

Innovative Technology for UN Peacekeeping: A Vital “Mission Multiplier”

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The United Nations has made more progress with technological innovation over the past five years than the previous twenty-five. But there is still so much more needed from contributing states to explore, expand and mainstream the technological enablers for better peacekeeping planning and performance. Pledges are needed for both new and existing technologies. Rapid implementation of previous pledges is also needed, including through the UN’s Partnership for Technology in Peacekeeping.

As UN peacekeeping struggles to do more with less, technologies must help as key enablers. They act not only as “force multipliers” for uniformed personnel but also as “mission multipliers” for all components of UN missions, including those engaged in protection of civilians (POC), reconciliation and peace processes, humanitarian assistance, human rights, nation-building and the rule of law. The UN’s recent remarkable technological progress has only partly met the need.¹

The Vancouver ministerial provides an excellent opportunity for countries, including the Canadian host, to further advance the technological capacity in UN peacekeeping. Several participating nations already serve as “Technology Contributing Countries” (TechCCs)², and important pledges of technological capabilities were already made at the 2015 Leaders’ Summit and the 2016 London ministerial.³

For the Vancouver ministerial agenda, technology can assist all of the areas being highlighted in the planning. Here are some examples for each category.

To make **women safer** in conflict zones, better tracking and communications are critical. Whether they be women peacekeepers working in danger zones or local women collecting firewood near refugee/IDP camps, GPS trackers with a distress signal capability can allow alerting and real-time location in emergencies. Furthermore, GPS navigation devices can help those women reach their destinations and return home safely. Also better tracking of mission personnel can improve the accountability of such personnel. To help prevent Sexual Exploitation and Abuse (SEA) by peacekeepers or Conflict Related Sexual Violence (CRSV) by locals, forensic kits (including DNA technologies) can help identify perpetrators and increase accountability.

To **protect those at risk** more generally, situational awareness (including tracking) and rapid response are the two main capabilities needed. In the fog of conflict, the UN has all too often been unaware of current attacks and imminent threats. In fact, the UN has not yet created a real-

time tracking system for its own vehicles and personnel,⁴ not to speak of providing these means to locals in danger. Knowledge is power, and must be used to enhance the peacekeepers' power to protect both themselves and others. With "precision peacekeeping" using GPS-enabled location devices for peacekeepers and the local population, it is easier to send the right peacekeepers to the right places to do the right things.⁵ In addition to location information, for population-centric operations, UN missions need "human security intelligence"—analyzed information on the wide range of threats and opportunities. Gathering such information is a huge task. Under my new proposal for "participatory peacekeeping," local populations would provide UN missions with inputs and warnings and, thus, contribute more directly to their own security. In the digital age, it is possible to create a "coalition of the connected" that includes locals, thereby providing "protection through connection." Using the smartphone revolution (including translation software) and social media, the United Nations can be in more frequent contact with locals and stay better informed. UN missions can provide SIM cards to locals for early warning and rapid response (part of "crowdseeding"). One such pioneering initiative is the Community Alert Network developed by the UN mission in the D.R. Congo but this emerging practice needs further support, evaluation and mainstreaming elsewhere.

Similarly, these technologies can also help early warning and rapid deployment, such as monitoring devices to detect when conflicts are or will escalate, and blue (UN) force tracking to send the most appropriate peacekeepers (sometimes the nearest) to rescue civilians in danger and to de-escalate conflict. Communications technology can play an important role in sharing information and alerting partners, such as civil society organizations.

For Innovation in training and capacity building, available technologies include decision and planning software, and systems for e-learning, exercises and simulations. Peacekeeping games could be introduced or wargames with peacekeeper roles. For pre-deployment training, contingents around the world can prepare together through dedicated software allowing them to be in touch with each other and to train together on standard scenarios for the upcoming mission. This will help create partnerships between officers from various nations (military and police) so these people become acquainted with common operating procedures *before* they deploy. To measure the performance of peacekeepers and missions, technologies provide key metrics (position information, video footage, etc). Cameras (helmet-mounted, dash-board) can provide footage that is useful in training, exercising and impact assessment. Tech metrics (data) and human anecdotes complement each other and contribute to a much stronger appraisal.

The range of useful technologies is vast and the United Nations has only begun to explore many of them. But even this progress is in jeopardy unless nations sustain the efforts. Having studied peacekeeping technology for three decades and serving directly with the UN this year, I list some my specific proposals in point form for brevity and ease of scanning, to improve the technologies, processes and structures for innovative peacekeeping:

1. TECHNOLOGIES

Break the night barrier: use night vision devices to extend and make safer UN peacekeeping
- use rapidly advancing electro-optical (image intensification)/infrared commercial devices

- most attacks on civilians make use of the cover of darkness, as do criminals, sanctions busters, traffickers of arms, conflict minerals & humans
- TCC equipment quality varies considerably; need upgrades & more UN-owned equipment

Illuminate paths and areas with automatic lights for safety and detection

- in hot spots as well as UN facilities, outside tents in refugee/IDP camps
- modern cities make areas safer by improving illumination. This can now be done much cheaper, even in towns or homes without a connection to an electrical grid system, by using solar-powered motion-detecting illuminators

Let night violators know they are being watched by using laser designators

- shine eye-safe laser beam on violators (aimed for chest)
- beam from UN weapons (gunsight), vehicles or UAVs
- might stop many night-time atrocities (including CRSV/SEA)

Explore non-lethal weapons: peacekeepers need a broader range of weapons than lethal rifles

