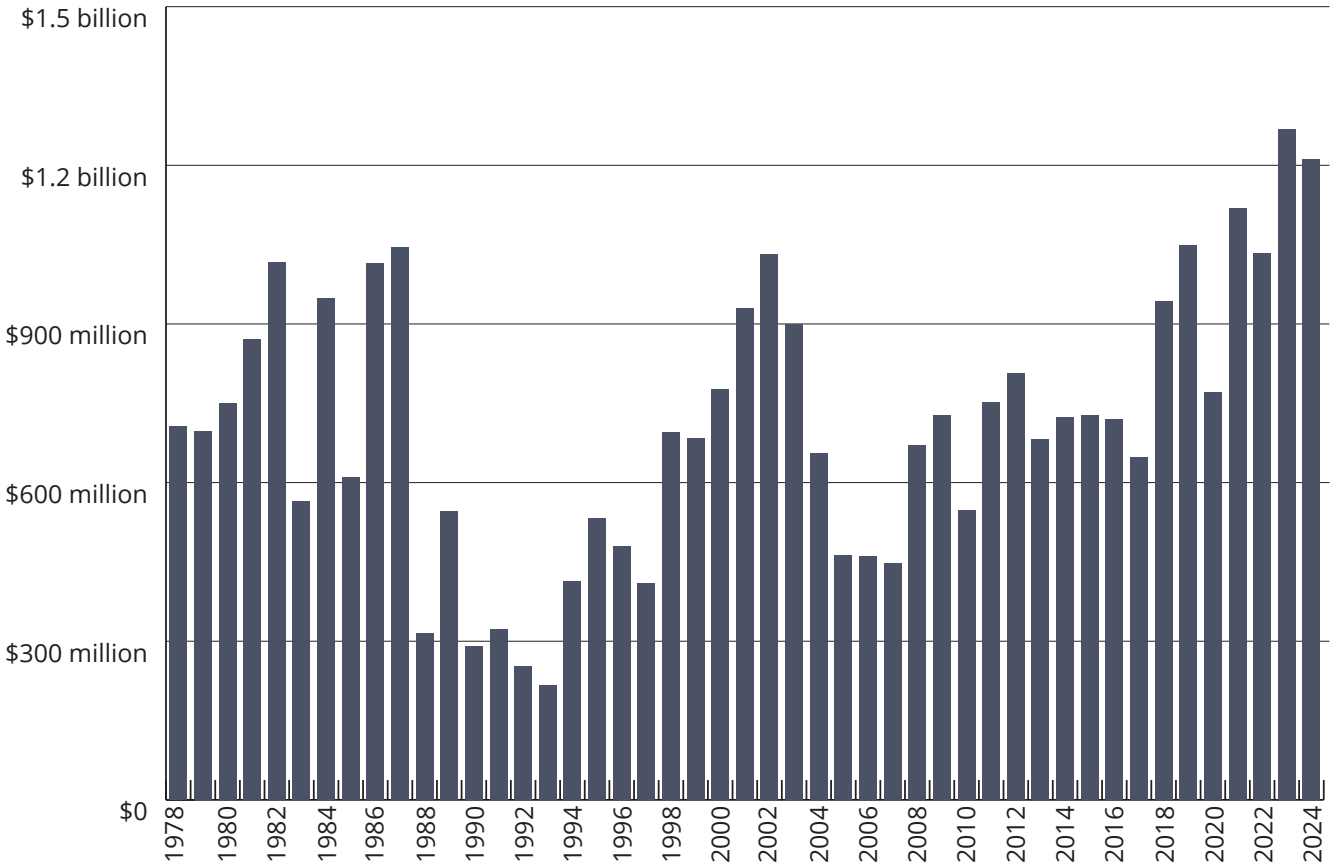
Canada’s Partial Pause on Arms to Israel

In January 2024, GAC paused the issuance of new arms export permits to Israel. This decision followed a record year for Canadian military exports to Israel in 2023, valued at over $30 million. The pause was prompted by Israel’s conduct throughout the war in Gaza, which, at the time of publication, has killed more than 60,000 Palestinians. Due to Israel’s flagrant violation of international humanitarian law throughout the conflict, it is widely understood that transferring arms to Israel that could be used in Gaza constitutes a violation of Article 7 of the ATT.

