



20 Years of Building a Safer World

2021 Annual Report



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Keep in touch with NTI

Stay abreast of our work to reduce nuclear and biological threats, learn about upcoming events, and find out how to take action to help build a safer world. Subscribe to NTI's monthly updates and alerts at nti.org/subscribe.

Design elements used throughout the annual report were derived from the 2021 #CranesForOurFuture campaign and Chikara of MOKUMOKU STUDIO.

Letter from the NTI Co-Chairs

Ernest J. Moniz, Sam Nunn, and Ted Turner



Twenty years ago, we opened the doors of the Nuclear Threat Initiative. Two of us—Sam Nunn and Ted Turner—endeavored to create a dynamic organization that would think hard, develop ideas, and take bold action in a field viewed by many to be the sole purview of governments. Our goal was ambitious: to significantly reduce catastrophic risks posed by nuclear, biological, and chemical weapons of mass destruction.

As the global COVID-19 pandemic raged on, 2021 was hardly a year for celebration. Nevertheless, we are pleased on our 20th anniversary to report that NTI has demonstrated again and again the ability of a small organization to make a big difference.

When we launched NTI in early 2001, there were more than 30,000 nuclear weapons in the world, dozens of countries held nuclear materials, the horror of the 9/11 attacks was still months away, and the idea that a modern-day pandemic could sweep the globe and kill millions was unthinkable to most people. Today, the number of nuclear weapons has been

cut by more than half, and leaders have worked to secure vulnerable nuclear materials to keep them out of the hands of terrorist organizations. Despite this important progress, significant nuclear and biological threats persist. Citizens around the globe have received a terrible wake-up call about the potency of biological threats as we entered the third year of the COVID-19 pandemic. The risk of nuclear use is growing as tensions mount and the potential for conflict grows between various pairings of nuclear-weapon states, including the United States and Russia.

Our implementation of NTI's impact model—a non-profit global security organization that works with governments and partners worldwide on threat-reduction initiatives—has allowed us to develop actionable, durable solutions to address nuclear and biological dangers. With our team's deep expertise and innovative spirit, we continue to focus on threats to the future of humanity, whether related to cyber-nuclear risks or the possible misuse of dangerous biological agents.

Over two decades, our unique, effective approach has set NTI apart in the field of global catastrophic risk reduction.

In 2021, we focused on reinforcing the guardrails around nuclear security by deeply engaging the Biden administration, international governments, and civil society. We were gratified in February when President Biden and President Putin agreed to extend the New START arms-control treaty and, months later, when they jointly reaffirmed the Reagan-Gorbachev statement that “a nuclear war cannot be won and must never be fought.” This was a significant declaration which NTI and partners had long advocated, and we were pleased when China quickly followed suit.

Throughout the year, we continued to encourage France and the United Kingdom to join in the declaration, and just three days into 2022, they did, in a joint statement with China, Russia, and the United States. The importance of their act should not be underestimated: It is the first time all five of the world’s recognized nuclear-weapon states under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) have together affirmed this fundamental principle, establishing an important foundation for reinvigorated efforts to reduce the risk of nuclear conflict.

You’ll also learn in this report about the innovative agenda underway through our Scientific and Technical Affairs program. Here, we’re also focused on capturing the benefits of emerging technologies while reducing inherent risks. One example: our exploration of cyber nuclear risks led to our call for the U.S. government to undertake a “fail-safe review” to ensure that U.S. nuclear weapons and command-and-control and warning systems are hardened against cyberattacks and to identify other steps that could reduce the risk that a false warning or blunder could lead to inadvertent nuclear conflict.

In November, Sam and Ernie made the case in an op-ed for *The Washington Post*, and when the 2022 National Defense Authorization Act (NDAA) was signed into law in late December, it included a requirement for this “failsafe” review. In addition, after a formative NTI report detailed the digital security implications related to modernizing U.S. nuclear weapons, the NDAA reflected NTI’s analysis and the House Armed Services Committee expressed concern about cybersecurity vulnerabilities and the reliability of U.S. nuclear weapons as digital systems are integrated.

