



A view from the UNTV studio as the Security Council holds an open video conference in connection with the situation in the Middle East (Yemen). Seated is John Montenero, Senior Broadcast and Conference Operator at the Office of Information and Communications Technology (OICT), and standing behind him is Patrick Morrison, Chief of Broadcast and Conference Support at OICT. United Nations, New York, 16 April 2020. UN Photo/Eskinder Debebe

UN Technology to Cope with COVID and Beyond

The United Nations is relying heavily on information and communications technology (ICT) to respond to the COVID-19 crisis while continuing its important work. The Security Council meets by video teleconference, and the Secretary-General holds media interviews with journalists sitting in different rooms, sometimes in different cities. United Nations staff all over the world rely on video platforms for virtual meetings and townhalls in this time of social (physical) distancing.

About the author

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A wise decision was made by United Nations leaders half a decade ago to shift most of the Organization's information technology to the cloud and rely on large corporations for cloud services. That decision is paying off, especially as the industry has proven capable of handling the huge increase in ICT demand during the pandemic crisis, thus allowing the United Nations and many other organizations and businesses to keep functioning.

Technology can be used to do much more during and after this crisis. Several areas are well worth exploring in the coming months and years for more effective responses to COVID-19 and other challenges the United Nations faces at Headquarters and in field missions, including in its peace operations.

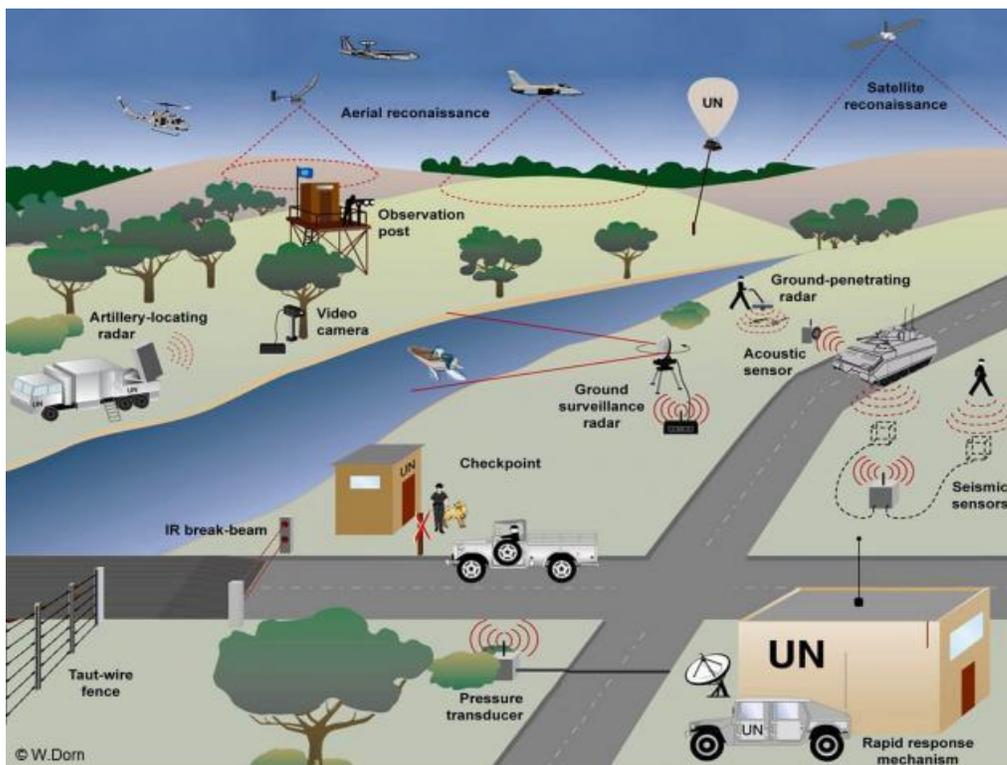
Telemedicine allows doctors and health-care professionals to provide medical services at a distance, going well beyond phone and video consultations with patients. Especially during the current pandemic, telemedicine can be very useful to doctors examining from afar United Nations staff who are at home or peacekeepers abroad in the field. Telemedicine kits allow doctors to access information remotely in real time, including body temperature, heart rate, breathing capacity, blood pressure and oxygen levels, among other metrics. Going well beyond personal health devices like "fitbit", sophisticated sensors can relay advanced diagnostics. Professional telemedicine packages, demonstrated by industry at United Nations Headquarters in the past, could be field tested. In the field, on-scene medical staff could consult with remote doctors and specialists for guidance while patients are being diagnosed, even in triage. Current medical observations of patients could be interpreted in the light of past medical records, and results could be securely stored and transmitted. At some point, a test for COVID-19 might even become available for self-administration on location, though the test data would likely need to be processed elsewhere.