Despite the suspension of new export permits at the beginning of the year, arms transfers to Israel in 2024 still totaled $18.9 million. This significant amount was possible because the January 2024 decision only stemmed the authorization of new permits, and had no effect on transfers that had been authorized prior to the pause. Although this represents a reduction of more than one-third compared to 2023, the value of exports in 2024 still exceeded almost all previous years on record.

Canada's suspension on new export authorizations to Israel has several limitations. It does not affect previously authorized transfers, allowing shipments to continue throughout 2024. Additionally, it does not cover indirect arms transfers to Israel through the United States. A key example of this is Canadian-made components integrated into American-made F-35 combat aircraft, of which Israel is an eventual recipient.

Total Canadian Non-U.S. & Non-Saudi Arabian Arms Exports (2024)



Canada's Growing Arms Industry and Beyond

While the Annual Report often highlights significant arms transfers to individual countries with problematic human rights records, a broader trend is also apparent: Canada's total arms exports to the rest of the world are growing.

This trend is exemplified by isolating the arms export data for Saudi Arabia, the largest non-U.S. recipient of Canadian weapons, due to its outsized value. After 2023 ($1.268 billion), the value of Canada's military exports to all other international customers in 2024 was the highest on record, with total transfers exceeding $1.21 billion.

This trend illustrates Canada's growing role in global defense procurement, particularly with its European allies and within the context of the war in Ukraine. And as the target for NATO military expenditures has recently risen to a massive 5% of GDP, it is only likely that Canada's arms exports will continue to grow in markets other than Saudi Arabia.

Scale, Scrutiny, and Consequences

Canada's arms exports are expanding faster than ever, with record exports even beyond Saudi Arabia. This growth ties Canada more closely to conflicts abroad and forces a reckoning with how its weapons trade aligns with its values and global reputation. □

**All values are in Canadian dollars (CAD). Values originally reported in years prior to 2025 are represented in constant CAD (2024) and therefore may appear larger than when initially reported.*

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Venture Capital and the Militarization of Innovation

Written by Branka Marijan

Defence budgets are ballooning across much of the world. The Stockholm Institute for Peace Research (SIPRI) has noted the 10th consecutive year in the rise of global military expenditure to $2,718 billion in 2024. SIPRI called this level of spending "unprecedented" in their April 2025 news release. That headline figure is striking enough. But another river of money, less visible but also transformative, is reshaping the security landscape: the surge of venture capital (VC) into defence technology.

According to McKinsey, in 2024 venture capital investment in defence grew by 33%, reaching $31 billion. As *The New York Times* notes, Silicon Valley stalwarts, once wary of working with the Pentagon, have discovered their patriotic and profit-making instincts. Andreessen Horowitz pushed $500 million into defence tech in 2023. American investors are leading, but Europe is catching up fast. In 2024, VC investment in European defence and security startups rose to about $5.2 billion, with no indication that interest is slowing. The other major hubs for defence technology include Southeast Asia and the Gulf states.

The U.S. Context

The enthusiasm among tech companies in the U.S. is also striking. Barely six years ago, tech companies distanced themselves from defence. Google employees protested against Project Maven, also known as the Algorithmic Warfare Cross-Functional Team, launched in April 2017 to improve the ability of the U.S. Department of Defense to analyze drone footage. As a result, Google decided not to renew the contract when it expired in 2019.

Today, the mood in Silicon Valley is different. *The New York Times* has called it the "militarization of Silicon Valley." Though Silicon Valley roots are closely tied to the Pentagon, there had been a growing gap between the defence and tech sectors in the last few decades, culminating with employee protests. But this employee activism has dwindled amid a crackdown on employees who speak out on various issues.

Three trends are converging to create a cascading effect. First, the technology sector itself, after years of hesitation, has embraced the defence market. Motivations range from patriotism to fear of falling behind in great-power competition. Second, venture-capital firms sense opportunity.