Looking ahead, we are currently engaged in a big think project called “Horizon 2045,” which explores innovative ways to reimagine approaches for preventing the use of nuclear weapons in order to provide a pathway toward a brighter, safer future, free from catastrophic nuclear risks and ultimately toward a world without nuclear weapons.

NTI also is leading the way in the complex field of biosecurity—on pandemic preparedness and response, improving global health security, preventing global catastrophic biological risks, and reducing biotechnology risks.

In 2019, our inaugural Global Health Security Index (GHS Index) warned that the world was unprepared for a pandemic. The second edition of the index—developed by NTI | bio in partnership with the Johns Hopkins Center for Health Security and Economist Impact and released in December—came to the same chilling conclusion. Despite significant investments made by countries to tackle COVID-19, crucial long-term planning and investments continued to lag, and the world remains dangerously unprepared for the next pandemic, which surely is coming. The GHS Index will continue to serve as an invaluable tool for leaders’ efforts to strengthen national and global preparedness.

Our vision for a more secure future also extends deep into the worlds of bioscience and biotechnology with exciting projects designed to prevent accidents or deliberate misuse of dangerous biological agents. We know that advances in genomics, synthetic biology, and virology are essential to achieve a safer, healthier, and more secure society, but governments have been outpaced in their ability to provide necessary oversight to ensure biological agents and systems aren't manipulated by bad actors. You'll read more in these pages about our growing body of work in this area.

More broadly—and related to the image you see on the cover of this report—we launched an intensive new effort in 2021 to determine how best to build greater public awareness and engagement around the need to reduce catastrophic nuclear risks. In August, we partnered with Hiroshima for Global Peace for a #CranesForOurFuture campaign to raise awareness and spread a message of hope around the confluence of the August anniversaries of the 1945 atomic bombings of Hiroshima and Nagasaki and the summer Olympics in Japan. The engagement was tremendous among partners and leaders in the field, on the web, and on social media. Look for more public campaigns in 2022, and please join in!

NTI's anniversary year also brought change in our (virtual) office, as a number of our top experts and program leads were called to serve in government. As Ernie likes to say, we consider it a great compliment that the Biden administration turned to NTI when it was seeking the top experts, and we are grateful to have them working to shape nuclear and biosecurity priorities at the highest levels of government. The changes have given us the opportunity to restructure, promote some terrific talent from within our own ranks, and bring on some fresh expertise.



We would like to thank our exceptional staff who unfailingly bring their “A” game to work, even as we all continue to weather the vicissitudes of the pandemic. We also thank our dedicated Board members, among them several who joined us in 2021: Ambassador Brooke Anderson, Ambassador Jon Huntsman, Dr. Louis Salkind, and Dr. Peng Yuan.

We are extraordinarily grateful to the foundations, families, and individuals who put their trust in NTI by providing financial support. In particular, we thank new funders and long-time supporters: Warren Buffett, Carnegie Corporation of New York, the John D. and Catherine T. MacArthur Foundation, the Open Philanthropy Project, and the Peter G. Peterson Foundation. Without them, we would not be able to do our important work.

As we look ahead, we know the backdrop for our work continues to be daunting—but 20 years after our founding, we are proud to say that we have proved that we can make a tangible difference in reducing nuclear and biological threats.

We hope you will join us in this important work.

Ernest J. Moniz

Sam Nunn

Ted Turner

Saying Farewell

NTI mourned the passage in 2021 of some exemplary leaders, devoted public servants, and champions for peace and global security—all cherished friends and partners in our work to build a safer world.



Robert E. Berls, Jr., a beloved colleague, served as NTI's top expert on Russia for two decades, and he directed or helped manage many of NTI's projects in Russia addressing nuclear, chemical, and biological threats. Bob's career spanned military, government, academia, and business, including 26 years in the Air Force and a posting in the 1980s as Air Attaché at the U.S. Embassy in Moscow. In his memory and to sustain his strong commitment to the professional development of younger people, NTI established "The Robert E. Berls, Jr. Next Generation Fund" to promote understanding and scholarship among U.S., European, Russian, and Asian young professionals and students.



