The Ploughshares Monitor

WINTER 2013 | VOLUME 34 | ISSUE 4

Can the Arms Trade Treaty curb armed violence?
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Volume 34 | Issue 4

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The Ploughshares Monitor is the quarterly journal of Project Ploughshares, the peace centre 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 Institute of Peace and Conflict Studies, Conrad Grebel University College, University of Waterloo.

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COVER: Gang members pose in the streets of Rio de Janeiro, Brazil. Control Arms
The financial support of our donors in the coming year will be crucial to the future success of Ploughshares’ work. Please consider increasing your support for the vital work of transforming swords into ploughshares—seeking and pursuing peace where armed violence threatens the lives of so many.

Why this appeal now?
Since its beginnings in 1976 Ploughshares has been supported by national institutions, particularly churches, religious orders, and charitable foundations, in addition to a donor base that has grown to more than 5,000 individuals.

The ability to do our work multiplied over the past 15 years when funding for particular projects was made available by the federal government.

Today we face a new challenge. Changed government priorities and federal cutbacks for peace and disarmament work have resulted in the loss of project funding, formerly providing about 40 per cent of our annual operating budget. Such a loss of revenue makes it impossible to maintain our current level of work on peace and security issues, let alone expand our ground-breaking policy and educational work.

The opportunity in 2014 and 2015
In 2014 the Canadian Forces’ mission to Afghanistan ends. This mission has dominated Canada’s security choices since 2001. Canada will be looking at new ways to build international peace and security.

Ploughshares must be ready when this window of change opens. We need to be prepared with new and distinctly Canadian options to prevent and resolve violent conflicts, and to advance conventional and nuclear arms control and disarmament initiatives.

How Ploughshares works
To encourage Canada to play this role, Ploughshares will organize meetings across the country with Canadian experts and international partners. We call it table-setting: getting the right people together to come up with ways to advance peace.

We’ve done it before. In the 1980s we became a leading voice for nuclear disarmament. In the 1990s we talked about “common security” as the Cold War ended. In 2003 we mobilized a loud “No” response to participation by Canada in the invasion of Iraq.

As Canada faced calls to respond to conflicts in the former Yugoslavia, Sudan, Somalia, Afghanistan, Libya, Mali, and Syria, Ploughshares jumped into the public discussion with constructive analysis and concrete recommendations for peacebuilding alternatives.

After the end of the Cold War, Ploughshares supported the evolution of the common security approach into the human security agenda that grounded Canada’s contributions to the development of the global norm of the Responsibility to Protect, the International Criminal Court, the Ottawa Process leading to the Land Mines Convention, and conventional arms control and disarmament processes such as the UN Programme of Action on small arms and the Arms Trade Treaty.

We facilitated the birth of the regional Nairobi Declaration on the control and reduction of small arms in East Africa, and hosted the meeting that founded the International Action Network on Small Arms (IANSA).

We continue to manage the Space Security Index report, a unique resource to discourage the weaponization of outer space and promote the secure access to outer space for all. In all these initiatives, Ploughshares has talked to governments, organized discussions with people who cared, informed Canadians, and encouraged their involvement.

What your support means
With your help, in the next two years Ploughshares will look at emerging security issues, including:

- the role of gender and human rights violations in today’s wars
- a human security response to terrorism
- the impact of drones and autonomous weapons systems
- climate change as a driver of conflict and wars
- the role of religion in conflict and peacebuilding.

Please join us in helping Canada and Canadians work more effectively for global peace and security.
The 20 largest Canadian military contractors were awarded a total of $2.1-billion in prime contracts during fiscal year 2012-13, according to official sources (see Table 1). This year’s total represents a 39 per cent decline from the $3.5-billion contract total for the top companies in the previous year (Epps 2012).

The contracts were awarded to the Canadian-based companies by the Department of National Defence (DND) and by the U.S. Department of Defense via the Canadian Commercial Corporation (CCC) in Ottawa. DND and CCC are the sole public sources of military prime contract data in Canada.

Canadian companies were contracted for additional military work during the year, but any related contract information was irregular, incomplete, or unreported. These other contracts included prime contracts awarded directly by foreign governments (bypassing the CCC as an intermediary) or, more commonly, subcontracts for military goods and services awarded by Canadian and foreign prime contractors. The value of subcontracts with U.S. military prime contractors alone was likely substantial—when last reported in the 1990s the government estimated their annual total value to be similar to that of U.S. prime contracts—but they remained unreported again this year under defence trade agreements with the United States.

The value of prime contracts awarded by DND to the largest 20 Canadian companies declined from $2.3-billion in the previous year to $1.8-billion in 2012-13—a 22-per cent decrease. More dramatically, the value of Pentagon prime contracts to the top companies fell from over $1.2-billion to less than $0.4-billion—a decrease of 70 per cent. Both drops reversed an earlier rise in contract totals for the largest companies. They are evidence of recent reductions to core and supplementary military spending by both Canada and the United States.

Textron Systems Canada Inc. of Ottawa, which did not appear in the 2011-12 ranking, was the largest military contractor during the period. It was awarded two DND contracts totalling $802-million for the production of 500 “tactical armoured patrol” vehicles and for five-years of in-service vehicle support for Canada’s army.

