

ARGUMENT

An expert's point of view on a current event.

Zoom Won't Stop a Nuclear War

The red telephone is gone, but a new generation of nuclear hotlines is sorely needed to manage international crises.

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U.N. General Assembly President Volkan Bozkir is seen on a screen at right as U.S. Secretary of State Antony Blinken (out of frame) holds a virtual meeting with him via videoconference from the State Department in Washington, D.C., on March 29. LEAH MILLIS/POOL/AFP VIA GETTY IMAGES

APRIL 19, 2021, 1:15 PM

Next year will mark the 60th anniversary of the Cuban missile crisis. The failure of U.S. and Soviet leaders to communicate personally, unambiguously, and with certainty in real time contributed to the misinterpretations and miscalculations that drove the superpowers to the brink of nuclear war. It took up to half a day for messages to travel between respective embassies in the deeply distrustful capitals. The delays added to the mistrust, and the world came within a hair's breadth of a devastating nuclear exchange. The thin silver lining of the crisis was an increased understanding for both superpowers, as well as the rest of the world, of the need for swift and trusted leadership-level communications.

The resulting Washington-Moscow hotline has served as a model for other bilateral communication links for more than half a century. Although the U.S.-Soviet hotline was popularly referred to as the "red telephone," this is misleading. What started in 1963 as written messages bounced between Washington and Moscow on trans-Atlantic cables across various nodes in Europe was then upgraded from radio to satellite circuits in 1978, to a high-speed fax service in 1986, and then to fiber-optic-based communications in 2008. Over the last 50 years, other bilateral hotlines have been put in place around the world, all varying in form, function, and level of seniority. However, even if bilateral hotlines existed for all nuclear-armed states, they would no longer meet the needs of a multipolar nuclear world.

Despite the nearly one dozen hotline links that now exist, not all countries with nuclear weapons are linked up at the level of heads of state or, in some cases, at any level. Astonishingly, in an age when any nuclear crisis or conflict could not be contained with certainty to two states, there are currently no multilateral communication lines that can be trusted. After all, trust is the issue: trust in the identity of the interlocutor; trust in the system itself, including its robustness under the most extreme conditions; and trust in the messages it carries.

In South Asia, where tensions remain high among India, Pakistan, and China over border disputes, there are no hotlines between the heads of states of any of these three countries and only limited bilateral ones at other levels of seniority between India and Pakistan, and, very recently, India and China. It is unclear if the military and political bilateral links in this area are reliable or have even been used consistently in real crises.

The military-operated India-Pakistan hotline established after the 1971 war was seen for decades as “noisy and unreliable with frequent breakdowns” and thus has not always been used when one would expect. In February 2021, it was resurrected after a number of years to discuss and agree to the current cease-fire between the two countries. The problem with this hotline is that, while it has been tailored to help de-escalate tensions related to the Line of Control, the issues between India and Pakistan are much more substantial. On the political side, the 1989 hotline between Indian and Pakistani Prime Ministers Rajiv Gandhi and Benazir Bhutto, which has been turned on and off multiple times ever since, and the 2004 nuclear hotline between the Indian and Pakistani foreign ministers are assumed by experts to be moribund.

When it comes to India and China, a hotline between the Indian Director General of Military Operations and the Chinese Western Theater Command was set up only in 2020 after years of protracted discussions. The Indian and Chinese foreign ministers also agreed to a political hotline in February of this year. Both were created in the wake of the 2020 border crisis between India and China.

While there is no leader-level hotline between the two nuclear neighbors, since Narendra Modi became the Indian prime minister in 2014 and until the crisis began last summer he and Chinese President Xi Jinping met in person at least 18 times. While such levels of personal engagement are quite rare, threats posed by sophisticated hacking, spoofing, or even simple voice imitation could even deceive leaders who have a high level of familiarity with one another. Several radio show hosts have even managed to talk to various heads of state while pretending to be a high-profile individual.

The world is increasingly riddled with emerging technologies, such as artificial intelligence-produced audio or videos known as deepfakes, that heighten the risk of miscommunication and miscalculation. Even in cases where leaders such as Modi and Xi are familiar with and maybe even personally trust one another, interfering technologies, which are becoming more and more convincing each day, could cast a dark enough shadow of doubt that existing hotlines would not be trusted. Deepfake audio is already well advanced and, in one case, was used by hackers to mimic a CEO's voice to great success.

As demonstrated by the shaky telecommunication quality of the first India-Pakistan military hotline, there are also technical challenges to communicating securely over long distances, particularly when the environment has been degraded by natural disasters, by conflict, or in the simultaneously worst and most necessary case of a nuclear detonation.