In 2018, Google employees protested against Project Maven, also known as the Algorithmic Warfare Cross-Functional Team, launched in April 2017 to improve the ability of the U.S. Department of Defense to analyze drone footage. As a result, Google did not renew the contract. This photograph shows a protestor holding up a sign stating Google's motto: Don't Be Evil, at an earlier protest about net neutrality. *Protest at Google by Steve Rhodes CC by 2.0.*

Conflict in Ukraine, tensions in East Asia, and the promise of hefty government contracts are a reality. Third, the dual-use nature of many emerging technologies, AI, drones, quantum computing, offers investors the best of both worlds: scaling to lucrative military contracts today, commercial applications tomorrow. The result is momentum that feeds on itself: rising defence budgets, swelling venture-capital flows, and a flood of start-ups promising to redefine modern warfare.

Cutting Through Hype

Company executives are increasingly comfortable with defence partnerships, and some openly embrace the role of technology firms in the future of warfare. Alex Karp, Palantir's outspoken chief executive, is a regular fixture at high-profile defence gatherings. Eric Schmidt, the former Google boss, warns that Western governments must innovate faster or risk ceding technological leadership to China. Their voices carry weight—amplified by both money and influence.

The influx of venture capital brings risks as well as resources. Elke Schwarz, a scholar at Queen Mary University, warns of "hyperbolic" claims by firms eager to win contracts. Schwarz discuss how the ethos of the start-up world, move fast, disrupt, and market aggressively, does not sit easily with military culture, where reliability, accountability, and procurement rules are paramount. Nor does it mesh well with the democratic values that underpin many of the governments buying this technology.

The contrast is visible at gatherings such as the Responsible Military AI Summit. Tech companies showcase miniature robots for participants to drive around, or video demonstrations of uncrewed sea vehicles. Their executives often take centre stage. Government officials, experts and

human rights advocates often outline the very challenges that the technology is ill-prepared to address such as the need to de-escalate conflicts, address any harm caused and ensure stability. The spectacle highlights both the promise and the problem: firms with limited track records in combat, or its aftermath but well-honed marketing skills dominate discussions about the future of warfare.

For governments, the challenge is to resist being dazzled by hype. Procurement decisions made in haste, under pressure from lobbyists and investors, risk leading to costly failures, or worse. A malfunctioning weapon that harms civilians should concern all stakeholders, including venture capital firms. While some investors are committed to responsible practices, and concerns about defence investment have softened in recent years, there remains broad recognition that this is a uniquely sensitive sector requiring heightened scrutiny. The $1 trillion Golden Dome initiative shows how industry—and the investors behind it—can shape weapons programs before governments have even set their requirements.

> “Company executives are increasingly comfortable with defence partnerships, and some openly embrace the role of technology firms in the future of warfare.

Democratic Accountability

This debate is not only about efficiency but about values. Defence innovation is too important to be left to unchecked capital flows. Democratic governments must ensure that military adoption of emerging technologies does not outpace ethical oversight.

Transparency builds public trust. If citizens suspect that venture capitalists are shaping national security in closed rooms, confidence in both government and military will erode. Clear guidelines and independent oversight help demonstrate that decisions are made in the public interest, not in service of private profit.

International cooperation is also vital. NATO, the European Union, and Canada all face similar challenges. Shared guidelines for evaluating venture-backed defence firms could help prevent a race to the bottom in procurement standards. Canada, with its tradition of arms-control advocacy, is well placed to push for such standards.

Defence ministries must therefore develop sharper tools for assessing claims, testing systems, and regulating partnerships. They must also grapple with the broader implications of private capital shaping military innovation. As money pours in, so does influence. The priorities of investors may not align with national security, let alone humanitarian law.

Ways Forward

Venture capital is reshaping the defence landscape. It claims to bring dynamism, speed, and innovation. But it also brings hype, lobbying, and risks that governments cannot afford to ignore.

