

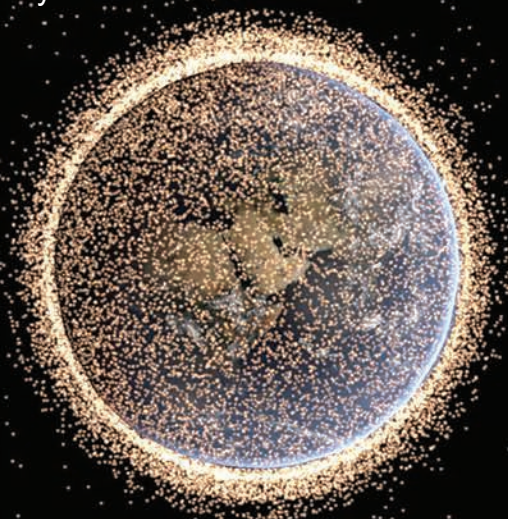
# THE PLOUGHSHARES MONITOR

VOLUME 42 | ISSUE 2

SUMMER 2021

A JOURNEY OF REFUGEES  
The dangers of the Libya-Italy  
crossing

NUCLEAR WEAPONS  
A letter to the Prime Minister



CANADA'S  
ARMS TRADE  
An unparalleled  
look

## Weapons tests in outer space

It's time to ban them

ARTIFICIAL INTELLIGENCE  
AND NATIONAL DEFENCE  
Using tech responsibly

WEAPONS TO TURKEY  
Lessons from Canada's  
recent export cancellations

*"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*

## SUMMER 2021

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COVER: This image was rendered using the SATCAT catalog from NORAD data. Every point represents a piece of space debris in the NORAD catalog in 2014. CC BY-SA 3.0

The Ploughshares Monitor  
Volume 42 | Issue 2

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*The Ploughshares Monitor* is the quarterly journal of Project Ploughshares, the peace research institute of The Canadian Council of Churches. Ploughshares works with churches, nongovernmental organizations, and governments, in Canada and abroad, to advance policies and actions that prevent war and armed violence and build peace. Project Ploughshares is affiliated with the Kindred Credit Union Centre for Peace Advancement, Conrad Grebel University College, University of Waterloo.

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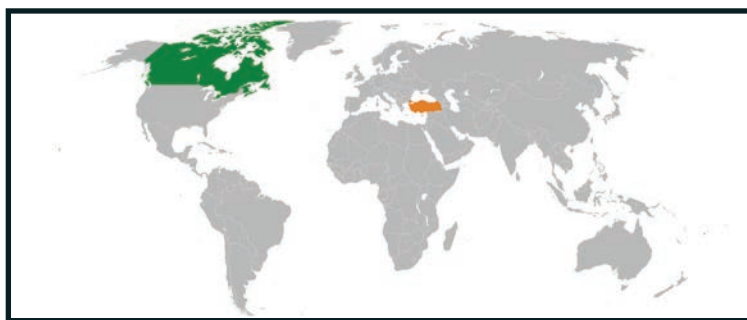
## From the Director's Desk

# 5 lessons from the cancellation of Canadian arms exports to Turkey



Written by Cesar Jaramillo

On April 12, Global Affairs Canada (GAC) announced the cancellation of 29 permits for the export of Canadian-made surveillance and targeting sensors to Turkey. The decision was based on what GAC described as “credible evidence” that the exports in question were being unlawfully diverted by Turkey to the conflict in Nagorno-Karabakh. The same report that announced the cancellation indicated that Turkish drones had also been diverted to support Turkish military operations in Syria.



### History of violations

Several months before the cancellation was announced, Project Ploughshares had argued in various forums—including before the House of Commons Standing Committee on Foreign Affairs and International Development—not only that optical sensors produced in Ontario by L3Harris WESCAM were used by Azerbaijan in attacks against Armenian targets in Nagorno-

Karabakh, but also that they had been found in other conflict zones, including Syria, Iraq, and Libya. Other civil society groups and some media outlets had made similar denunciations or echoed the Project Ploughshares claims.

In the view of Project Ploughshares, the continuation of these

exports to Turkey would have posed a substantial risk of violations of human rights and international humanitarian law. And so, the cancellation of export permits to Turkey

is certainly a welcome decision, even if it could have been made sooner. Given the weight of the evidence, this was the only path available for Canada to take if it were to comply with domestic and international arms controls.

### Lessons learned

There are important lessons to be learned from this episode, some of which speak to worrying shortcomings in the implementation of Canadian exports controls. Among them:

1

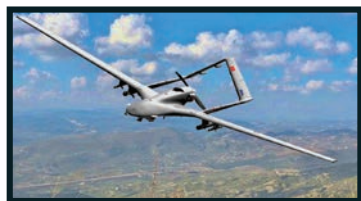


## GOVERNMENT PROACTION

Civil society and the media first identified and drew attention to Turkey's diversion of Canadian arms exports—not the Canadian government. This raises questions not only about Canada's willingness to effectively implement export controls in the absence of public pressure, but also about its ability to monitor its own exports. Would Canada still be exporting weapons technology to Turkey had the government not been alerted to its misuse?

It is important that Canada develop measures and enhance capacity to ensure adherence to end-use and end-user assurances by recipients of Canadian military exports; this would include a careful examination of existing post-shipment verification and inspection frameworks used by other State Parties to the Arms Trade Treaty (ATT), which Canada joined in September 2019. If civil society with a fraction of government resources can obtain this information (as Project Ploughshares did), surely the Government of Canada can.

2



## RISK

Contrary to repeated statements by government officials, the threshold for denying arms export permits is risk of misuse. No conclusive proof of misuse is required to deny these permits under Canadian and international law. The word

3



## PARLIAMENTARY OVERSIGHT

It works and we need more of it. The fact that the House Foreign Affairs Committee undertook a study on “granting of arms exports, with a particular focus on permits granted for exports to Turkey” can reasonably be linked to the government decision to cancel the relevant permits, which was announced during the course of this parliamentary study. Project Ploughshares has called for the establishment of a permanent sub-committee of the Foreign Affairs Committee to review Canadian military exports, policy, and adherence to the Export and Import Permits Act (EIPA) and the ATT.

4



## SCRUTINY

The cancellation of arms exports to Turkey raises important questions about Canadian pol-



“

There are important lessons to be learned from this episode, some of which speak to worrying shortcomings in the implementation of Canadian exports controls.

icy coherence. While this decision is consistent with Canada’s obligations under domestic and international law, Canadian-made weapons are still being exported to other suspicious recipients, such as human-rights pariah Saudi Arabia. Why?

port controls. Adhering to the rules is not about some ethereal notion of taking the moral high ground—even as there are clear ethical implications to arms exports decisions. It is ultimately about compliance with the law. And the law, both domestic and international, demands an objective, reliable system that is free from political interference and economic calculations.