George P. Shultz, a close partner in NTI's work to reduce nuclear dangers and build a safer world, was one of the world's great diplomats who helped lay the groundwork for the end of the Cold War. Following his remarkable government service, George dedicated himself to working toward a world without nuclear weapons and defining the practical steps to get there. In partnership with William J. Perry, Henry A. Kissinger, and Sam Nunn, he transformed the national security dialogue and proved that working toward long-term nuclear disarmament is consistent with security and our national values.



Shirley Williams, a British politician and academic more formally known as the Rt. Hon. the Baroness Williams of Crosby, joined NTI's Board in 2002. A trailblazer for women around the world and a global leader on nuclear disarmament and nonproliferation, Shirley helped build NTI, offering sharp analysis, sound judgment, and keen insights—always delivered with great spirit, humor, and a twinkle in her eye.

NTI at 20: Two Decades of Building a Safer World

On January 8, 2001, philanthropist Ted Turner, former Senator Sam Nunn, and former Deputy Secretary of Energy Charles B. Curtis took the stage at the National Press Club to announce the creation of the Nuclear Threat Initiative. Nunn, who would serve as NTI's CEO from that day through 2017, told reporters that “the emphasis of this initiative will be on action—making real and significant progress on the most urgent threats.” In other words, NTI would not be another Washington think tank.


Founded with an international Board of Directors and staffed with some of the top experts in the world—including our first president, Charlie Curtis, and our current president, Joan Rohlfing—NTI has grown from a handful of employees to some 60 today. Along the way, we've tackled projects with terrific partners across Europe, Asia, the Middle East, Latin America, Africa, and beyond. We've also made two movies, created a daily newswire on global security, and cultivated a new generation of leaders in the fields of nuclear and biological security.

We are ever mindful that there is still a great deal of work to be done, but 20 years after NTI's founding, we are enormously proud to have played a role in some of the important threat-reduction success stories of the past two decades and to have helped lay the foundation for future progress on some of the world's persistent and evolving threats.



NTI at 20: Joan Rohlfing on NTI's impact model

What I am most proud of is NTI's impact model. We've developed a novel way of working within our mission space, and that has greatly increased our impact in the field. We're driving towards systemic change, and we do it through a process of developing good ideas and novel concepts for threat reduction. We socialize those concepts globally, we test drive them in the field to de-risk them, and once we have demonstrated efficacy, we work to scale up to achieve lasting systemic change globally. And that's unique. It's been exciting to help create an organization that's delivering real change in the real world.



“Looking ahead, the [GHS Index] report found ‘all countries remain dangerously unprepared’ for the next catastrophe. This is a warning not to fall back on the cycles of panic and neglect that left the world so vulnerable last time.”

*Washington Post editorial on the Global Health Security Index,
December 13, 2021*

Enhancing Global Biosecurity

With more than 276 million cases worldwide and a death toll approaching 5.5 million at the end of 2021, COVID-19 and its variants continued to ravage global economies, exacerbate political and economic instability, overwhelm hospitals, disrupt supply chains, and upend the daily lives of everyone from schoolchildren to the elderly, front-line workers to first responders. As the ongoing pandemic has made clear, biological threats—whether natural, intentional, or accidental—have the potential to sicken and kill many millions of people and wreak havoc across the globe. NTI | bio engaged with governments to help inform COVID-19 response efforts early in the outbreak, and we continue to bring our expertise to bear.

At the same time, we're working to prevent a global catastrophic biological event of even greater proportions that could undermine humanity's long-term future by causing tremendous loss of life, societal instability, and prolonged damage to governments and economies. Today, such risks are on the rise due to rapid advances in technology, increased global capacity to create and engineer pathogens, and the potential for interest in biological weapons by both states and terrorist groups. NTI | bio is engaged in an ambitious effort to build awareness of catastrophic biological risks, gain commitments for action by policymakers and practitioners, and build stronger international norms and systems designed to prevent the misuse and abuse of biosciences and biotechnology, including the development and use of biological weapons.