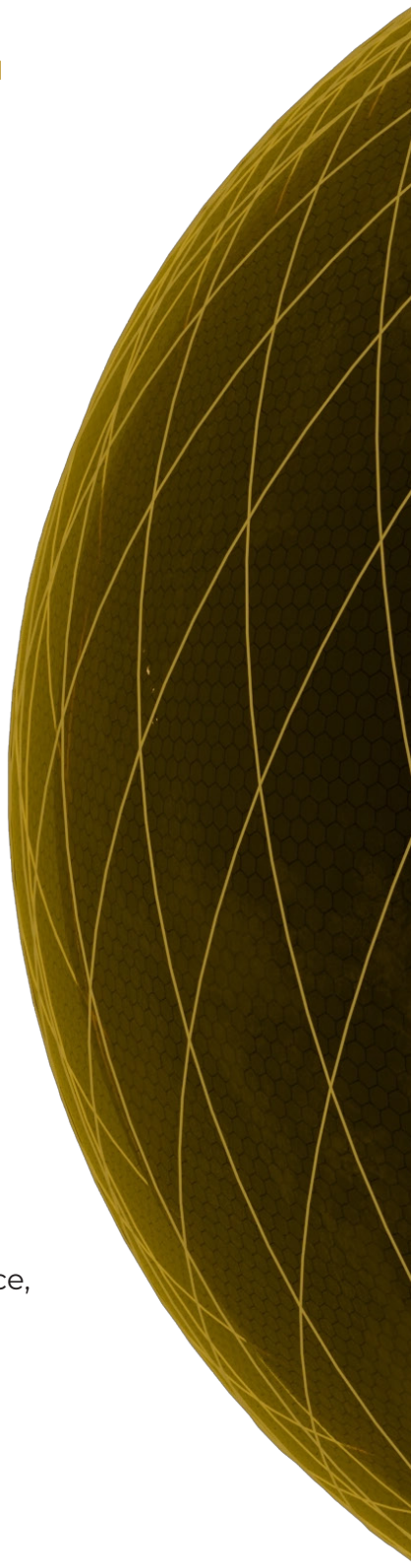
Unchecked, the militarisation of new technologies will be guided by the imperatives of profit rather than prudence. When technologies fail in war, the costs are measured not only in dollars but in human lives.

Governments must therefore establish clear guidelines, demand transparency from firms, and build the capacity to scrutinize claims. Only then can they harness the benefits of private investment while safeguarding democratic accountability, humanitarian values, and national security.

Venture capital can help win contracts. But without oversight, it risks turning defence into a spending race that serves industry and investors, not security. □

GOLDEN DOME

5 KEY TAKEAWAYS

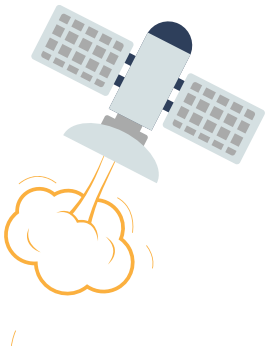


Prepared by Kathryn Barrett and Tasneem Jamal

In January 2025, US President Donald Trump signed Executive Order 14186, directing the development of a sweeping new missile defence system called Golden Dome.

While still in the early stages, the plan envisions a vast, multi-layered shield extending from Earth into space, capable of intercepting everything from drones to nuclear missiles.

Here are five key takeaways:



1. WHAT IS GOLDEN DOME?

Launched by President Trump in January 2025, Golden Dome is an ambitious U.S. missile defence plan—the largest ever proposed.

It involves a multi-layered shield extending from Earth's surface into space, designed to intercept drones, hypersonic weapons, and nuclear missiles, particularly from Russia and China.

2. How much will it cost?

Initial estimates place Golden Dome's cost around $175 billion.

However, because it includes advanced space-based interceptors, the true price could soar past **$500 billion**—making it among the most expensive weapons programs in history.

3. Main concerns: risks of an arms race in space

Golden Dome raises serious global security concerns:

- ⚠ Deploying armed interceptors in space could provoke a new arms race.
- ⚠ It undermines strategic stability, potentially prompting other nuclear-armed states to build larger arsenals.
- ⚠ Weaponizing space conflicts with longstanding international norms and treaties.

4. Is Canada involved?

Canada has been invited to participate, with Trump having floated a potential Canadian share of up to $71 billion.

Joining would mark a significant shift in Canadian policy, reigniting debates from 2005 when Canada previously rejected involvement in similar missile strategic defence plans.

Canada's participation would also raise diplomatic, financial, and strategic questions for future defence policies.