5

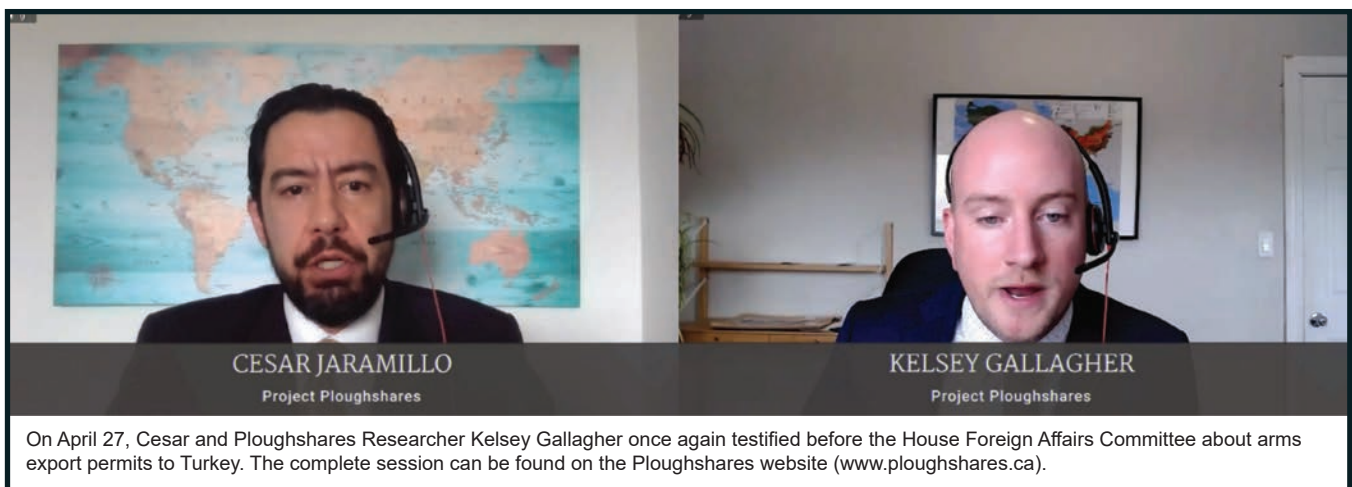


## THE LAW

The Canadian government must fully recognize the legal underpinnings of Canadian arms ex-

### Taking the higher road

In recent years, a disconcertingly high proportion of Canadian arms exports have gone to questionable recipients that presented a clear risk of misuse, including Turkey, Saudi Arabia, Israel, and Colombia. It is time for Canada to rectify past errors and embrace truly effective controls that ensure that Canadian exports do not help to sustain autocratic regimes, contribute to regional instability, exacerbate armed conflict, or enable the violation of human rights. □



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## Sales to Turkey

# An unparalleled look into Canada's arms trade



Written by Kelsey Gallagher

In October 2020, the House of Commons Standing Committee on Foreign Affairs and International Development (FAAE) began a study into the export of Canadian weapons to Turkey, following Turkey's illicit provision of Canadian arms to Azerbaijan in the Nagorno-Karabakh conflict.

Just before Canada halted certain weapons exports to Turkey in April 2021, the FAAE committee released nearly 1,000 pages of government documents on Canada's arms deals with Turkey. Although heavily redacted, the documents provide an unmatched look into the Canadian arms trade, including previously confidential memoranda to the Minister of Foreign Affairs, hundreds of pages of internal correspondence by Global Affairs Canada (GAC), and never-before-seen Canadian export permits for weapon systems.

Many lessons will be learned from this wealth of new evidence—and many questions raised. Here, we begin what will doubtless be an ongoing study with the examination of Canada's evolving response to Turkey's military interventions, beginning in 2019.

### Canada's evolving response to Turkey

The issuing of new permits to export Canadian weapons to Turkey was first suspended in October 2019, after Turkey invaded northern Syria. At

that time, the Canadian government determined that there was a risk that the invasion could increase regional instability, exacerbate the already fragile humanitarian situation, and roll back progress against ISIS.

In April 2020, GAC introduced a list of “exceptional circumstances” that would exempt certain arms exports to Turkey from the suspension. At first, those circumstances centred on use in NATO operations. However, as time went on, the list grew well beyond the bounds of the alliance.

As well, by the spring of 2020, Turkey's incursion into Syria was being touted by the federal government as the reason to approve the export of Canadian-made WESCAM surveillance and targeting sensors to Turkey, for use by Turkish military forces in Syria. According to a Memorandum for Action (BPTS:01794-2020) signed by then Minister of Foreign Affairs François-Philippe Champagne on May 1, 2020, the Turkish occupation of northern Syria wasn't increasing instability; rather, it was providing a barrier against a potential Syrian government offensive into the region, thus “protecting civilians.” (It should be noted that the memo explicitly states that the exports were not being used “in support of a NATO cooperation project,” although such a project was the only exception publicly listed at the time.)

The assessment in the memo failed to adequately address the many alleged violations of interna-


tional humanitarian law (IHL) perpetrated in the region by militias that had been deployed by Turkey. Such violations were only possible because of Turkey's operations in the region, which were, in turn, made more effective by Turkish use of WESCAM sensors. This direct link between militia activity in the region and WESCAM sensors makes militia activity a valid topic for analysis when assessing the risks related to weapons exports to Turkey.

The memo also indicates that Canadian officials ignored contemporary reports from the UN and Amnesty International that determined that Turkish airstrikes in Syria had very likely violated IHL by, among other acts, targeting civilian sites, almost certainly with the same kind of WESCAM surveillance and targeting sensors that were again being made available to Turkey. Instead, these officials determined that there was "no substantiated evidence of the Turkish military committing human rights violations in Syria."

In a September 2020 Memorandum for Action (BPTS:03389-2020), presented to the Minister

of Foreign Affairs only weeks before the latest eruption of conflict in Nagorno-Karabakh, GAC introduced four new items to the list of exceptional circumstances. In one case, exemptions to the export suspension could now be justified if the withholding of exports posed "especially negative impacts on bilateral relations" that could "impact Canada's foreign policy, security and/or defence interests." Under this particular exception (designated "Exception: D" on the export permits), GAC suggested that a total of 34 arms exports to Turkey should be permitted, with more than half for WESCAM sensors.

The addition of "Exception: D" followed nearly constant pressure from Turkish officials to resume the delivery of Canadian weapons, according to this September memo. Canadian officials noted that the suspension of "export permits destined to Turkey had become a bilateral irritant." GAC also argued that Canada's withholding of weapons from Turkey could disrupt "allies' efforts to prevent Russia from driving a wedge between Turkey and other NATO partners."



**PANELISTS**

Kenneth Epps, Policy Adviser, Project Ploughshares

Anthony Fenton, Researcher and PhD candidate, York University, Toronto

Allison Pytlak, Programme Manager, Reaching Critical Will, Women's International League for Peace and Freedom

Moderator: Kelsey Gallagher, Researcher, Project Ploughshares

**A PROJECT PLOUGHSHARES WEBINAR: CANADA AND THE ARMS TRADE**

Held in February, available on Ploughshares YouTube channel

According to Kenneth Epps, Canada exports arms worth billions of dollars each year. The exact amount and value are not known, partly because Canada exports mainly components and parts, which are often not monitored, and partly because an agreement between Canada and the United States—historically Canada's largest arms customer—has for decades kept most arms deals between the two hidden from public view.