Again this year, General Dynamics OTS Canada in Quebec was the second-largest contractor, with Pentagon and DND contracts totalling $254-million, a total significantly down from the previous year’s $348-million. A manufacturer of military explosives and munitions, General Dynamics OTS Canada has supplied Canadian and U.S. combat troops in Afghanistan, and U.S. operations in Iraq. Troop withdrawals from both war zones have reduced demand for its products.

Lockheed Martin Canada moved up the table from twelfth last year to third in 2012-13. It contracted with DND to provide combat systems integration as part of the modernization of Canada’s 12 Halifax-class navy frigates.

As the fourth largest contractor, Irving Shipbuilding is also a supplier to the Canadian navy. It was awarded a DND contract during 2012-13 for the design of offshore patrol ships.

Meanwhile, General Dynamics Land Systems Canada dropped to fifth place from a dominant first last year. It continues to supply armoured vehicles to the Canadian and U.S. armies, but this year it did not win the billion-dollar contracts of earlier years.

Ten of this year’s 20 top-ranked contractors were in the top 20 last year. The turnover rate is not as high as it was between 2010-11 and 2011-12, when more than half of the top names changed. However, a small group of Canadian companies—perhaps fewer than 10—consistently make the list.

Beyond the core top contractors are dozens of Canadian companies, situated across the country, which receive contracts worth tens of millions of dollars to supply military equipment to both the domestic and export markets.

Kenneth Epps is Ploughshares’ Senior Program Officer. kepps@ploughshares.ca.

Reference
**Table 1: Largest Canadian military prime contractors 2012-2013**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Main office or plant</th>
<th>CCC contracts*</th>
<th>DND contracts**</th>
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<tr>
<td>1</td>
<td>Textron Systems Canada Inc</td>
<td>Ottawa, ON</td>
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<td>2</td>
<td>General Dynamics OTS Canada</td>
<td>Le Gardeur, QC</td>
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<td>$165,869,817</td>
<td>$253,920,428</td>
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<td>Lockheed Martin Canada Inc</td>
<td>Kanata, ON</td>
<td>$1,012,451</td>
<td>$134,939,220</td>
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<td>Irving Shipbuilding</td>
<td>Halifax, NS</td>
<td></td>
<td>$135,660,621</td>
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<td>5</td>
<td>General Dynamics Land Systems Canada</td>
<td>London, ON</td>
<td></td>
<td>$23,919,424</td>
<td>$119,324,182</td>
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<td>Canadian Helicopters Ltd</td>
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<td>$98,008,512</td>
<td>$1,753,500</td>
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<td>7</td>
<td>Top Aces Inc/ Discovery Air</td>
<td>Pointe-Claire, QC</td>
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<td>L-3 Communications WESCAM</td>
<td>Burlington, ON</td>
<td>$42,778,862</td>
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<td>13</td>
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<td>14</td>
<td>Man Diesel &amp; Turbo Canada Ltd</td>
<td>Oakville, ON</td>
<td></td>
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<td>15</td>
<td>MacDonald, Dettwiler &amp; Associates Ltd</td>
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<td>$2,972,421</td>
<td>$38,016,894</td>
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<td>16</td>
<td>Esterline CMC Electronics Inc</td>
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<td>17</td>
<td>General Dynamics Canada Ltd</td>
<td>Ottawa, ON</td>
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<td>$2,179,246</td>
<td>$31,828,368</td>
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<td>19</td>
<td>Meggitt Training Systems Canada</td>
<td>Medicine Hat, AB</td>
<td>$76,493</td>
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<td>20</td>
<td>Vector Aerospace</td>
<td>Richmond, BC</td>
<td>-$15,236***</td>
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</tbody>
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*Prime contracts awarded by the U.S. Department of Defense via the Canadian Commercial Corporation
**Prime contracts awarded by the Canadian Department of National Defence
***Negative value suggests that a prior contract was not fully compensated.
Sources: Canadian Commercial Corporation, Public Works and Government Services Canada
A tool to fight armed violence

Caribbean states, hard hit by homicides and aggravated assaults, look to the Arms Trade Treaty for solutions
We Made History was the slogan adopted by the Control Arms coalition to mark the opening for signatures of the landmark Arms Trade Treaty (ATT) on June 3. Making history was no small feat, but a formidable coalition of states across regions, allied with intergovernmental organizations and civil society, succeeded in delivering the ATT.

Countries of the Caribbean Community (CARICOM) not only joined this history-making initiative, but actively participated throughout the negotiating process. Thirteen of the 14 Member States of the Community have signed the treaty and four are among the eight countries to have ratified to date. What accounts for this high level of participation? It is the political will to rid the region of the scourge of armed violence, thereby creating safe and secure societies and stable economic environments.

CARICOM states are convinced that a legally binding instrument, which establishes the highest possible common international standards for regulating the international trade in conventional weapons, will contribute significantly to reducing the high incidence of armed violence in our region. This, in turn, will reduce the suffering of many of our citizens, who live under the devastating impact of the illicit trade in small arms and ammunition, and stem the decline in our socioeconomic development. We now have a Treaty that acknowledges in its preamble that “civilians, particularly women and children, account for the vast majority of those adversely affected by armed violence.”