5. KEY TECHNICAL CONCEPTS

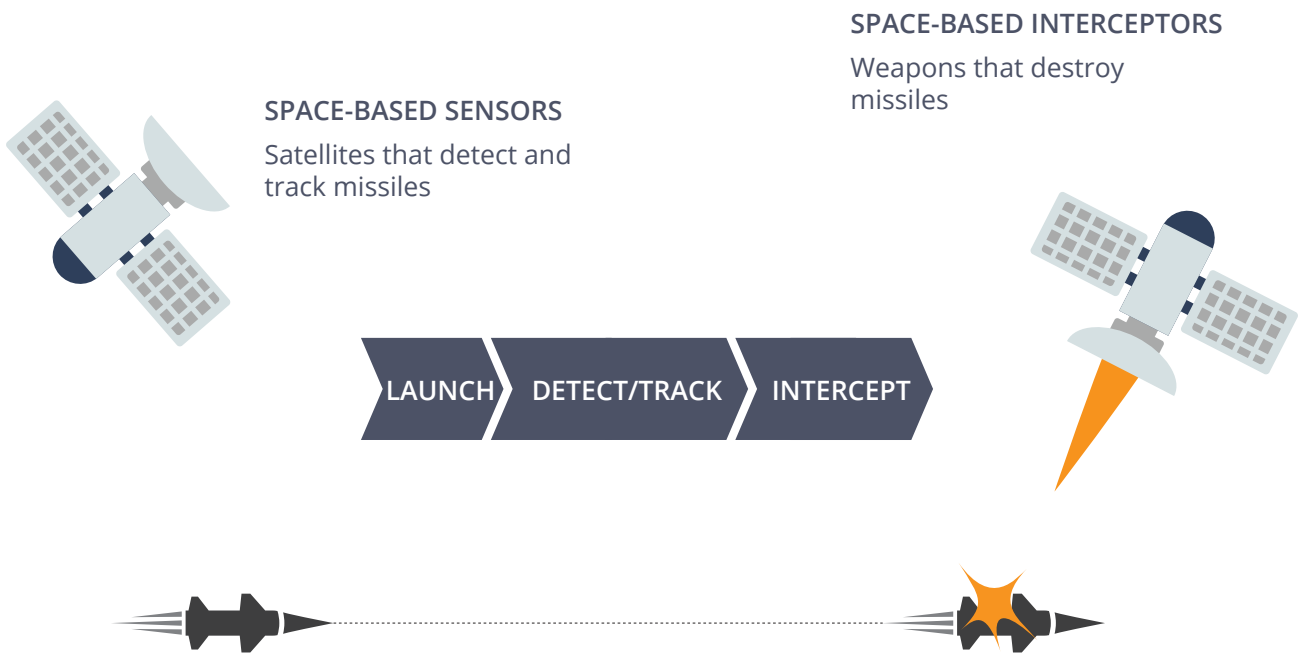
Golden Dome combines several controversial technologies:

» **Space-Based Sensors:** Satellites to spot and track missile launches in real time.

» **Space-Based Interceptors:** Armed satellites aimed at destroying missiles in their boost phase, requiring thousands in orbit.

» **Layered Defences:** Backup interceptors on land and at sea for midcourse and terminal phases.

» **Systems Integration:** Rapid fusion of data from multiple domains, demanding heavy automation.



Kathryn Barrett was Project Ploughshares Summer 2025 Peace Research Intern.

SPACE-BASED SENSORS VS. INTERCEPTORS

Absent Voices, Fragile Diplomacy: Rethinking the 'End of NGOs'

Written by Jessica West

Geneva, July 2025

In the chilled UN meeting room, on the final day of the Open-Ended Working Group on the Prevention of an Arms Race in Outer Space (PAROS), the chair invited civil society to speak. The microphone stood waiting. No one rose. Where NGOs once provided expertise and advocacy to the room, there was only silence—a glimpse of what diplomacy looks like without them.

That silence was not disinterest. It reflected the hard calculus civil society now faces: is there enough substance to justify showing up? Will the doors be open, and if so, will there be any real chance to participate? For NGOs under pressure to show impact with scarce resources, these are not abstract questions. They decide whether the high cost of being present is worthwhile. In this case, the answer was no.

Beyond the Golden Age

On the surface, the PAROS working group in Geneva seemed to confirm a wider story. In Foreign Affairs, Sarah Bush and Jennifer Hadden declared the "end of the age of NGOs," arguing that the post–Cold War golden age of influence has given way to stagnation, shrinking budgets, and state repression. Indeed, although United Nations Resolution 79/512, which established the OEWG on PAROS, explicitly provided for observer participation, the question of NGO access became one of three issues—along with the agenda and programme of work—that derailed substantive discussion in the first session.