Simulations and animation can be extremely useful for education and training about COVID-19 and other threats. The International Committee of the Red Cross (ICRC) is making good use of simulation software to produce [videos](#) on the rules and precautions needed for prisons and detainment camps to survive the crisis. Because ICRC had already worked on digital simulations for several years, it took only two weeks to design the instructional animation for the current situation using the simulation software. Given that physical distancing measures will be in place for a long time in some locations, and traditional classroom teaching will be difficult, the United Nations could use simulations for training and education on a wide range of issues, from health and safety to [peace operations](#). Simulations allow training in open-world scenarios for a wide range of situations, and at a trainee's preferred time and location. Leveraging this technology could save the United Nations money and resources, and help educate many more people post-pandemic.

Using big data and constantly evolving models to look at vulnerable locations and people, the United Nations would be better prepared to prevent not only the spread of disease but also the spread of violence in conflict zones.

Tracking apps on cellphones can help people avoid large gatherings where viruses are more likely to proliferate. As societies and organizations seek to return to normal, such apps could provide aggregated and anonymous information to all about crowded areas to be avoided. If a person is found to be COVID-19 positive, tracking apps can also help health professionals conduct useful contact tracing and inform those who were potentially exposed, especially the most vulnerable, like the elderly. A number of countries have already instituted such apps successfully on a voluntary basis, while also putting in place provisions to protect privacy. Strict privacy and identity protections would also have to be incorporated into the apps and privacy compliance would have to be monitored if this technology is to be fully adopted and deployed by the United Nations. Tracking technology could also facilitate precision peacekeeping, allowing the most appropriate persons to be deployed to the most appropriate locations.

Artificial intelligence (AI) could be used for predictive analysis and scenario development, including COVID-19 propagation modelling over time and distance. Using big data and constantly evolving models to look at vulnerable locations and people, the United Nations would be better prepared to prevent not only the spread of disease but also the spread of violence in conflict zones. AI could also help combat the “infodemic” that is competing with real (evidence-based) information about the pandemic by helping to counter false information with truth. It could assist the [Verified](#) initiative, recently launched by the United Nations for the dissemination of trusted, accurate information, especially online.



Overview of potential monitoring technologies that can be used in United Nations peacekeeping. (credit: W. Dorn).

Cybersecurity is needed at this time when opportunists and malicious actors seek access to United Nations data for espionage or other malicious intentions. During this pandemic, governments, companies and—incredibly—[hospitals](#) have experienced an escalation of cyberattacks. To bolster existing capabilities with strong defensive measures, the Organization could use measures like cyberthreat hunting to discover how hackers place unwanted software into United Nations systems. It could make use of “honey pots,” clever decoys, “white-hat” hackers and other feasible, ethical means. In a more ambitious programme, the Secretary-General could provide good offices if one or more United Nations Member States ask for cyberassistance. In the case of cyberwarfare, the United Nations could even apply the principles and practice of peacekeeping in cyberspace.

[Cyberpeacekeeping](#) could prove to be extremely useful in the future.

Remote monitoring will become increasingly important during the pandemic. For example, thermal imaging is to be used at airports to check for elevated body temperature. In United Nations peace operations and initiatives, remote monitoring is more important now, as human-to-human contacts are minimized. Some warring parties have agreed to the Secretary-General’s call for a [global ceasefire](#), but levels of compliance need to be verified for confidence-building. Satellite imaging, unmanned aerial vehicles and camera stations could help monitor the ceasefire, while also reducing staff exposure in dangerous or denied locations.

Smart applications of smart technology can make the Organization more effective and more secure.

Sensors could help keep United Nations workers safer, not only from disease but also from armed attack. Some manned observation posts in busy areas could be replaced with monitoring systems capable of video and two-way audio communication. Peacekeepers at remote watch stations would be able to view situations in tense areas and take measures like hailing wrongdoers or, if necessary, dispatching an unmanned aerial vehicle to buzz the area. Based on images and information received, armed peacekeepers could then be deployed. As a United Nations vehicle arrived, a 360-degree infrared scanner could be used to identify thermal hotspots to provide alerts about persons who might have been infected with COVID-19. In the future, unmanned vehicles, both in the air and on the ground, could be dispatched to the most dangerous mission areas. Onboard loudspeakers could be used to convey voice messages, and laser signals could allow communication by symbols or writing.

Many other technological applications are worth exploring for the post-COVID-19 United Nations, including the Internet of things, blockchain and mobile money. To make use of such solutions, the United Nations would need to devote time and energy to exploration, proofs of concept, pilot projects, upscaling plans and objective evaluation.

All of these technologies would require new policies to protect personal privacy and to prevent unwarranted intrusions and actions. This would require its own technology, including for internet security. Today and into the future, technology will be used by good and bad actors, and the United Nations should be ahead of the technology curve.

The world will work differently after the COVID-19 pandemic subsides. Such changes will require the United Nations to innovate rapidly. Smart applications of smart technology can make the Organization more effective and more secure. More importantly, it can help the United Nations shape a better-developed, more sustainable and safer world, during this crisis and beyond.

11 June 2020

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