Armed violence in the Caribbean

During the ATT negotiations, the inclusion of a reference to armed violence was questioned by some United Nations Member States, who argued that there was no common understanding of the term and that the treaty should therefore only deal with the well-established phenomenon of armed conflict. Indeed, armed violence is a complex issue. While there have been numerous initiatives in recent years to define or address it, including the Geneva Declaration on Armed Violence to which Jamaica is a signatory, there are still questions about its legitimacy as an issue and suitability to be addressed at the global level.

It is noteworthy that the just released 2013 edition of the Small Arms Survey focuses on armed violence. In its introduction, the Survey notes that many states are beset by forms of armed violence that do not rise to the level of armed conflict (war), but nevertheless generate serious health, social, and economic consequences. In fact, non-conflict armed violence claims far more lives worldwide than do ongoing wars.

In the CARICOM region there are several, and at times overlapping, manifestations of armed violence, but the phenomenon is primarily manifested in the form of homicides and aggravated assaults. Homicides in non-conflict settings constitute the most commonplace form of armed violence. According to the United Nations Development Programme’s (UNDP) First Caribbean Human Development Report, homicide rates, including gang-related killings, have increased substantially in the last 12 years across the Caribbean, except in Barbados and Suriname. Yet rates have fallen or sta-
bibilized in other parts of the world. The Caribbean and Latin America are home to 8.5 per cent of the world’s population, but account for 27 per cent of the world’s homicides; Honduras has a rate of 87 per 100,000 inhabitants. All CARICOM Member States have murder rates that are significantly higher than the rate of the United States at 4.6 per 100,000.

In recent years Jamaica has had the highest homicide rate in the Caribbean and the third-highest in the world, with approximately 60 murders per 100,000 inhabitants. Although the homicide rate in Jamaica has declined in the past two years, it is still 40 per 100,000 (Mexico’s is 22 per 100,000).

Approximately 70 per cent of these homicides are committed with firearms. The statistics throughout the CARICOM region reveal escalating gun-related violence. Law enforcement authorities are concerned about the overall increase in criminal activity, which they attribute to the importation of illegal guns and ammunition. In Jamaica, the police recover more than 600 illegal firearms annually. The widespread availability of firearms is clearly a risk factor for violence.

Moreover, the irresponsible trade in small arms contributes to the continued proliferation of criminality and trans-national organized crime by enabling violence and threatening behaviour. Gun violence diverts scarce resources away from development priorities by causing higher health care demands, reduced productivity, and lower levels of investment.

As the CARICOM Implementation Agency for Crime and Security (IMPACS) notes, the threat of the irresponsible and illicit transfer of small arms and associated ammunition to regional security has an important external dimension: cross-border trafficking. Illegal guns play a key role in all aspects of trafficking, not just as a trafficked commodity, but as a means of facilitating the trafficking of other illicit commodities. They also support criminal and deviant behaviour such as robberies, rape, and other forms of violence. Illegal guns are increasingly both the currency and commodity of the drug trade.

CARICOM Member States do not manufacture guns and ammunition and they do not import significant quantities. However, the region has been severely affected by the influx of small arms and ammunition. The geographical features of the region, characterized by an island chain of countries with porous borders, linked by a common market, have been exploited by both state and non-state actors in the arms trade. This situation is compounded by the region’s location between supply centres to its south and the demand poles to its north. The region is also an ideal transshipment point for the international narcotics trade.
A welcome tool in the fight

How can the ATT help to reduce and prevent armed violence? It will provide the mechanism to strengthen the detection and interception of illegal shipments of firearms, ammunition, and parts and components, either assembled or disassembled. It will also lead to a standardization of practices across the region and the hemisphere. The following five key provisions of the Treaty, if effectively implemented, will help to reduce armed violence in the CARICOM region.

Small arms are the weapon of choice in cases of armed violence. These arms and their associated ammunition and parts and components have been included in the Treaty and will now be subject to regulation and control.

Article 11 requires states parties to take measures to prevent diversion of conventional arms. The requirement for states to cooperate and share information to mitigate the risk of diversion is important for CARICOM states, as arms control mechanisms are weakest at the juncture between the jurisdictions of exporting and importing states.

Arms brokers serve as the linchpin of the illicit trafficking of conventional arms—notably small arm and light weapons. Illegal activity is facilitated by the inadequacy or, in many cases, absence of national regulations on arms brokering. No CARICOM member state has regulations on arms brokering. Admittedly, the Treaty provision on brokering in Article 10 is not as robust as we would wish; however, it does codify brokering control. The Jamaican authorities have particularly welcomed the inclusion of brokering as an opportunity to put such regulations in place.

The provision in Article 9 on transit and transshipment is another key to helping to reduce armed violence in the region. As in the case of brokering, the provision is not as robust as we would wish, but it does codify transit and transshipment control. The CARICOM region’s maritime space is increasingly exploited by transnational organized crime syndicates. The global shipping network is the dominant method for trans-
porting illicit goods, in particular illegal narcotics and weapons. The authorities in Jamaica view the adoption of the ATT as particularly significant in view of the expansion of the Panama canal, which, while presenting economic opportunities, will increase the risk of illicit trafficking in small arms.