However, in 2019, Canada exported more arms to Saudi Arabia than to any other country, largely due to the 2014 deal for light armoured vehicles (LAVs) produced by General Dynamics Land Systems-Canada. But Anthony Fenton points out that Canada also exports rifles and engines and surveillance equipment to the Saudis. Some Canadian arms have been illegally diverted to conflict zones; Fenton sees "ample evidence of a Canadian footprint in or around the Yemen conflict."

The panelists agree that Canada needs to "get away from export dependency."

It must stop exporting arms to countries that violate international humanitarian law and human rights, and that engage in gender-based violence. Canada is launching a feminist foreign policy, which, according to Allison Pytlak, means "applying a feminist lens to all matters of foreign policy." According to her, such a policy is "completely incompatible" with selling arms to Saudi Arabia.

Pytlak sees civil society playing a positive role in making governments meet their obligations. As Epps notes, Project Ploughshares still has work to do.

Canadian officials suggested that Canadian weapons, then prohibited because of concerns about human rights violations, be exported to Turkey expressly to offset potential damage to bilateral relations. This ruling illustrates a dangerous politicization of Canada's export controls regime.

Under the Arms Trade Treaty (ATT), Canada, as a State Party, must assess the risk of human rights violations when exporting weapons, in a "consistent, objective and non-discriminatory manner." In line with the treaty, Canadian export regulations do not allow for political, geostrategic, or other extraneous considerations when calculating the risk that a given export will result in IHL violations, facilitate gender-based violence, or be diverted. The risk assessment process, as the cornerstone of Canada's export control regime, must be objectively implemented according to law. No other considerations should have sway.

### Canadian sales to Turkey continue

In April of this year, Canada cancelled 29 weapons export permits to Turkey. Most were for WESCAM sensors and the product of an unnamed company. All other existing weapons export permits to Turkey remain in place. Much of the content of those permits, although heavily redacted, was made public in the documents released by the FAAE committee.

Many permits are for aerospace goods, such as mechanisms by Mississauga's Curtiss-Wright Indal Technologies that assist in the landing of Turkish SH-70 helicopters; and full mission flight simulators by CAE, one of Canada's largest military manufacturers, that will train Turkish air force pilots. Some permits are for Honeywell Limited generator control units that will be used in Turkish T-70 helicopters; while exporting these units presents "some risks pertaining to the final end use of this equipment," officials still raised "no objections" to these exports.

Several export permits relate to small arms and light weapons, and ammunition. Magnum Integrated Technologies has outstanding permits to supply parts for production lines that manufacture the "cups, cases, bullets and primers" for rifle ammunition. ELCAN Optical Technologies, a sub-

siary of Raytheon, has valid permits to supply "riflescopes, weapon sights, and their parts and components" to "multiple destinations," including Turkey.

Other permits relate to armoured vehicles. Horstman Systems Inc. exports parts for the suspension units in Turkish-made "Pars" armoured vehicles. There are also permits related to the "testing and training of light [armoured vehicles] within Turkey, for end user Saudi Arabia"; all other information pertaining to this permit, aside from the date, has been redacted.

### Questions raised by this new evidence

Many valid exports to Turkey have been found by GAC to pose a "medium risk" of violating human rights or being diverted to an unauthorized third party. The concept of "medium risk" was not defined in the documents. Under Article 7 of the ATT, if there is found to be a substantial risk that weapons will violate international humanitarian or human rights law, exports of such weapons shall not be authorized, unless those risks can be mitigated.

Export assessments also found that, for several potential exports, there was a "medium risk" that weapons would be diverted to Libya, which would breach the UN arms embargo against that country. Article 11 of the ATT requires State Parties to seek out mitigating measures when potential arms exports are at risk of diversion. It is not clear how Canadian officials have attempted to mitigate such risks.

### A valuable cache of information

The documents released by the FAAE committee shine a light on the convoluted, often confusing history of Canada's arms sales to Turkey. More broadly, they offer insights into the inner workings of the Canadian arms trade, which should prove useful in future analysis of Canada's arms exports.

It is believed that the FAAE committee could soon release several thousand more pages of information on arms exports. Nothing in recent history has offered as much transparency into Canada's material contributions to contemporary conflicts. □

*Kelsey Gallagher is a Researcher at Project Ploughshares. He can be reached at [kgallagher@ploughshares.ca](mailto:kgallagher@ploughshares.ca).*



## Forced Migration

# A journey of refugees: From Libya to Italy

Written by Kirsten Mosey



In the 21<sup>st</sup> century, Italy has responded in radically different ways to the many migrants and refugees who have sought shelter on its shores. In 2013-2014, Italy launched the Mare Nostrum rescue operation, which saved more than 130,000 lives at sea. However, for much of the period, Italy has tried to prevent migrants from reaching its shores and has even returned them to unsafe and life-threatening situations. Valuable insights into the current treatment of migrants, particularly in the wider European context, can be achieved by examining recent interactions between Italy and Libya. Indeed, this particular case highlights a necessary reframing of responses to migration at a global level.

### Libya: A portal for migrants

In 2011, Arab Spring protests in Libya turned violent and quickly grew into a civil war. A variation of that war has persisted, with thousands killed each year.

Prior to the war, Libya drew migrants from the rest of Africa—people seeking jobs created by a booming oil industry or wanting to join family. As Libya descended into instability and violence, life became precarious for them. With

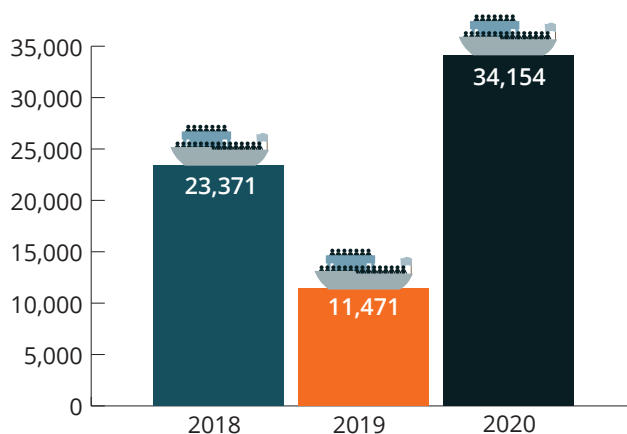
repatriation either unsafe or impossible, many turned to Europe to provide a safe haven.

In recent years, many migrants from outside Libya have also traveled through Libya on their way to Europe, even though they risk a terrible fate in Libya's detention centres. In some ways, accountability gaps and instability created by war have opened the doors for this unregulated migration.

When the Libyan Coast Guard carries out search-and-rescue (SAR) operations, it returns any asylum-seekers rescued at sea to Libya. But the national government is not in control of the entire country and local militias also carry out many SAR operations. So, migrants who are taken from the rescued boats could be detained in official or unofficial centres, in government- or militia-controlled territory. In any of these cases, resisting detainment can be fatal, as was the case in July 2020, when three Sudanese teenagers were killed by militia members.

The life of migrants in Libya is unrelentingly bleak. According to Amnesty International's 2020 in-depth report on migrant conditions in Libya, abuse runs rampant. Every person interviewed reported multiple instances of kidnapping for ransom, torture, rape, and imprisonment.