Preventing the Next Pandemic

2021 Global Health Security Index

Shortly before the first cases of COVID-19 made headlines, the inaugural Global Health Security Index warned that national health security capacity was fundamentally weak around the world and no country was fully prepared for a pandemic or epidemic. Nearly two years into the pandemic, the second edition of the GHS Index, developed by NTI | bio and the Johns Hopkins Center for Health Security with research support from Economist Impact, came to the same sobering conclusion. Despite significant investments to battle the ongoing pandemic, researchers found that all countries—across all income levels—remain dangerously unprepared to meet future pandemic and epidemic threats, in many cases because they still have not made necessary durable, long-term investments.



World is still dangerously unprepared for next pandemics, report finds

BY LENA H. SUN

Nearly two years into a coronavirus pandemic that has killed more than 5 million people, every country, including the United States, remains dangerously unprepared to respond to future epidemic and pandemic threats, according to a report released Wednesday assessing the efforts of 195 countries.

Despite top overall rank, U.S. scores the lowest on government confidence

agencies, including some that might be more devastating than the coronavirus. The assessment of each country's ability to prevent, detect and respond to health emergencies in 2021 was based on public information. Researchers also weighed other factors, such as public confidence in government. The average country score for 2021 was 38.9 out of a possible 100 points, essentially unchanged from 2019. No country scored above 75.9. The United States, with its vast

wealth and scientific capability, maintained its top overall ranking — it was also No. 1 when the first index was released in 2019. But the United States also scored lowest on public confidence in government, a key factor associated with high numbers of coronavirus cases and deaths. That factor may explain why other countries that received top marks in 2019 also responded poorly during the pandemic. Over nearly two years, the report said, U.S. politicians have questioned the motives and messages of health officials and debated the seriousness of the virus and the effectiveness and safety of vaccines. "The result: in many areas of the country, people have been unwilling to comply with public health recommendations that would slow the spread of the virus."



The GHS Index—measuring capacities across 195 countries—is an indispensable tool for governments, health officials, experts, and news media around the world. In 2021, it “enabled many countries to move more swiftly in response to the emergence of COVID-19 because they had taken the time to assess their capability and know where their weaknesses were,” said Dr. Margaret A. Hamburg, NTI Board member and former commissioner of the U.S. Food and Drug Administration.

The 2021 GHS Index, which received media attention in dozens of countries from Vietnam to India to Russia, holds leaders accountable for progress while at the same time serving as a guide for prevention, detection, and response capacity building with detailed recommendations for action by countries, international organizations, the private sector, and philanthropies. As *The Washington Post* editorial board wrote, the findings of the 2021 GHS Index should serve as “a warning not to fall back on the cycles of panic and neglect that left the world so vulnerable last time.”

New Zealand: The GHS Index “really saved us.”



After the 2019 GHS Index was released, New Zealand took action, making a host of improvements to its health security infrastructure. These changes meant that when COVID-19 hit in 2020, the country was able to respond swiftly and communicate

effectively about the risk. Siouxsie Wiles, a renowned infectious disease expert and advisor to Prime Minister Jacinda Ardern, told the *Winnipeg Free Press* that the GHS Index “really saved us,” as New Zealand implemented a transparent and science-based process to lock down the country to eliminate the virus. “The GHS Index and the unmitigated willingness of key decision-makers to own the country’s shortcomings may have spared the lives of hundreds, if not thousands, of Kiwis,” the newspaper reported. With new health security improvements in place, New Zealand’s 2021 GHS Index ranking jumped 12 positions.

Global Biosecurity Dialogue Goes Virtual



Recognizing that preventing accidental or deliberate biological events is often overlooked and underfunded, NTI | bio's Global Biosecurity Dialogue convenes senior officials from ministries of foreign affairs, health, defense, agriculture, and other relevant sectors to bolster and expand biosafety and biosecurity efforts and safeguard the global bioscience and biotechnology research and development enterprise.