CARICOM states see international cooperation as key to achieving significant reductions in illegal guns and ammunition. We must work with key strategic partners, particularly the states that are the source of these weapons. As CARICOM states pointed out during negotiations, the responsibility of controlling and regulating the irresponsible and illicit transfer of small arms and ammunition must be shared among producing, selling, and destination states with open and transparent communication among all. Article 15 requires states parties to cooperate to effectively implement the Treaty, including the exchange of information and the provision of mutual legal assistance.

A call to action
The UNDP’s 2012 Caribbean Human Development Report determined that violence and crime are perceived by a majority of Latin American and Caribbean citizens as a top challenge. With the ATT we have an instrument to address the humanitarian imperative of regulating the irresponsible trade in arms.

Jamaica and its CARICOM partners are keen to continue working with the “winning coalition,” including CARICOM nongovernmental organizations, to support the early entry into force and effective implementation of the Treaty.

The international community is finally onboard. Let’s continue to make history!
Diminishing transparency

Once in the top ten, Canada now ranks 24th among most transparent arms-exporting countries

In 2008 the United Nations Security Council recognized that “a core element in preventing conflict and securing peace and stability is encouraging predictable, transparent behaviour by all States.” Transparency in the small arms trade can build trust between nations and allow governments and civil society actors to identify trends, gaps, and problems. To achieve transparency, countries need to submit data to the UN Commodity Trade Statistics Database and the UN Register of Conventional Arms, and publish annual arms export reports.

Since 2004 the Small Arms Survey (SAS), an independent research project in Geneva, has evaluated the transparency provided by major exporters of small arms and light weapons (SALW), using a Transparency Barometer.

The Transparency Barometer uses the following seven categories for the overall points distribution: (i) timeliness, (ii) access and consistency, (iii) clarity, (iv) comprehensiveness, (v) deliveries, (vi) licences granted, and (vii) licences refused.

These categories assess promptness and consistency in reporting (categories i–ii), clarity and comprehensiveness (iii–iv), and the level of detail provided on actual deliveries, licences granted, and licences denied (v–vii). (SAS 2013)

According to this instrument, Canada has been losing ground in the last decade. In 2003 Canada was the eleventh most transparent among major arms-exporting countries; in 2004 it ranked tenth. But in 2011 it was twenty-fourth.

Canada excels in timeliness, submitting information for the previous year before December 31 to at least one of the reporting instruments indicated above. This allows public scrutiny and can give “early warning about developments that could threaten peace and security” (SAS 2012, p. 295). Canada also consistently reports information on the actual deliveries of weapons, which helps identify potentially “destabilizing accumulations of arms in countries and regions at risk” (SAS 2012, p. 302). Canada’s reports are reasonably comprehensive, but would be improved—and provide greater transparency—if Canada provided more detailed information on specific categories of SALW, intangible transfers, re-exports, and transit and transhipment.

Canada’s reports need to be more accessible, consistent, and clear. Canada has yet to provide reports for 2010, 2011, and 2012. Reports need to provide web links to transfer control legislation, separate government and private industry transactions, and describe measures to prevent diversion.

Canada provides no information in its national report on licences granted and refused. Such information would reveal how Canada interprets its national export criteria and would “alert stakeholders to sensitive and potentially excessive and destabilizing transfers before actual exports occur” (SAS 2012, p. 303).

The Transparency Barometer shows that, although many countries—notably Switzerland, Romania, and Bulgaria—have made progress, almost all need to be more transparent in reporting arms exports. Over the last decade technology has emerged that can allow even poor countries to track, compile, and publish data.

Making information and reports available to the public should be easy for a wealthy country such as Canada. Improving transparency now would also benefit Canada should the government sign and ratify the Arms Trade Treaty, which requires annual reporting.

Charmila Ireland is Ploughshares’ Peace and Security Intern. cireland@ploughshares.ca.

Note
1. The Transparency Barometer defines a country as a major exporter if it has exported, or is believed to have exported, at least US$10-million in SALW, their parts, accessories, and ammunition in at least one calendar year since 2001 (SAS 2012, p. 283).

References
Assessing the threat to space

Key activities in everyday life—weather forecasting, global communications and broadcasting, disaster prevention and relief—depend increasingly on the unobtrusive utilization of space technologies. Over the coming decades, space-related applications, such as land-use management, distance education, telemedicine, precision farming, and monitoring of various international treaties, will hold important socioeconomic promise.

Assessing space security
Factors to consider when assessing space security include:

- the physical state of the space environment (e.g., levels of radiation, passage of asteroids);
- the day-to-day functioning and long-term sustainability of space platforms in orbit (e.g., space debris, extreme space weather impacts);
- the malevolent uses of platforms or their sabotage (e.g., frequency interference, denial of access); and
- the weaponization of space platforms.

The concept of space security used here is based on the principles enacted in the 1967 Outer Space Treaty. The Outer Space Treaty’s overarching notion is to promote the secure and sustainable access to, and use of, space by all space actors, and freedom from space-based threats.