In July, when the Chair proposed accrediting a list of NGOs, Iran argued that participation should only be permitted "within a clear principle and well-defined framework." Russia warned that NGOs must not "politicize" the group or "undermine" interstate discussions, and insisted their role remain "strictly subsidiary." Some states pushed back. Brazil called for a more open approach, Canada pressed for NGO input during substantive debates, Ireland highlighted the importance of inclusivity, and Samoa stressed that small delegations rely on NGO expertise.

But in the end, states agreed to confine NGOs to a single statement on the last day of the session. One organization—the Centre for Security Studies at ETH Zurich—was anonymously vetoed. Participation had become contested and constrained.

This could be read as proof that the "golden age" is over. But this is not a story of retreat. Civil society is not disappearing; it is adapting. The megaphone of public campaigning may be harder to wield, but that was never the whole picture. Today, campaigns are complemented by

Why Space Security Matters

At the United Nations in Geneva, negotiations on space security are teetering between constraint and convergence. Senior Researcher Jessica West has been at the forefront, analyzing how global diplomacy will shape the rules of outer space.

In a recent article for the Centre for International Governance Innovation (CIGI), Space Security in Geneva: Between Constraint and Convergence, Jessica West (with Victoria Samson) reflects on the fragile state of multilateral diplomacy, particularly within the UN's Open-Ended Working Group (OEWG) on the Prevention of an Arms Race in Outer Space (PAROS).

Key insights from Geneva:

- **Two-track diplomacy:** Progress on both legally binding commitments and voluntary norms is bridging political divides.
- **Civilian protection:** Satellites that power GPS, communications, and navigation are increasingly vulnerable to disruption.
- **Shrinking NGO role:** Civil society access is narrowing, weakening independent expertise and oversight.
- **Looking ahead to 2026:** Weapons in orbit and civilian protection remain on the agenda, keeping hope alive.

"Threats to civilian infrastructure are central to any real understanding of space security."

Senior Researcher
Jessica West

Space security is not an abstract debate. It touches everything from the safety of humanitarian operations to the stability of daily services on Earth. Jessica West's work ensures Canadian voices as well as civil society perspectives remain part of these crucial global conversations.

quieter but equally vital forms of work: independent research, convening dialogue, building capacity, and grappling with sensitive or long-term issues—ethical, humanitarian, or political—that states often avoid. These roles rarely draw headlines, but they are what keep international cooperation moving when politics stall.

The Connective Tissue of Peace

Nina Tannenwald once argued that with the collapse of formal arms control, norms would be the only thing holding restraint together. Civil society is part of that fabric. We carry forward values and expectations of restraint when formal agreements falter. We provide expertise—technical, legal, and policy—that states draw on. We preserve continuity when government officials rotate out. We bridge divides by convening actors who cannot meet formally and by engaging across political lines. We also connect with publics, helping governments secure the mandate to act.

Civil society is not on the margins of diplomacy. We are woven through the process itself, linking knowledge to governments, publics, and communities of practice. Our role is not glamorous. It is patient, often invisible, and always hard work. But it is essential. Civil society is the connective tissue that allows diplomacy to endure in fractured times.

That is why the silence in Geneva was so striking. The absence of NGOs did not mean the expertise and engagement had vanished. It meant diplomacy was proceeding without the thread that holds cooperation together.

Civil Society's Quiet Power

Civil society has never been stronger in terms of expertise. Our technical, legal, and policy depth now rivals that of states. We bring agility, institutional memory, convening power, and the ability to connect research to practice—turning knowledge into cooperative action. Yet these strengths remain precarious without sustained support. Most NGOs operate without core funding, surviving on short-term project grants. The result is fragmentation and competition when what is most needed is collaboration.

Meanwhile, philanthropic resources often flow more easily to universities and research centres with their endowments and infrastructure. NGOs rarely have those advantages. Our value is different: we convene across divides, sustain continuity between negotiating cycles, and carry public interest into processes that might otherwise remain narrowly state-to-state. These are roles that cannot be outsourced, and they require recognition and support in their own right.

> "Civil society has never been stronger in terms of expertise. Our technical, legal, and policy depth now rivals that of states. We bring agility, institutional memory, convening power, and the ability to connect research to practice—turning knowledge into cooperative action.