In 2021, leaders from nearly 40 countries worked collaboratively toward creating sustainable improvements in countries' capacities, promoting the development and implementation of practical tools to mitigate biological risks associated with advances in technology, and building political and financial support for biosecurity efforts at the national, regional, and global levels. In a partnership that emerged from the Dialogue, NTI | bio continues to support the Africa Centres for Disease



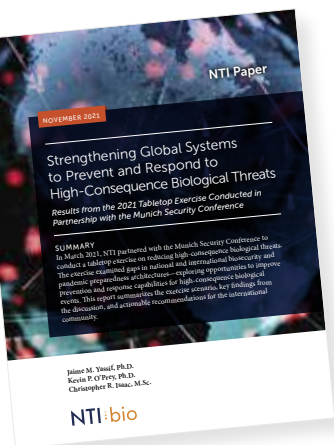
Control and Prevention as they implement their Biosafety and Biosecurity Initiative to strengthen capacities of African Union Member States.



NTI at 20: Peggy Hamburg on the evolution of NTI | bio

It is wonderful to see how the NTI | bio program has evolved now over two decades, and I think has really demonstrated its unique contribution to the fields of global public health and security. Without a doubt the work of NTI has helped deepen understanding of the nexus between health and security. Long before COVID, NTI was speaking to the importance of the biological threat and the need to better prepare, along with the need to engage across disciplines, across sectors, and across borders.

Preventing Global Catastrophic Biological Risks



Tabletop Exercise Reveals Gaps in Global Biosecurity

NTI | bio, in partnership with the Munich Security Conference, hosted senior leaders from across Africa, the Americas, Asia, and Europe representing public health, the biotechnology industry, international security, and philanthropy for a third annual tabletop exercise. The event was designed to identify gaps in global capacities to prevent, detect, and respond to high-consequence biological events.

Meeting virtually, the leaders grappled with a fictional scenario involving an unusual strain of monkeypox virus that first emerges in the nation of Brinia and spreads globally over 18 months. Ultimately, the outbreak, which leaves 270 million dead and more than three billion sickened, is caused by a terrorist attack using a pathogen engineered in a laboratory with inadequate biosafety and biosecurity provisions in a country with weak oversight.

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NTI | bio Senior Fellow Jaime Yassif led NTI's work on the tabletop exercise and IBBIS

The resulting report was released in November on the sidelines of the Biological Weapons Convention (BWC) Meeting of States Parties and captured key lessons and recommendations, including the need for improved global systems for assessing and warning of pandemic risks; more proactive national-level triggers for effective pandemic response; a new global entity dedicated to reducing emerging biological risks associated with rapid technology advances; and a catalytic global health security fund to accelerate pandemic preparedness.



NTI at 20: Sam Nunn on making a difference

I think we had the big question mark of whether a non-profit organization staffed with skilled people, a lot of experience, and an international board could really make a difference. And I think the answer to that question after 20 years is yes, without any doubt, I think we have made a big difference.

NTI Distinguished Fellows Bring Expertise, Innovative Ideas

Two of the world's top leaders on bioethics and global threat reduction respectively—**R. Alta Charo** and **Angela Kane**—joined NTI as distinguished fellows in 2021, bringing deep experience and expertise to NTI's work.

Charo, the Warren P. Knowles Professor Emerita of Law and Bioethics at the University of Wisconsin, spent six months with NTI | bio as the first David A. Hamburg Distinguished Fellow. Charo's expertise in biosecurity, law, and ethics advanced the work NTI | bio has spearheaded to address critical gaps in the global bioscience governance architecture. She led NTI | bio's efforts to develop the initial scoping study for IBBIS, defining the key attributes needed to achieve its vision of a world in which bioscience and biotechnology can advance and flourish, safely and responsibly.



Kane, former Under-Secretary-General of the United Nations for Management and former High Representative for Disarmament, joined NTI as the new Sam Nunn Distinguished Fellow to support NTI's program work on global threat reduction, with a particular focus on NTI | bio's initiatives to reduce global catastrophic biological risks. Kane primarily supports NTI | bio's initiatives to reduce global catastrophic biological risks by strengthening international coordination in preventing, investigating, and responding to these devastating events.