An optimally secure outer space therefore requires that countries and their nationals should pursue their respective space activities without putting at risk the sustainability, stability, and free access to, and use of, space orbits, so that space remains open for all. This ideal outer space regime is being challenged by some current activities.

The state of space security in 2013
Do countries and their nationals today have, as the Outer Space Treaty requires, a “secure and sustainable access to, and use of, space and freedom from space-based threats”? My general response would be “yes.” An increasing number of countries have access to, and use of, secure space. However, the space environment is becoming ever more risk-prone and the sustainability of space platforms is increasingly coming into doubt.

Several countries are pursuing military space capabilities, which are difficult to assess objectively. In many cases, development of these military space capabilities may be more for deterrence than planned aggression.
Trends in the global space sector

Access to space by an ever increasing number of actors could be seen as a possible threat to space security. Malevolent states and criminal groups could have easier access to space technologies and capabilities. However, the rising number of countries having access to, and use of, space should be seen as positive. There were 78 successful space launches in 2012. More than 50 countries now have a satellite in orbit, and more launches are planned for the next couple of years.

More actors are using space applications, making positive contributions to environmental sustainability and socioeconomic development. Improvements can be seen in increased industrial activity, cost efficiencies, and productivity gains in such diverse economic sectors as environmental monitoring, agriculture provisions, and weather forecasting for air transport and shipping. For example, the growth of positioning, navigation, and timing applications, which rely on satellite signals, has spurred new commercial markets, such as satellite navigation chipsets in smartphones. On the other hand, the dual nature of space applications could be seen as a negative factor for international security, as an increasing number of malevolent groups could be accessing technologies, such as satellite navigation tools that could be easily applied to illegal and military activities.

The commercial development of space keeps growing. While space activities were essentially public at the be-

available now

Space Security Index 2013

Astrophysicist Jonathan McDowell has characterized SSI as “the most thoughtful, informed and nonpartisan summary of annual space activities and policy developments relevant to the safe access to and use of space. In its broad view of space security, covering issues ranging from space weapons to orbital debris and space traffic management, the Index has contributed to defining the field.”

To order or download: www.ploughshares.ca or www.spacesecurity.org
Beginning of the space age, the role of private actors has expanded in recent decades. Space firms have restructured and formed new alliances, while the opening of markets has benefited selected segments of the industry. But institutional funding remains key for many space activities and even developed space markets are often dependent on institutional customers; defence departments of nations from around the world are often the anchor customers of commercial satellite remote sensing providers. On the other hand, some commercial activities, such as nascent suborbital tourism, may bring new opportunities (but also new challenges in terms of safety and regulations).

**Military space capabilities are growing around the world.** There are indications that some countries are pursuing space-based negation-enabling capabilities, including directed energy weapons that make use of a ground-based laser directed at a satellite to temporarily dazzle or disrupt sensitive optics, kinetic hit-to-kill systems, and explosive or pellet clouds. In 2013 anti-satellite weapon tests are re-emerging, as spacefaring countries develop both defensive and offensive systems.

**Technical capacities to deal with natural and manmade threats in orbit**

**Orbital debris is a real operational problem.** In 2012 several commercial satellite operators and the partners of the International Space Station (ISS) had to repeatedly use space debris-avoidance maneuvers. The number of objects in the most used orbits is still growing. Experts estimate that there are over 300,000 objects with a diameter larger than one centimetre and several million that are smaller.

**Interference of satellite signals is another problem.** Satellite services are, paradoxically, suffering from their growing popularity. As they are increasingly integrated into a wider information and communication infrastructure, they are engaged in fierce competition for radio-frequency spectrum. Terrestrial networks being put in place in many parts of the world dent the strength of satellite signals reception. So does the growing intentional jamming of signals by criminal groups and certain governments, resulting in the distortion of GPS signals and satellite communications links. Technical developments to alleviate conflicts over bandwidth allocation include shielding, frequency hopping, lower power output, digital signal processing, frequency-agile transceivers, and software-managed spectrum. To circumvent intentional and unintentional interference from third parties, satellites operators and ground-based equipment providers are also looking at possible technical solutions.

**National capacities in space situational awareness (SSA) as well as research and development on active debris remediation and removal are slowly increasing.** The objective of SSA is to be able to determine the state of the space environment for safe space operations and includes the tracking, cataloguing, and screening of objects in space, as well as determining and predicting space weather. Space weather extremes are now better understood and there has been progress in predicting solar flares. But greater efforts are needed to track space debris, including harmful satellite re-entries. Several national departments of defence, space agencies, and companies are pursuing long-term programs to develop new orbital platforms and on-orbit servicing capabilities. One example is the Cana-
dian Space Agency’s robotic arms experiments on the ISS.

**International cooperation**

**for a sustainable use of space orbits**

National space laws and regulations provide “rules of the road.” National laws and regulations constitute the prime layers for a more transparent governance of space activities. They provide essential guidelines for national actors—public and private—in involved in space activities, as well as important information for foreign operators. Over the past decade, the number of space laws has grown exponentially, as more governments and private actors have become involved in space activities. In 2012 countries including the United States and United Kingdom enacted new texts providing more clarity on their space activities.