On top of these physical shortcomings, there is also the constant hailstorm of official announcements and documents, statements to the media, and tweets and other social media commentary, generating a great amount of information, both true and misleading, to filter through. As such, it is clear that existing communications pathways are not fit for today's nuclear threat environment, and there is a blatant need for clarity in nuclear crisis management for the 21st century. A Zoom call might be adequate for world leaders to exchange pleasantries or insults, but it is neither assured nor secure enough for sensitive discussions when at the brink of nuclear war. Nor could it be relied upon in a degraded communication environment, where cellular networks and the internet might be down.

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Emerging technologies, such as Prompt Global Strike and precision targeting, hypersonic missiles, and artificial intelligence, are already quickly changing the nuclear landscape, contributing to an environment where the potential use of nuclear weapons is more ambiguous and less easy to anticipate.

Nuclear-armed states are reemphasizing the role of nuclear weapons in their security doctrines as they engage in modernization efforts and in some cases are lowering the threshold of potential nuclear retaliation to include a broader range of significant nonnuclear strategic attacks, including cyberattacks. As a result, robust communications are critical, and any new multilateral hotline would have to be made resilient in the face of hacking; signal interception; firmware, software, and hardware vulnerabilities; environment degradation; and other threats such as electromagnetic pulses, which have [previously fried satellites](#). As technology evolves, the next generation of hotlines must be secured from new risks and hardened technically.

While currently technically vulnerable, some hotlines have been useful in aiding communications in complex and hostile environments. The hotlines between the [U.S. and Russian forces in Syria](#) proved very effective in deconfliction, and North Korea and South Korea operate numerous [hotlines](#) between their militaries, presidential offices, and the inter-Korean liaison office to deconflict and communicate on everything from air traffic to maritime issues. The problem is that while hotlines are difficult to set up and secure, they are also easy to disconnect and discard, which [North Korea](#) has done in the past, in times of diplomatic spats and increased tensions.

These existing hotlines are not, however, the solution to dealing with nuclear crises. The dangers and complexities of nuclear crises demand a leader-to-leader capability uniquely dedicated to the avoidance of nuclear detonations and the rapid de-escalation of nuclear conflict when other efforts have failed.

As nuclear-armed states seek to reduce the risk of nuclear conflict in a new era of multipolar great-power

competition, rethinking hotlines should be at the top of their agenda. In many ways, this is low-hanging fruit that could serve as the technical catalyst for expanded trust and dialogue. Indeed, France, as the new chair of the [P5 Process](#), has embraced the concept of “[strategic risk reduction](#)” and will make improving crisis communication technologies like hotlines a key priority for discussion among the United Nations Security Council’s permanent five members ahead of and beyond the planned Review Conference of the Nuclear Non-Proliferation Treaty this August.

In turn, various governmental and nongovernmental voices have made broad proposals for nuclear-weapons states to consider whether they are serious about improving the security environment. For example, the 16 countries participating in the Stockholm Initiative have identified a list of “[stepping stones](#)” toward nuclear disarmament, which includes improving hotlines. At the same time, another coalition of 12 countries that form the Non-Proliferation and Disarmament Initiative has also included the need for crisis-proof communication lines in its “landing zones,” or areas of potential agreement, to reduce nuclear risks. The Global Enterprise to Strengthen Non-Proliferation and Disarmament has also [pointed out](#) that communications links between nuclear weapons states “are not universal, and those that do exist warrant review.”

Our organizations—the Institute for Security and Technology and the European Leadership Network—are looking at nuclear weapon [decision-making](#) in the face of technological complexity. In particular, the Institute for Security and Technology team has closely examined global nuclear command, control, and communications systems and outlined what an innovative global hotline—dubbed “[Catalink](#)”—could look like. This project has gone beyond the conceptual stage and is ready for evaluation by the nuclear-armed states. Such an evaluation could be undertaken without change to their policies, postures, or arsenals, and it would feature well into their effort to take a more strategic approach to nuclear risk reduction while tensions rise in conflict zones across the globe.

Given the very real risks of nuclear escalation through misinterpretation of rhetoric or actions, or the miscalculation of responses due to ambiguity and secrecy, leaders must have the ability to speak clearly, confidently, and confidentially.

Maintaining stability and preventing nuclear use in an unstable multipolar world that includes nine nuclear-armed states is impossible using the bipolar logic and inadequate systems of the Cold War. Modern, robustly encrypted, and survivable multilateral communication systems available to nuclear decision-makers are needed to face the perils of the 21st-century nuclear reality. Hotlines are due for an urgent upgrade.

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