IBBIS: The International Biosecurity and Biosafety Initiative for Science

NTI | bio is working to safeguard bioscience and biotechnology and reduce the risk of deliberate misuse or catastrophic accidents by creating a new international entity—the International Biosecurity and Biosafety Initiative for Science (IBBIS)—to strengthen biosecurity norms and develop innovative tools to uphold them. Following the development of a scoping study and working with an international steering group of experts from academia, philanthropy, the biotechnology industry, and international organizations, NTI plans to launch IBBIS in 2022.

Its first area of focus: DNA synthesis screening. DNA synthesis is critically important for biotechnology advances, such as the rapid development of therapeutics and vaccines, and demand for this service is growing. Unfortunately, there is no legal requirement in any country around the world to screen DNA orders and customers to protect against malicious actors who may seek to exploit the service to cause harm. Partnering with the World Economic Forum and leading experts in the field, NTI | bio has begun to develop software for an international Common Mechanism for DNA synthesis screening and plans to launch this tool as part of the initial scope of IBBIS' operations in 2022.



“We affirm that a nuclear war cannot be won and must never be fought.”

Joint Statement of the Leaders of China, France, Russia, the United Kingdom, and the United States reaffirming the 1985 Reagan-Gorbachev statement, January 3, 2022

Photo credits from left to right: (Photo by Ding Lin/Xinhua via Getty Images) (Photo by IAN LANGSDON/POOL/AFP via Getty Images) (Photo by Matt Dunham — WPA Pool/Getty Images) (Photo by Alexandra Beier/Getty Images) (Photo by BRENDAN SMIALOWSKI/AFP via Getty Images)

Reducing Global Nuclear Risks

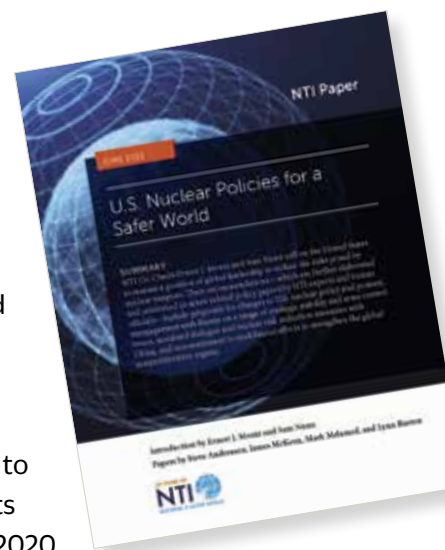
In 2021, the year started on a hopeful note with Presidents Biden and Putin agreeing to extend the New START Treaty for five years and the United States seeking to rejoin the Joint Comprehensive Plan of Action (JCPOA)—the nuclear deal with Iran—if Iran would return to compliance. The year ended with the ominous threat of a war in Ukraine with the potential to draw in the broader Euro-Atlantic region, the JCPOA still in abeyance, and a large agenda of unfinished business to reduce nuclear risks globally.

Against this challenging backdrop, NTI worked in 2021 to develop and advance innovative, practical ideas, policies, and solutions to reduce reliance on nuclear weapons and take concrete steps to reduce nuclear threats.

Preventing Nuclear Weapons Use

Advancing Safer Nuclear Policies

NTI welcomed the decision by Presidents Biden and Putin in February 2021 to extend the New START arms-control treaty through 2026. This was an early step NTI recommended to the Biden team during its transition in November 2020.



NTI at 20: Laura Holgate on leaving government to join NTI

Well, NTI was the place to be! There had been a lot of outreach to people inside government and outside government to help Joan and the scoping study team really think hard about what a private, well-funded organization could bring to the issues we address. It was very clear to me that I wanted to be part of this new venture. ... I knew that this was a group that was going to do interesting and exciting things, and I was thrilled to have a chance to join.

In the context of the first in-person meeting of Presidents Biden and Putin in June 2021, NTI independently and with our partners in the Euro-Atlantic Security Leadership Group urged the presidents to commit to a strategic stability dialogue, pursue further nuclear arms reductions, and reaffirm that “a nuclear war cannot be won and must never be fought.” The joint statement that came out of their meeting reflected all three of these priorities—and the principle that a nuclear war must never be fought was for the first time included in a January 2022 joint statement from the leaders of China, France, Russia, the United Kingdom, and the United States. NTI has consistently advocated this declaration since 2017, directly and through the Euro-Atlantic Security Leadership Group.