**Dealing with satellite signal interferences at the international level.** As more actors become involved in space activities new competition for spectrum use has arisen from ground-based telecommunications services. As the scope for wireless communications increases, efficient spectrum allocation and orbital allocation are becoming increasingly important policy and economic issues. In 2012 approximately 3,000 delegates attended the World Radiocommunication Conference of the International Telecommunication Union (ITU). They made some key revisions to the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and satellite orbits. However, governments cannot be forced to strictly apply ITU regulations.

**Dealing with space debris at the international level.** Ambitious international plans to mitigate debris began only a decade ago. In 2002 the European Space Agency produced the European Space Debris Safety and Mitigation Standard. That same year the Inter-Agency Space Debris Coordination Committee, which is charged with coordinating national efforts, issued its first guidelines on limiting debris released during normal space operations, minimizing the potential for in-orbit breakups, post-mission disposal, and prevention of collisions. Today there is heightened international awareness of the space debris problem. More conferences and workshops than ever before focus on space debris issues. However, compliance with international debris mitigation guidelines remains uneven. Much remains to be done to engage all the different actors, including emerging spacefaring countries, academia, and the private sector.

**Dealing with Near-Earth Objects (NEOs) at the international level.**

NEOs are comets or asteroids that orbit the sun, closely approaching Earth. International awareness of NEOs is growing. Today, there is more discussion at international forums and scientific conferences. However, the NEO threat is not yet as well defined, presented, and recognized internationally as space debris and signal interference.

**Final observation**

When the growing global importance of a secure and sustainable space infrastructure is taken into account, a key message emerges: policymakers from spacefaring nations need to take further actions to improve the long-term sustainability of the main orbits already used extensively today.

Claire Jolly is Senior Policy Analyst with the International Futures Programme in the Directorate for Science, Technology and Industry of the Organisation for Economic Co-operation and Development.
Emerging technologies

Civil society statement to the United Nations

The following is the civil society statement on emerging technologies as delivered by Project Ploughshares Program Officer Cesar Jaramillo to the UN General Assembly First Committee (Disarmament and International Security) on October 29, 2013. Jaramillo was the lead drafter for the space security part of the statement, which also covers the use of armed drones.
Outer space
Humankind has become increasingly reliant on outer space for a wide range of social, economic, and security benefits. But the continued enjoyment of these benefits is not guaranteed. It is incumbent upon the international community to ensure that the current use of outer space does not compromise the ability of present and future generations to benefit from this domain.

As the number of space users and applications has increased, so too have the threats to the long-term sustainability of outer space. But the existing legal regime for outer space activities is not sufficient to effectively address the many governance challenges that have emerged since the dawn of the space age.

We view with optimism the establishment of groups specifically tasked with examining measures and recommendations for best practices in the conduct of outer space activities. Two notable examples are the UN Group of Governmental Experts on Space TCBMs [Transparency and Confidence Building Measures], and the Working Group on the Long Term Sustainability of Outer Space Activities of the UN Committee on the Peaceful Uses of Outer Space. Proposals such as the International Code of Conduct for Outer Space Activities also constitute welcome developments.

However, we remain concerned that a narrow focus among some in the international community on the development of such soft norms has resulted in a retreat from policy discussions and legal instruments specifically related to the need for arms control in outer space.

Skeptics argue that, given the inherently dual-use nature of space assets, defining space weapons and limiting their use is extremely difficult; as a result, they question the very need, adequacy, and applicability of arms control measures in outer space. But this view is far from universal.

Several actors in the international community—including major spacefaring nations and civil society organizations—do not see the dual-use nature of space assets as an obvious impediment for developing concrete proposals under international law to regulate the eventual use of space weapons.

From nuclear capabilities to the use of drones, we are fully aware that dual-use technologies such as those seen in the space domain constitute an obvious consideration for multilateral arms control efforts. But the need for such efforts is beyond dispute.

The international community cannot and should not be content with addressing only some of the challenges facing the space domain, while turning a blind eye to others just as critical. We are greatly concerned that discussions related to space weaponization and the prevention of an arms race in outer space (PAROS) have yet to gain sufficient traction.

Efforts to address PAROS have been relegated to a diplomatic limbo. At the UN General Assembly, the annual PAROS resolution has not once been supported by the most advanced spacefaring nation in history, despite having the support of the vast majority of world states. And at the Conference on Disarmament, where PAROS is a core agenda item, substantive negotiations have been effectively deadlocked for more than 15 years.

In the past decade alone, ground-based anti-satellite weapons (ASATs) have been tested; several communications satellites have been deliberately jammed; missile defense systems have been used as ASATs; and precursor technologies that would allow space-to-space offensive capabilities have been developed. To be sure, the ability to use missile defense systems as anti-
satellite weapons is not dormant, potential, or eventual. It is an actual and proven capability.

We believe it is in the interest of international security and the sustainability of the space domain if all states pledge, at a minimum:

Not to use any space- or ground-based capabilities to deliberately damage or destroy space assets.