Refugees and migrants who arrived in Italy by sea, 2018-2020



SOURCE: UNHCR

Some migrants and refugees are transferred from official to unofficial detention centres, such as the infamous “Tobacco Factory” in Tripoli. Thousands of migrants have gone missing from these unofficial centres. Others—more than 5,000 in 2020—are unlawfully deported. Some are caught in the conflict between warring parties, as in the May 2020 shooting of 200 migrants that left 30 dead. Migrants who can’t afford to pay ransom or smuggling fees often stay in Libya for years. For none of them is Libya a safe haven.

### Italy: An unwilling host

In recent years, Italy has been overwhelmed by the number of refugees and migrants. According to the United Nations Refugee Agency, since 2014, nearly 700,000 asylum-seekers have successfully crossed the Mediterranean Sea to Italy. Even before then, Italy had sought to limit the number of migrants who landed on its territory, many of whom crossed the Mediterranean from Libya.

In 2008, Italy and Libya signed a friendship treaty—a multi-billion-euro deal in which Italy promised to pay reparations for colonizing Libya in exchange for cooperation on migration control. In effect, Libya agreed to the return of migrants who reached Italy from Libya.

A 2012 decision by the European Court of Human Rights in the case *Hirsi Jamaa and Others v. Italy* determined that conduct carried out under this agreement, such as Italian boats push-

ing Libyan craft back to Libya, violated international obligations not to return individuals to countries where their human rights were at risk, also known as the principle of non-refoulement. As it happens, Italy had suspended the friendship treaty in early 2011 as violence increased in Libya.

In 2016, Italy began building up the physical capabilities of the Libyan Coast Guard, providing speedboats, training, personnel, and funds. Then, in 2017, the UN-recognized Government of National Accord in Libya submitted an application to establish its own SAR region in the Mediterranean. The SAR designation requires that migrants and refugees be returned to a place of safety.

The EU and Italy fully endorsed the Libyan SAR, even after the application had to be withdrawn and resubmitted for not meeting minimum safety requirements, and despite arguments by nongovernmental organizations (NGOs) that Libya, with a well-documented history of the abuse and disappearance of migrants and refugees, could not be considered a place of safety.

The Italian Coast Guard then committed to significantly reducing their fleet’s presence in the Mediterranean, citing concerns that they would be interfering with Libya’s sovereign SAR region.

In 2018, Italy and Libya reactivated the friendship treaty.

Recently, Italy has criminalized the actions that NGOs like Doctors Without Borders and

Save the Children have taken to rescue migrants from the Mediterranean. In March of this year, Italy charged more than 20 individuals running these rescue operations with human smuggling.

In these and other ways, Italy has been able to avoid technically violating the principle of non-refoulement. But, by not ensuring that asylum-seekers crossing the Mediterranean are admitted to a protected location, Italy has effectively shifted its responsibility to untrustworthy and sometimes illegitimate forces. As we have shown, the result is that returned migrants are exposed to high levels of danger and abuse.

Italy's actions reflect poorly on the entire European Union. The EU's failure to deliver a unified and compassionate approach to migration has cost lives and further burdened hundreds of thousands of the world's most vulnerable humans. Moreover, this policy failure has put undue pressure on a select few member states that have been the first point of contact for many migrants.

While we might have expected the COVID-19 pandemic to shut down migration across the Mediterranean, the reality is that sea arrivals in Italy increased threefold—from 11,471 in 2019 to 34,154 in 2020.

### Viewing migrants through a new lens

Refugees and migrants are being viewed by many Europeans as burdens to be offloaded as quickly as possible. What would change if they were seen, first, as fellow humans deserving of respect, dignity, and a safe home? If they were not seen as drains on resources but as assets in the fight to defeat the pandemic and to rebuild a better Europe?

Surely, it is time for the EU to implement basic rights for all asylum-seekers arriving in Europe. The New Pact on Migration and Asylum and the Global Compact on Refugees could inspire European reform.

Needed immediately are an orderly disembarkation system, compensation for countries of first arrival, and participation by all member states in an

equitable system that distributes claimants.

Documented abuses in Libya's detention centres and the validity of Libya's SAR region must be investigated and the abuse stopped, whenever possible.

Ultimately, migrants who cross the Mediterranean from north Africa and end up in Italy and Greece are not the responsibility of Italy and Greece alone. They are not even the sole responsibility of the European Union. Refugees and migrants are the responsibility of us all. Surely, it is past time for countries such as Canada to assist in finding permanent, sustainable homes for all those who seek a life of peace and safety. □



### A CHAMPION FOR DISARMAMENT

In mid-April, Ploughshares research assistant Kirsten Mosey, in her role as a United Nations Youth Champion, participated in a virtual UN panel on "the intricate link between disarmament and development."

In a 10-minute presentation, Kirsten focused on how to get youth interested in disarmament. The pandemic, she claimed, has shown youth that all people are not treated equally. Among the most vulnerable are those in refugee and displacement camps. Many have ended up there because of armed conflict, fueled by the arms trade.

While youth are generally not aware of disarmament issues, Kirsten believes that they can be shown how disarmament links to causes they care about, like rights for LGBTQ+, Black Lives Matter, and climate change. Fewer guns equate to greater safety for persecuted minorities. The abolition of nuclear weapons can be linked to efforts to reverse climate change.

Ultimately, Kirsten claimed, youth need hope—they need to know that other worlds are possible. Change happened in the past and can happen again. Youth can be part of that change.

*In winter term, Kirsten Mosey was a research assistant with Project Ploughshares and the Kindred Credit Union Centre for Peace Advancement.*

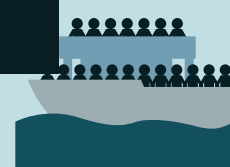
# CENTRAL MEDITERRANEAN MIGRATION ROUTE



They go first to Libya, despite its harsh treatment of migrants.



From there, migrants board overcrowded and barely sea-worthy vessels to cross the Mediterranean.



## NATIONALITIES ARRIVING IN EUROPE AFTER DEPARTURE FROM LIBYA

BANGLADESH



SUDAN



SOMALIA



MOROCCO



CÔTE D'IVOIRE



The primary nationalities that reached Europe through Libya in 2020 were Bangladeshis (27%), Sudanese (19%), Somalis (9%), Moroccans (8%), and Ivorians (5%).

ERITREA



GUINEA



MALI



NIGERIA



SENEGAL



**11,981**  
Migrants who were sent back to Libya by the Libyan Coast Guard in 2020

## LIBYA'S MIGRANT DETENTION CENTRES

Libya has not had a functioning government since 2011. State security forces—including the Coast Guard—consist primarily of cash-strapped militias. Migrant detention centres are controlled by whichever armed group holds sway in the area.

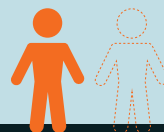


Migrants are tortured, extorted, and “disappeared” with no recourse to justice.

Some migrants go through cycles of incarceration in Libya. Others are allowed, after some time and suitable bribes, to continue to Europe.



Many vessels are intercepted by the Libyan Coast Guard and passengers returned to Libya.



There they can be subjected to indefinite and arbitrary detention, torture, extortion, and abduction, by state forces, militia, and criminals.