Calling on President Biden to resume a position of global leadership to reduce the risks posed by nuclear weapons, NTI co-chairs Ernest J. Moniz and Sam Nunn in June introduced a set of seven policy papers and recommendations from NTI experts. “The risk of use of a nuclear weapon is higher today than at any time since the Cuban Missile Crisis,” they wrote in the introduction to *U.S. Nuclear Policies for a Safer World*, released as the president arrived in Europe for key meetings with the G7, NATO, the European Union, and President Putin. “Reducing these risks will require U.S. leadership and renewed commitment to diplomacy and engagement, bold and creative policy choices, and unwavering focus.”

The papers included proposals for changes to U.S. nuclear policy and posture, reengagement with Russia on a range of strategic stability and arms control issues, sustained dialogue and nuclear risk reduction measures with China, and recommitment to multilateral efforts to strengthen the global nonproliferation regime. A key NTI recommendation was included in the fiscal 2022 National Defense Authorization Act: that the U.S. government conduct an internal “failsafe review” to ensure that U.S. nuclear weapons and command-and-control and warning systems are hardened against cyberattacks and to identify steps that could reduce the risk that a terrible miscalculation could lead to inadvertent nuclear conflict.

Building U.S.-Russia Cooperation and Ensuring Euro-Atlantic Security

Also in June, the leaders of the Euro-Atlantic Security Leadership Group—Des Browne, Wolfgang Ischinger, Igor Ivanov, Ernest J. Moniz, and Sam Nunn of the European Leadership Network, the Munich Security Conference, the Russian International Affairs Council, and NTI, respectively—released a statement on *Advancing Strategic Stability in the Euro-Atlantic Region*. With 45 signatories from 13 countries, the statement pointed to a growing risk of a security crisis involving an escalation or miscalculation leading to nuclear use and called on leaders to advance multilateral dialogue on recommended principles and practical steps to improve mutual security.



NTI at 20: Lynn Rusten on NTI's outsized impact

It is impressive that NTI is so impactful. It's really like the little engine that could. We are able to leverage ideas and relationships and partnerships to get big things done.

Reaffirming the Reagan-Gorbachev Declaration

In 1985, at the height of the Cold War, Ronald Reagan and Mikhail Gorbachev issued a historic joint statement that “a nuclear war cannot be won and must never be fought.” It signaled a new effort to improve relations between the United States and the Soviet Union, laid the foundation for launching negotiations on important arms-control treaties, and was positively received around the world.

In recent years, as global nuclear tensions have escalated, NTI advocated first for the United States and Russia bilaterally and then for China, France, Russia, the United Kingdom, and the United States—all five nuclear-weapon states recognized under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), known as the “P5”—to jointly reaffirm the Reagan-Gorbachev statement to help lay a new foundation for action on reducing the risk of nuclear conflict.

Presidents Biden and Putin did so in a joint statement at their meeting in June, as did Presidents Putin and Xi later that month. NTI then launched, with our partner the European Leadership Network, #ReaffirmOurFuture, a social media campaign aimed at the P5 countries. Scores of government officials and experts from around the world participated, sharing videos, tweeting graphics, and engaging in robust debate online.

Three days into the new year, on January 3, 2022, leaders of the P5 countries issued their first joint statement affirming the Reagan-Gorbachev principle and establishing an important foundation for reinvigorated efforts to reduce the risk of nuclear conflict and strengthen the NPT.

To create further opportunities to increase dialogue and U.S.-Russia engagement, NTI and the Moscow-based Center for Energy and Security Studies convened two virtual workshops to discuss the intersection of nuclear nonproliferation and civil nuclear energy as well as to identify the unfinished areas for nuclear energy and security cooperation between the two nations.