Such a pledge—which should be codified multilaterally—would not require a precise definition of space weapon, nor would it disregard the oft-cited need for effective verification of compliance. The primary focus would be on protecting the physical and operational integrity of space assets, as opposed to attempting to define the weapons that might harm them. As well, existing technical means would make the destruction of space assets without attribution virtually impossible.

Other emerging technologies whose use has inescapable ethical and security implications pose similarly complex governance challenges.

Drones and other remotely operated robotic systems

According to the 2010 report of the Special Rapporteur on extrajudicial, summary, or arbitrary executions, more than 40 countries now have drone technology.

Despite mounting public pressure, states continue to refuse to provide factual information about who has been targeted, under which policies, and with what outcome—including whether innocent civilians have been “collaterally” killed or injured. The 2012 report of the Special Rapporteur reiterated the recommendation that governments track civilian casualties in disaggregated data so as to identify the number of casualties resulting from the use of drone attacks.

With the use of drones, militaries circumvent the laws of war by not actually entering into war. Further, a rise in the use of unmanned systems in remote or inaccessible conflict areas reduces the opportunity to see the impact of those weapons, which is urgently needed to hold those who use them accountable for their actions.

A number of questions arise from the use of drone technology, including who may be targeted and the legal implications for those who conduct the targeting. These questions must be referenced to bodies of law that place significant limits on targeting operations, including human rights law, domestic law, the UN Charter, the law of neutrality, and principles of non-intervention and distinction.

Military drone manufacturers are also looking to expand their markets with the use of drones for domestic surveillance, resulting in a dramatic expansion of the surveillance state. This has colossal implications for privacy laws and for surveillance and targeting accountability, given the diffuse legal responsibility resulting from this practice.

We call upon states to stop using, deploying, and developing armed drones; to clarify the procedures for determining how their use of drones is in compliance with international humanitarian law and human rights; and to publish disaggregated data on casualties of drone attacks. In addition, we urge governments to take steps to control the trade and proliferation of drones.

Conclusion

The threats to international security and stability posed by emerging technologies such as space weapons and drones demand that parallel diplomatic processes be pursued to address them. The consequences
Len Johnson: A general for peace

By Ernie Regehr

The late Major-General Leonard V. Johnson served in the Canadian armed forces from 1950 to 1984. Upon his retirement he wrote a well-received memoir, *A General for Peace* (Lorimer 1987), and became a committed advocate for disarmament and new approaches to national defence. He served as Chair of the Board of Project Ploughshares from 1989 to 1994.

In his final military posting, Len Johnson was Commandant of the National Defence College. There he urged his students (mid-career military officers and civil servants as well as business leaders) to access as much critical research and analysis as possible and to openly challenge the well-worn security dogmas of the day. He was a voracious consumer of all NDC course materials, lectures, and debates. One guest speaker who made a lasting impression on him was Anatol Rapoport, the brilliant Russian-born mathematician who spent the latter part of his career at the University of Toronto developing game theory and demonstrating the utility of cooperation over competition—in international and security relations just as certainly as in the personal and national spheres (Johnson 2012). By his own account, he became a Rapoport disciple.

Upon his retirement, Len didn’t let the first-class education he gained at the NDC go to waste. He made sure his critical voice would be heard as a writer and speaker, and actively engaged with peace and disarmament organizations such as the international Pugwash movement and Project Ploughshares.

In 1996 he joined a particularly esteemed international group of Generals and Admirals, some still in service, to sign on to a highly regarded and widely circulated *Statement by Generals and Admirals of the World Against Nuclear Weapons* (1996). It declared that “the existence of nuclear weapons constitutes a peril to global peace and security and to the safety and survival of people we are dedicated to protect.” It concluded that there is no alternative to the “complete and irrevocable elimination of nuclear weapons.”

Len became fully convinced that a transformation of public opinion and the nurturing of an informed electorate were key to building momentum toward both nuclear disarmament and ending the resort to war. In early 2003 he wrote optimistically that “people everywhere are withdrawing their consent to war” (Johnson 2003). He also believed that a commitment to disarmament and the abolition of war had to become “established in the elected people who respond to the voice of the people.” True to his word, he subsequently became a candidate for election to Parliament for the New Democratic Party in the riding of Kingston and the Islands.

On the Ploughshares Board he guided us through the early years of the post-Cold War period, encouraging us to draft credible and practical proposals for a new Canadian defence policy that would respond to the new realities and the twin objectives of the abolition of nuclear weapons and of war itself.

Leonard Verne Johnson was born in Ridgedale, Saskatchewan and died in Kingston, Ontario in November 2013. He is remembered with deep appreciation and affection.

Adapted from “On the Road to Peace with Len Johnson” by Ernie Regehr (co-founder of Project Ploughshares), available at peacequest.ca. Peace Quest is an initiative to “stimulate a nation-wide conversation about peace and our country’s role in peacemaking, reconciliation and social justice.”

**References**


Recognizing the tension between Catholicism’s tradition of moral thought and contemporary society, Scott Kline seeks to provide Catholics with the tools to critically consider difficult issues in ethics. It is his belief that “Catholics have something valuable to contribute to public debates over today’s most pressing ethical issues.”