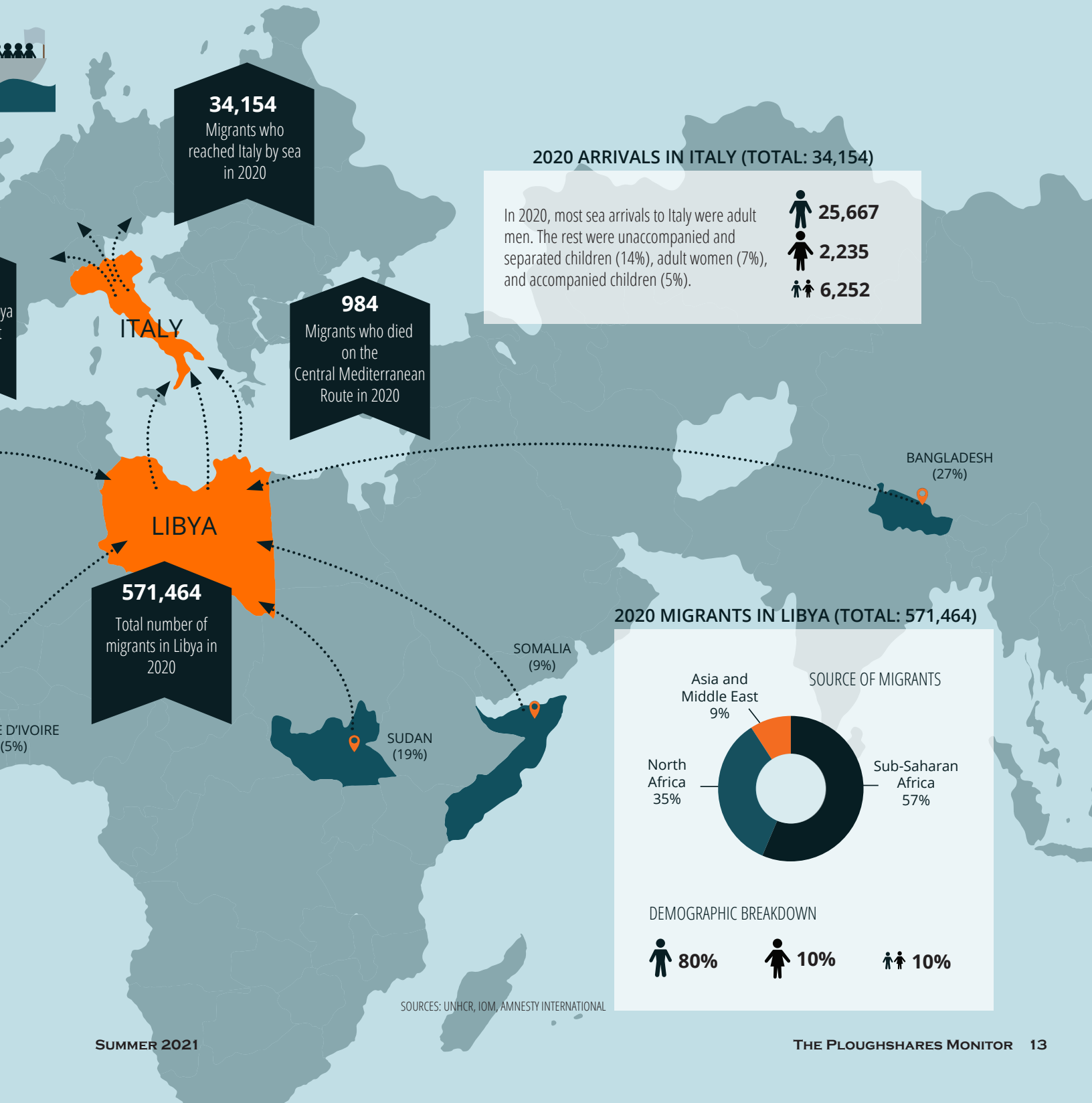
MOROCCO (8%)

CÔTE



Each year, thousands of people leave their homes, desperate to find safety in Europe. Most come from north and sub-Saharan Africa, the rest from the Middle East and other parts of Asia.

Research: Kirsten Mosey      Design: Tasneem Jamal



## A letter to the Prime Minister on nuclear weapons

*In May, the Steering Committee of Canadians for a Nuclear Weapons Convention, a project of the Canadian Pugwash Group, wrote a letter to Prime Minister Trudeau, requesting a “substantive response” to detailed concerns about the increasing threat of nuclear-weapon attacks. The letter was signed by the Hon. Douglas Roche, O.C.; Dr. Jennifer Simons, C.M.; Ernie Regehr, O.C.; Dr. Adele Buckley; Bev Delong; and Project Ploughshares Executive Director Cesar Jaramillo. The full letter can be found on the Ploughshares website.*

*From the letter, excerpts from “a set of concrete proposals for Canadian action.”*

### **The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and its forthcoming Review Conference)**

We note that the 2021–22 Departmental Plan for Global Affairs Canada includes a reference to “strengthening the foundations of international arms control and disarmament, notably to reinforce the NPT.” In this moment, an important way to strengthen the NPT is to challenge nuclear-weapon states to take advantage of the forthcoming review conference to demonstrate a commitment to action on the Treaty’s Article VI disarmament obligations by, at a minimum, taking the following steps:

- Collectively renew their commitment to the “unequivocal undertaking [to]...accomplish the total elimination of their nuclear arsenals,” and “to undertake further efforts to reduce and ultimately eliminate all types of nuclear weapons, deployed and non-deployed, including through unilateral, bilateral, regional and multilateral measures.”
- Reiterate the 1985 statement by U.S. President Ronald Reagan and Soviet leader Mikhail Gorbachev that “a nuclear war cannot be won and must never be fought.”
- Agree to take concrete steps, like de-alerting, to reduce the risks of accidental use of nuclear weapons.
- Acknowledge the need for significantly increased transparency regarding their nuclear arsenals and doctrines, and recognize that nuclear-weapon states are accountable to all States Parties to the NPT for the irrevocable implementation of the disarmament requirement in Article VI.

### **Treaty on the Prohibition of Nuclear Weapons (TPNW) and its January 2021 entry into force**

As a new legal instrument, the TPNW adds nuclear weapons to the list of weapons of mass destruction, along with chemical and biological weapons, subject to legally binding prohibitions. It reflects the urgency with which the majority in the international community view the need for nuclear disarmament action, and it constitutes a formal declaration by a significant portion of the planet (by population and territory) that nuclear weapons are unacceptable on the grounds that their extraordinary humanitarian and environmental consequences put them in violation of International Humanitarian Law and “the principles of humanity and the dictates of public conscience.” The TPNW sets out the legal prohibitions that are mandated by that conclusion and challenges all states with nuclear weapons to bring their national security policies into line with fundamental humanitarian and human rights principles.

The irreversible presence of the TPNW on the arms control/disarmament landscape makes it impossible to credibly ignore the growing legal/moral consensus that any actual use of such weapons would be a crime against humanity and a violation of International Humanitarian Law. The challenge for Canada (and for other “nuclear umbrella” states) is thus to recognize that fundamental changes to their security policies are required to bring them into conformity with the principles of humanity. We encourage Canada to participate as an observer in the forthcoming first meeting of the States Parties to the TPNW.