- when confronting civilians; when uncertain; when both parties are acting violently
- examples: water cannons, rubber bullets within UN specifications
- conducted-energy weapons, e.g. Taser (incl in 2014 COE Manual under Major Equipment)
- Long Range Acoustic Devices, flash bang grenades (stun guns), Active Denial system, foams

Use the third dimension of space: Unmanned Aerial Vehicles (UAVs) for monitoring and eventually transport

- progress needs to be sustained with new UAVs introduced (micro, mini, tactical, larger)

Improve capacity to communicate information securely

- Mali Mission Secure Network (first such UN system, currently run under contract)
- UN needs to learn methods; assume responsibility and deploy similar in other mission

Harness the sensor revolution, especially cameras

- cameras in “every” UN tower, on mobile extendable masts, in vehicles (dash board), on uniformed personnel (body cameras) during operations
- remote cameras in hot spots (known areas of violence)
- equip some with audio response to allow immediate UN voice response

Utilize the smartphone revolution (evolving capabilities)

- communications: phone, data/ internet, text, social media, etc.
- tracking: GPS, Geographical Information System (GIS)
- recording: cameras/video, and sensors such as accelerometer, gyroscope, magnetometer (compass), multiple radios, barometer; possible infra-red add-ons
- useful for mobile patrol reporting
- becoming cheaper, better, more rugged, more convenient
- develop specific apps for peacekeeping
- familiar (all peacekeepers), versatile, adaptable (time, space)

- Integrate into an mission network (radio, cell, sat) using devices such as RIOS

Information analysis: make use of influx of sensor info and Big Data

- software needed for pattern recognition, change detection, accessible storage/archiving
- Big Data tools and Artificial Intelligence (including machine learning)

2. PROCESSES

Encourage innovation and continuous development

- experimenting, testing, piloting, scaling, evaluating, learning
- allow space to fail (low-cost test)

Modernization by continuing to implement TIP report

- Technology and Innovation Panel (TIP, 2015 report “Performance Peacekeeping”, link)
- many excellent ideas, UN developed a robust implementation strategy, pockets of strong progress, but no evaluation of progress to date

Capture the best practices lessons to be learned from the deployment of technologies

- UAV systems assessment
- develop Key performance indicators for many technologies

3. STRUCTURES

Sustain the United Nations Signals Academy (UNSA)

- sponsored Womens Outreach courses on telecommunications
- supported only by extra-budgetary funding (only to January 2018)

Build the Partnership for Technology in Peacekeeping ...

- Attend the Symposium in Spring 2018
- Extend outreach to think tanks and university relationships

The Vancouver ministerial provides a major opportunity to improve peacekeeping tech, including by sustaining and extending some of the Secretariat’s current initiatives, especially the UN Signals Academy.

Participating states could work on a catalogue of commercial and government technology applicable to peacekeeping, as the US government did at the 2015 Leaders’ Summit with its “Technology Source Book.”⁶ This provided a boost to US industries. Other countries could do the same for their companies, to the benefit of the United Nations.

There is so much assistance that technology could provide to enhance peace. To miss such opportunities would be ethically negligent. To make use of it can save lives and alleviate suffering.

ENDNOTES

¹ UN progress over the past five years on technological innovation includes: new technologies (incl. Unmanned Aerial Vehicles like micro-UAVs, tethered-UAVs, satellite-linked UAVs, and aerostats), processes (incl. the 2014 Technology and Innovation Panel (TIP), the 2015-16 TIP implementation strategy, the 2017 Situational Awareness Programme, the 2017 Field Technology Framework and the Contingent Owned Equipment (COE) Manual updates for 2018) and Structures (Partnership for Technology in Peacekeeping established in 2014, 2016-17 Field technology innovation units in various missions, new Tech Section with an Innovation Lab in the Global Services Centre).

² Technology contributing countries (TechCCs) can also be troop contributing countries (TCCs) and police contributing countries (PCCs) or they can serve as providers of technology (and training) to help TCCs, PCCs and the civilian components of missions.

³ Almost all of the capabilities pledged in New York and London involve technology. Pledges relating directly to technology at the 2016 London ministerial include: Belgian Intelligence Surveillance Target Acquisition Reconnaissance (ISTAR) Detachment and UAV Unit, France's UAV Unit for MINUSCA, Hungary's High Thermal Imaging Technology, and the Netherlands Long Range Reconnaissance Patrol Task Group for MINUSMA.

⁴ For instance, two members of a UN panel of experts were killed while investigating atrocities in the Kasai province of the D.R. Congo and there was wide condemnation in the media that the UN had not provided them with tracking devices. For KIMIKO de FREYTAS-TAMURA and SOMINI SENGUPTA, "2 Experts Killed in Congo, U.N. Provided Little Training and No Protection," New York Times, 20 May 2017, <https://www.nytimes.com/2017/05/20/world/africa/congo-zaida-catalan-michael-j-sharp-united-nations-democratic-republic-of-congo.html>.

⁵ The concepts of "precision peacekeeping," "protection through connection" and the "coalition of the connected" were introduced and described in two publications: A. Walter Dorn, "Smart Peacekeeping: Toward Tech-Enabled UN Operations," New York: International Peace Institute (July 2016) ([link](#)), and Lloyd Axworthy & A. Walter Dorn, "New Technology for Peace & Protection: Expanding the R2P Toolbox," *Daedalus*, 145 (4), pp. 88–100 (Fall 2016) ([link](#)) ([pdf](#)).

⁶ The Technology Source Book provided to the UN by the US government is available on my website as a [pdf](http://walterdorn.net/pdf/Technology-Source-Book-UN-PKO_DoD_v39.pdf): http://walterdorn.net/pdf/Technology-Source-Book-UN-PKO_DoD_v39.pdf.