Dr. Kline reviews the history and framework of Catholic ethics. He explores the nature of ethics and the themes and sources of Christian moral thought. He lays out the many moral problems of the contemporary world and indicates what Catholic tradition has to offer in response. Dr. Kline is an Associate Professor of Religious Studies at St. Jerome’s University in the University of Waterloo and Chair of the Governing Committee of Project Ploughshares.

From the chapter “The Ethical Use of Force and the Quest for Peace”:
The Catholic Church is not one of the historic peace churches—a group that includes the Church of the Brethren, the Mennonites, the Amish, and the Quakers…. And while there is often disagreement between pacifists and those who appeal to the just war tradition on specific issues, there are also areas of overlapping consensus. For instance, in response to modern forms of warfare, including those that threaten mass destruction, the pacifist and just war traditions often find themselves in unison as they call for dialogue and diplomacy as ways to avoid the use of military force.

…

I would suggest an approach called “just peacemaking”… Followers of just peacemaking may still use just war theory to determine the morality of war once war is inevitable. What just peacemaking provides is a series of alternative practices that help avoid war.
As the Far North assumes an increasingly important role in international politics, so too does Canada’s role in its governance. In 1991 Canada, the United States, Russia, Norway, Denmark, Sweden, Iceland, and Finland signed the Arctic Environmental Protection Strategy. This was the first step in the formation of the Arctic Council, which was formally established in 1996 to act as a high-level intergovernmental body to address social, political, and environmental issues in the Arctic. In May 2013 Canada assumed a two-year chairmanship of the Arctic Council. In this book historian John English explores the history and growing relevance of the council. He chronicles a remarkable shift in Canada’s stand from co-operative multilateralism in the 1990s to the protection of sovereignty in 2010. Dr. English is a retired Professor from the University of Waterloo and a former Member of Parliament.

From “Prologue: Clinton Looks North”:
Hillary Clinton strode briskly out of the rustic mansion above Quebec’s Meech Lake on March 29, 2010… The American secretary of state critically appraised the gathering of five foreign ministers that had just ended. The ministers represented the five Arctic coastal states—the United States, Canada, Denmark, Norway, and Russia—but Clinton spoke up for the excluded: Arctic Council member states Finland, Sweden, Iceland, and the Arctic indigenous peoples, who were Permanent Participants in the Arctic Council created in 1996 to assure Arctic cooperation and coordination….

Clinton’s presence in Ottawa symbolized the new American and international interest in the Arctic. Senior American officials paid little attention to the Arctic Council until it issued an Arctic Climate Impact Assessment (ACIA) in 2004. In dire prose and with striking illustrations of shrinking glaciers, melting ice, and threatened wildlife, the ACIA warned that the Arctic was becoming warmer than ever before, a transformation with enormous global implications.
This book is a personal account of the war in Afghanistan from a reporter who for several years was the only Western journalist to live full-time in the dangerous southern region. Graeme Smith is a Senior Analyst with the International Crisis Group; he is based in Kabul, Afghanistan. He was formerly a foreign correspondent with The Globe and Mail.

From the “Afterword”:
The soldiers were assigned to improve the lives of ordinary Afghans. This wasn’t entirely altruistic—military planners believed that the region would become more resistant to extremist ideology with a healthy dose of development—but it wasn’t all cold calculation. Many prominent humanitarians were among those who called for a large contingent of foreign soldiers in the south. In July 2003, more than eighty non-governmental organizations declared a need for a bigger, tougher NATO presence in the provinces…. I’m biased in favour of one of the signatories—the International Crisis Group, which later became my employer—but it’s fair to say that the organizations that signed the call to arms were some of the most respected voices in conflict zones around the world. Seasoned policy professionals genuinely felt that an influx of firepower would help the situation.…

But I can’t help feeling that the right combination of tools and goals never existed for southern Afghanistan. Even with an imaginary contingent of perfect soldiers and development experts, with sufficient funding, deployed at the right moment, it’s possible that we still would have been thwarted by our inability to understand the needs and desires of the local people.
This book recounts the story of the work of MCC in Canada from its beginnings in the 1920s to the present. **Esther Epp-Tiessen** is the public engagement coordinator for MCC Canada’s Ottawa office; she has served on the Ploughshares Board.

From the “Foreword” by Dr. Lucille Marr:
This history of Mennonite Central Committee in Canada comes out of a rich historical tradition, eloquently telling the fascinating and complex story of this well-loved organization. Each chapter illustrates the myriad of ways that people and programs have come together to create a work that we know as MCC, but which is much more than an institution. MCC in Canada is a movement that has linked Mennonites and Brethren in Christ in Canada—young and elderly, rural and urban, women and men—in a deep desire for the wellbeing of others.

From the “Conclusion”:
Connecting people at a very human level was one of the key ways that MCC sought to foster understanding, peace, and reconciliation in a world that continued to groan with hostility, injustice, and suffering. MCC was at its best when it drew people out of their comfort zones and built relationships across the divides. It was at its best when these people-to-people encounters were mutually transformative—and where giving and receiving flowed in both directions.
Join our work to advance international peace and security by making a tax-deductible donation today. Visit [www.ploughshares.ca](http://www.ploughshares.ca) or call 519-888-6541.