## **The North Atlantic Treaty Organization (NATO) and the need to challenge its continuing insistence that nuclear weapons and the threat to use them are central to the collective security of its member states**

The requirement to bring security policies into strict conformity with International Humanitarian Law has serious implications for NATO. The alliance’s current Strategic Concept insists that nuclear forces are “the supreme guarantee of the security of the Allies,” but it also commits NATO “to the goal of creating the conditions for a world without nuclear weapons.” Canada has sought, as it explained last year in a statement to the UN First Committee, to reconcile its support for nuclear weapons as essential to its security with its support for “policies and practices to eliminate nuclear weapons.”

The credibility of the Canadian and NATO commitment to a world without nuclear weapons is commensurate with the extent of their willingness to muster diplomatic energy and tangible resources toward that end. As a NATO partner, Canada has both the obligation and the opportunity to press for alternatives to security policies based on threats of nuclear devastation. At a minimum, the Government should thus act on the still relevant 2018 recommendation of the House of Commons Standing Committee on National Defence “that the Government of Canada take a leadership role within NATO in beginning the work necessary for achieving the NATO goal of creating the conditions for a world free of nuclear weapons.” We urge your Government to work with like-minded partners in NATO to revise the Alliance’s Strategic Concept and defence posture to end reliance on nuclear weapons.

One concrete measure of NATO’s commitment to ending its reliance on a nuclearized security posture would be for the European non-nuclear-weapon state members of NATO that now host U.S. nuclear weapons on their territories to end such arrangements and for all U.S. nuclear weapons to be returned to home territory.

Canadian diplomatic engagement should also promote dialogue toward a new kind of relationship between NATO and Russia. Canada should encourage NATO and the United States to undertake ongoing talks with both Russia and China on the conditions and requirements for strategic stability and nuclear disarmament.

## **Public support for Nuclear Disarmament**

Vigorous Canadian engagement on nuclear disarmament would win overwhelming public support. An April 2021 Nanos Poll found 80 percent of Canadians agree that the world should work to eliminate nuclear weapons, and that 74 percent agree that Canada should join the TPNW, with that support level remaining at 73 percent, even in the face of strong pressure from the United States not to do so. That unambiguous support can embolden your Government to recast nuclear disarmament efforts as a national priority.

We are aware that Canada is not in a position, on its own, to bring major influence to bear on the global nuclear crisis. That is true for Canada in any global endeavour, but Canada does have a seat at key tables, including NORAD and NATO, at which nuclear deterrence issues are addressed. Canada has the company of like-minded states at the NATO table and thus the opportunity to seriously explore new directions. □

## Artificial Intelligence

# Responsible AI for defence applications



Written by Branka Marijan

**R**esponsible uses of artificial intelligence (AI) have been featured prominently in recent national discussions and multilateral forums. According to the Organisation for Economic Co-operation and Development (OECD), 60 countries have multiple initiatives and more than 30 have national AI strategies that consider responsible use. However, the use of AI for national defence has not generally been tackled yet.

In October 2020, the United States launched the AI Partnership for Defense with Australia, Canada, Denmark, Estonia, Finland, France, Israel, Japan, Norway, South Korea, Sweden, and the United Kingdom. The intent is to create standards of ethical and responsible uses of AI and, likely, to promote better integration and interoperability among military partners. This effort is widely understood to be motivated by the common desire to respond effectively to the adoption and use of AI by China and Russia.

But the partnership does not mean that all partners agree on all aspects of responsible AI use. Views differ on autonomous weapons, for example. France recently released a position paper that seemed to differentiate between fully autonomous and partially autonomous lethal weapon systems. The label “partially autonomous” obscures the fact that critical decisions, such as the selection and engagement of targets, would

be handled by a weapon system. Canada is presumably committed to maintaining significant human control, as indicated in the Foreign Minister’s mandate in 2019 to support international efforts to ban fully autonomous weapons.

Thus, it seems that the partners will take somewhat different paths to reach the goal of responsible AI.

### How militaries use and plan to use AI

The need to develop norms and legal rules for the use of AI is growing. According to the 2020 U.S. Congressional Research Service (CRS) report *Artificial Intelligence and National Security*, militaries around the world are developing and using AI for, inter alia, the collection and analysis of data, back-end functions such as logistics, and cyber operations. The CRS notes, “Already, AI has been incorporated into military operations in Iraq and Syria,” where the Pentagon’s Project Maven—essentially AI algorithms used to identify targets—was employed.

Project Maven revealed that militaries are actively seeking out AI tools for data analysis and, particularly, recognition of objects and individuals. These tools are largely developed by civilian industry. This point was highlighted in 2018, when employees of Google protested its involve-



ment in Project Maven, particularly the development of algorithms to analyze drone footage.

Employing the commercial sector is problematic for most militaries, because civilian tech is often not ideal in military contexts and serious adjustments are always necessary. Increasingly, militaries are looking to their own defence research arms to develop new technologies, recruiting, as necessary, talent from the outside, and also developing partnerships with AI researchers in universities and industry.

Defence companies have established their own AI divisions, while investing in other capabilities provided by companies that generally focus on the civilian sector. For example, DarwinAI, a Waterloo-based technology company that works on explainable AI, partnered with U.S. defence firm Lockheed Martin in 2020. The intent is to produce military systems in which the decisions made by AI can be penetrated and understood by

the military end-user. The aim is to avoid “black box AI,” which is NOT understood by the user.

Many countries have expressed concern about black-box decisions and proprietary algorithms that cannot be audited. But being explainable is not enough. Even certain explainable functions might need to be regulated or prohibited if they breach international or national laws.

### Is a normative framework emerging?

So far, AI Partnership for Defense members are all committed to AI systems that are safe, reliable, and legal. But they remain tempted by the promise of speedier responses and reduced risk for their fighting forces. The best evidence of their commitment to responsible AI will be seen if they create specific standards, agreements, and regulations that reflect a thorough consideration of the impacts of AI on military operations, in-

## ARTIFICIAL INTELLIGENCE: CHALLENGES AND OPPORTUNITIES

On May 5, experts on the social and ethical impacts of AI met in a virtual Interfaith Forum held in advance of G20 meetings. Concerns were raised that the use of AI could increase disparity, attack personal privacy, disenfranchise the less affluent, engender hopelessness, and further divide the world into haves and have-nots. But AI can also promote good, as in certain uses of social robots, with properly developed policy and regulation. The conclusion: build honest tech inclusively and with intention. Consider whether humans need artificial intelligence (AI) or intelligent assistants (IA).