The challenge is that much of this value is hard to see. Campaigns generate headlines and metrics; convening experts or preparing smaller states to take part in complex discussions does not. Yet this quiet work is what sustains cooperation when politics are fragile, and it is where civil society has become indispensable.

For donors, the opportunity is not only to keep this work alive, but to multiply its impact. Funding collaborative platforms and long-term expertise allows NGOs to share resources, broaden participation, and ensure that independent knowledge continues to shape international cooperation, even when official channels falter.

Breaking the Silence

The microphone that stood waiting in Geneva was more than a procedural detail. It was a warning of what diplomacy looks like when civil society is absent: narrower, slower, and less accountable.

Diplomacy is often imagined as the work of states alone. But in practice, it depends on a wider fabric of actors. Civil society is part of that connective tissue. We carry values and dialogue across divides, sustain memory when governments change, and keep cooperation alive when official channels fracture.

This moment should not be mistaken for decline. Civil society's role is evolving. Our expertise is deeper, our convening more critical, and our continuity more essential than ever. Just as norms of restraint help hold arms races in check when treaties collapse, civil society sustains the practices of dialogoue and cooperation that keep diplomacy alive.

The way forward lies in collaboration—across NGOs and with donors who understand that this work is not a luxury but an essential part of international peace. Supporting collaborative platforms and long-term expertise strengthens the foundation of global cooperation.

If governments and donors invest in this connective tissue, diplomacy will be more resilient, inclusive, and effective. That is how we break the silence of Geneva. □

Jessica West is a Senior Researcher at Project Ploughshares. She can be reached at jwest@ploughshares.ca.

Strategic Unpredictability in Space

Senior Researcher Jessica West speaks at the 2025 UNIDIR Space Security Conference in Geneva, Switzerland. *Courtesy of Jenny Wilkes-Thiel, CIGI*

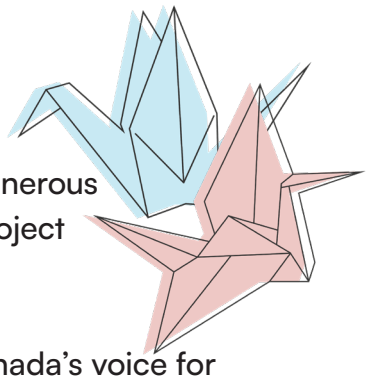
At the 2025 UNIDIR Space Security Conference, Jessica West opened a new panel on strategic unpredictability in the space domain with a simple but urgent question: why this panel now?

Space has long carried Cold War baggage — escalation, deterrence, misperception. But what makes today different is the way these dynamics are converging in orbit, entangled with new technologies, shifting doctrines, and fragile governance.

Unpredictability can come from many sources: a technical glitch, a maneuver that looks threatening, doctrines linking space to nuclear deterrence, or gaps in dialogue that leave too much to interpretation. As West noted, "any of these can turn tension into escalation and escalation into conflict." Add in the blurring of fact and fiction in orbit, and the risks multiply.

The panel reflected this complexity, bringing together experts in nuclear strategy, military doctrine, multilateral diplomacy, and missile technology. Jessica underscored that unpredictability is not only a strategic challenge but also a human one. Escalation in orbit has consequences that cascade back down to Earth, touching infrastructure, security, and civilian life.

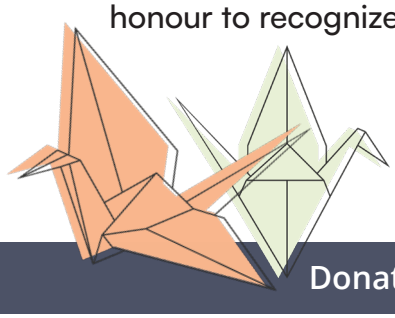
Investing in Peace – Inspiring the Future



We are deeply grateful to **The Simons Foundation Canada** for their generous commitment to nuclear disarmament through continued support of Project Ploughshares.

Their investment has strengthened global accountability, amplified Canada's voice for peace, and helped foster the next generation of disarmament leaders.

Now more than ever, the world needs bold leadership for disarmament. It is our honour to recognize this partnership in building a safer world.



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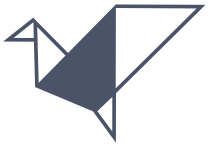

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