### WEBINAR

#### PANELISTS

Dr. Peter Asaro, Professor of Media Studies, The New School, New York City

Dr. Kanta Dihal, Senior Research Fellow at the Leverhulme Centre for the Future of Intelligence, University of Cambridge

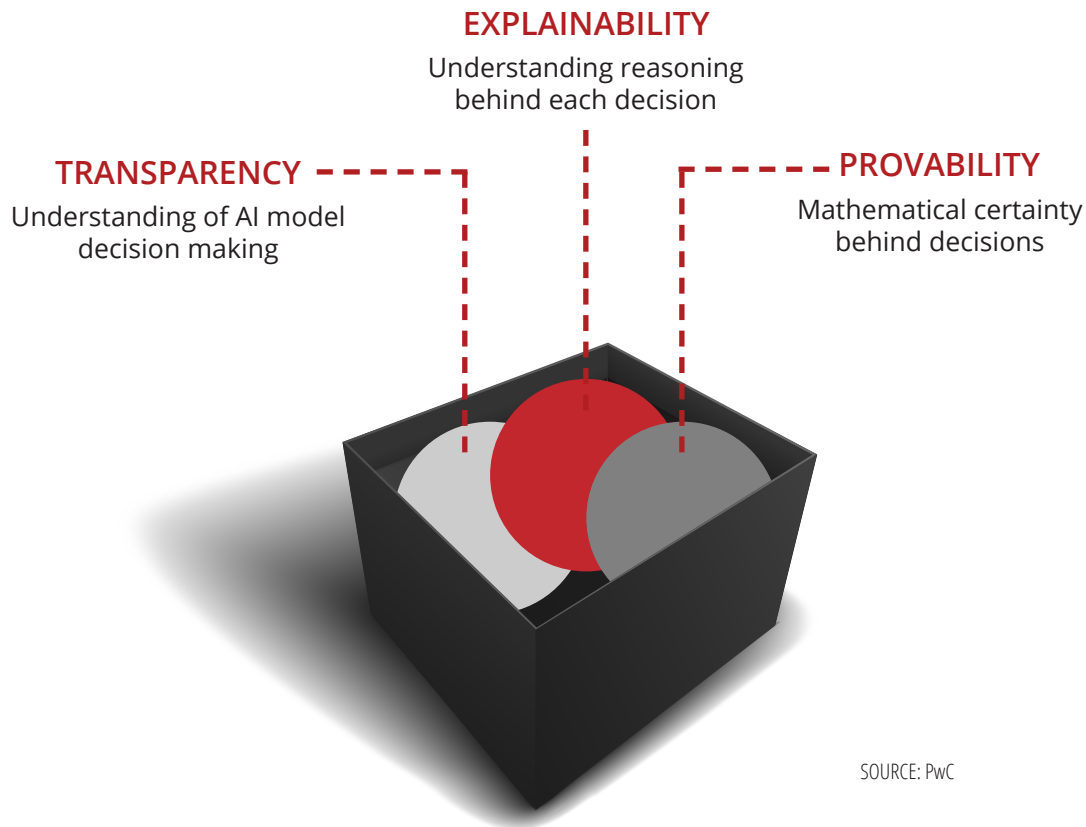
John Markoff, affiliated Fellow, Stanford Institute for Human-Centered Artificial Intelligence

Dr. Selma Šabanović, Associate Professor of Informatics/Cognitive Science, Luddy School of Informatics, Computing, and Engineering, Indiana University

MODERATOR: Dr. Branka Marijan, Senior Researcher, Project Ploughshares

## WHAT IS BLACK BOX AI?

These are essentially models whose decision-making is not understood by humans, including the designers of these systems. The black-box models combine variables in ways that arrive at a prediction or recommended action that cannot be easily disentangled by humans. Using such systems in decision-making in safety-critical contexts and in military operations raises a number of concerns about unpredictable and unreliable decisions and actions. Other concerns focus on who will be held accountable when an AI system makes a mistake or acts in ways that may not have been anticipated.



SOURCE: PwC

cluding global security concerns and the protection of civilians. So, far, after only two meetings of the AI Partnership, there have not been clear indicators on where AI partners will draw their lines in the sand.

Both the European Union (EU) and the United States aim to lead in shaping norms related to responsible use of AI in defence applications. The AI Partners, including Canada, that are still developing national AI policies, particularly on defence, will need to consider EU and U.S. standards.

The developing EU model prioritizes privacy; its General Data Protection Regulation is tout-

ed as an example of responsible AI. But there is not yet one uniform EU model. Germany, which is currently not in the Partnership, is concerned about military uses of AI, while France wants more new tech, including AI, in its military.

The United States seems more interested in interoperability and data sharing among allies. These operations raise questions about national obligations to protect data and how interoperability works between allies whose militaries are adopting AI at different speeds and with varying degrees of willingness. As might be expected, not all U.S. agencies involved with AI view its use by



The developing EU model prioritizes privacy; its General Data Protection Regulation is touted as an example of responsible AI. But there is not yet one uniform EU model.

the military in the same way. At one extreme is the National Security Commission on Artificial Intelligence, an independent U.S. commission es-

pecially with China and Russia.

Canada will need to navigate among these different approaches. Close U.S. ties will make it difficult for Canada to develop policies that do not focus on interoperability. But Canada must attempt to ensure that its own policies are in line with national obligations and serve its own economic interests.

And there needs to be a conversation that goes well beyond the current 13 Partners. A global conversation on the use of AI in defence applications is critical and urgently needed.

The Convention on Certain Conventional Weapons (CCW), which has focused on lethal autonomous weapons since 2014, has been perhaps less successful in achieving regulation than hoped, with no new agreement and talks largely stalled. However, the CCW has allowed a much wider group of countries to better

understand advancements in AI technologies and potential concerns.

Perhaps it is time to consider a different venue for that global conversation to truly ensure responsible applications of emerging technologies.□

“Canada will need to navigate among these different approaches. Close U.S. ties will make it difficult for Canada to develop policies that do not focus on interoperability. But Canada must attempt to ensure that its own policies are in line with national obligations and serve its own economic interests.

established in 2018 that recently released a report calling for a much more aggressive adoption of new technologies by the U.S. military. The report argues that only such an approach will ensure that the United States can compete globally, es-

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## A collection of various mechanical parts and tools scattered on a white background. The items include: a pulley system with a belt; a gear; a hard hat; a power drill; a wrench; a screwdriver; a flashlight; a small motor or actuator; a larger motor or pump unit; a small electronic device or sensor; a large cylindrical component with a control panel featuring three indicator lights (red, yellow, green) and several buttons; and a small metal fitting or connector.



Orbiting our planet are thousands of satellites that are unprotected and can be seriously damaged by even the smallest piece of orbital shrapnel or debris.



### Historical precedents for a ban

Weapons that explode in orbit or that destroy or physically damage satellites (anti-satellite or ASAT) have been tested in space and many have produced debris. In 2020, Secure World Foundation released a spreadsheet documenting all known ASAT tests in space, 15 of which are known to have produced 959 pieces of trackable debris (10 centimetres in diameter or larger). Thousands more pieces too small to track were also created and still pose significant risks to space objects.

States that conduct weapons tests sometimes try to minimize the impact. India characterized its 2019 ASAT test as “responsible”; indeed, India’s Defence Research & Development Organisation claimed that the test produced “no debris.” In reality, at least 40 large pieces of debris were produced, some of which threatened the International Space Station.

But only a few states issued formal complaints. Is it possible that the social prohibition against such activity is waning? More reason to institute a test ban.

There is precedent for such an action. The 1963 Partial Test Ban Treaty included a ban against nuclear explosions in outer space, which had been shown to cause indiscriminate harm while having limited military utility.

The same logic applies to the testing of kinetic or other destructive capabilities in space. All such events produce debris and space junk, which can collide with other objects in space, creating a cascade of damage that not only harms other satellites—including those of the testing actor—but

can, over time, make orbits unusable for anyone. And while the crisis may take time to develop, a few on-orbit collisions or explosions could trigger a swift catastrophe.

Another useful precedent is the 1977 Environmental Modification Convention, which bans military or other hostile use of environmental modification techniques that have widespread, long-lasting, or severe effects. And we can look as well to the current diplomatic effort to protect civilians and civilian infrastructure by banning the use of explosive weapons in populated areas (EWIPA). Importantly, all of these precedents involve a ban on specific behaviours or actions, not hardware or capabilities.

Banning the intentional destruction of objects in orbit is not a new idea. China’s ASAT test in 2008 spurred a call for a ban on debris-producing ASAT tests from the Union of Concerned Scientists. Such a ban is also implied in the model Code of Conduct published by the Stimson Center in 2010. A ban is explicitly included in the draft Code of Conduct proposed (but since abandoned) by the European Union.

Restricting debris is also included in the guidelines for testing ASAT weapons proposed by the UN Institute for Disarmament Research. Banning debris-causing ASAT tests has been a significant focus of debate at the UN First Committee on Disarmament and International Security in recent years. Canada has proposed it as a possible focus at the Conference on Disarmament. And, it has gained renewed support by other leading civil society space experts.



SPACE CAFÉ CANADA: MAY 7, 2021  
**"DOES SPACE NEED MORE CANADA?"**

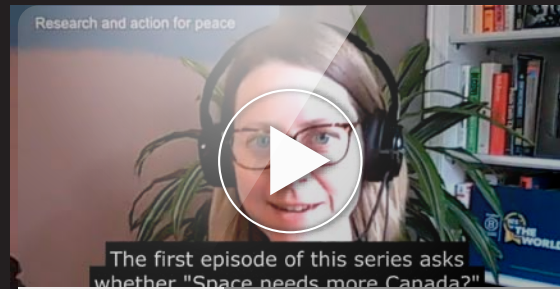
HOST: Dr. Jessica West

GUEST: Dr. David Kendall

In an hour's lively and informative conversation, Jessica engaged with Dr. Kendall. As someone who held senior positions with the Canadian Space

Agency, he spoke about Canada's space accomplishments and what Canada needs to do to recover the momentum that he believes has been lost in the last decade. One key action is to create a high-level body that is responsible for all space policy and activities and reports directly to Cabinet. As a former chair of the United Nations Committee on the Peaceful Uses of Outer Space, he pointed out the strengths and weaknesses of that body and suggested how UN COPUOS should respond to the challenges of outer space governance going forward.

The complete interview can be found on the Ploughshares website ([www.ploughshares.ca](http://www.ploughshares.ca)).



### Linking norms and arms control

Banning the testing of kinetic weapons systems in space is a key way to link behaviour-based governance with arms control. Developing such linkages could help to end the decade-long stalemate between those who want to prevent war in outer space by banning certain hardware in space and those who believe that the best way to achieve this goal is by pursuing transparency, confidence, and other behavioural measures such as norms.

There is evidently support for this linked approach. There has been wide support for a United Kingdom initiative, embodied in United Nations General Assembly Resolution 75/36, which aims to enhance security in space through norms of behaviour. The goal of this initiative is to identify and pursue activities in space that avoid unintentionally making others feel threatened or that are subject to misinterpretation and encourage unnecessary escalation toward conflict. States and civil society organizations responded to this

initiative with a trove of relevant and practical suggestions (the Ploughshares submission can be found on our website at [www.ploughshares.ca](http://www.ploughshares.ca)). And the most consistent theme? The need to prevent the creation of space debris.

Banning intentional activities that create debris, such as weapons testing, rather than specific weapons themselves is a feasible first step for conventional arms control in space. Many pieces of such a ban—including a norm against debris creation—are already in place. Such a ban does not close off all methods of weapons testing, just those that cause debris.

Space debris is a pressing environmental and humanitarian threat in space. One step to easing this threat lies in recognizing the impact of weapons testing and ending such tests. The mess from weapons testing cannot be swept up nor the harm to satellites easily remedied. How much better to act now, before a catastrophe in outer space destroys so much of what we enjoy today. □

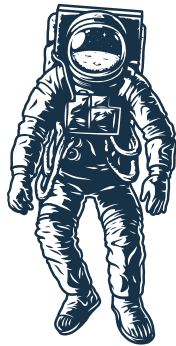
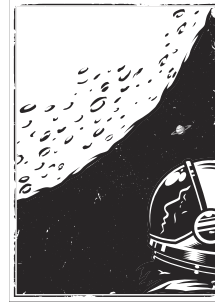
*Jessica West is a Senior Researcher at Project Ploughshares. She can be reached at [jwest@ploughshares.ca](mailto:jwest@ploughshares.ca).*

## PLOUGHSHARES REPORTS

# Canada and the Artemis Accords

Written by Jessica West

What follows is a summary of a report that can be found on the Project Ploughshares website at [www.ploughshares.ca](http://www.ploughshares.ca).



In the last several months, the Canadian Space Agency, as well as civil space agencies from Australia, Italy, Japan, Luxembourg, Ukraine, the United Arab Emirates, and the United Kingdom, have signed bilateral agreements with the United States National Aeronautics and Space Administration (NASA). These agreements are known as the Artemis Accords.

States must sign to participate in the U.S.-led Artemis program, a new exploration program with commercial and international partners, intended to create “a sustainable and robust presence on the Moon” while preparing for a mission to Mars.

The Artemis Accords set out rules of conduct to ensure maximum cooperation and progress. Signatories commit to implementing these principles in their own activities, as well as in the activities of all entities contracted to act on their behalf.

The Accords promote peaceful activities, the registration of space objects with the United Na-

tions, no harmful interference, and the provision of emergency assistance. They encourage transparent national policies and plans, and promote cooperation through common technical standards for interoperability and the release of scientific data.

Participation in Artemis is a central component of Canada’s space strategy and clearly complements its domestic space policy. The 2019 strategy prioritizes niche contributions to space exploration that benefit Canadians, while the 2019 Mines and Minerals Plan calls for policy to support new frontiers for mining, including space. The Artemis program, in turn, stands to benefit from Canadian expertise in space robotics and medicine, and from Canadian financial contributions.

As the details of the Artemis Accords are fleshed out, we believe that Canada—and the other partners—will need to ask some important questions and be prepared to insist on commonly accepted international principles and interests. A top priority should be the preservation of the Moon and the rest of space as a commons that is exclusively peaceful, remains freely accessible, and benefits all humankind.

All partners must remain committed to multilateral diplomacy and an ethos of inclusion—in practice as well as in principle. These values should also be at the forefront of Canada’s domestic space strategy going forward. □

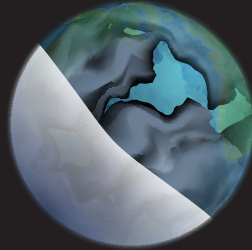
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