Strengthening the Nuclear Non-Proliferation Treaty

Every five years, countries that are party to the NPT gather to assess its implementation. To support a successful Tenth NPT Review

Conference (now postponed until later in 2022), NTI has convened officials and experts from more than 20 countries through our Global Enterprise project to identify practical commitments that demonstrate the ability of countries to work together to advance treaty goals.

In October, NTI published a set of recommendations, based on these discussions, which offered concrete steps countries could take in the context of the Review Conference to improve transparency, strengthen risk reduction, and manage risks associated with fissile materials. NTI then conducted four virtual briefings for regional experts and officials—two for Latin America, one for Africa, and one for Asia—to share the findings and recommendations.



**“ A Nuclear War Cannot Be Won ”
and Must Never Be Fought**

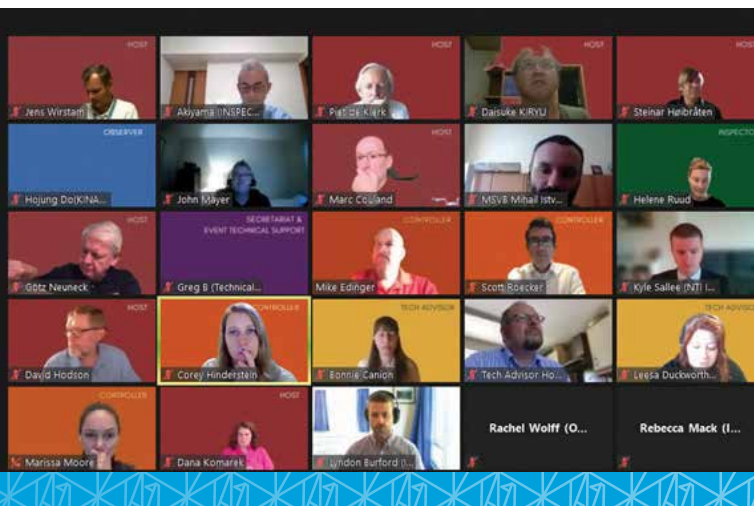
Joint Statement by Presidents Reagan and Gorbachev,
November 21, 1985

#ReaffirmOurFuture



#ReaffirmOurFuture

Advancing Nuclear Disarmament Verification



The International Partnership for Nuclear Disarmament Verification (IPNDV), NTI's public-private partnership with the U.S. State Department and more than 25 countries, continued its rigorous work aimed at developing the expertise and know-how for verification of future arms-control treaties. In June, more than 40 technical and policy experts joined a four-day virtual tabletop exercise simulating the verification and monitoring of the removal and subsequent placement in storage of a warhead from its intercontinental ballistic missile. Despite challenges posed by the virtual format, participants reported that they found the exercise technically detailed and realistic. The Partnership gathered in December to chart the path for the coming year, building on the lessons learned from the June exercise to further disarmament and verification strategies and develop plans to expand the Partnership's reach.

Horizon 2045



Imagine this: It is 2045, a century after nuclear weapons were invented and used to bomb Japan, and we have broken their stranglehold on the future of humanity.

That's the ambitious, audacious pursuit of Horizon 2045—to rid the world of nuclear weapons by the 100th anniversary of the first atomic bomb.

Partnering with the creative, out-of-the-box innovators at N Square and the Rhode Island School of Design's Center for Complexity, NTI is engaged in a big-think project to challenge conventional wisdom and chart a new path for global security free from the existential threat of nuclear weapons. Horizon 2045 draws on proven practices for large-scale systems change and engages nontraditional actors—designers, ethicists, philosophers, cultural influencers, and more—to work with security experts in a “whole of society” initiative to imagine and ultimately achieve a new global security architecture that doesn't threaten the very future of humanity.

NTI's Joan Rohlfing explains: “Nuclear deterrence was a strategy that was developed after the end of the second World War and really took shape circa 1950. So, we're talking about a 70-year-old strategy that underpins our security, without taking into account today's complexities, like nine nuclear armed states, cyber threats, and nuclear terrorism. Nuclear deterrence was never designed to address today's threat environment. It's time to challenge old thinking and explore pathways to a safer system for managing modern nuclear risks.”



Sam Nunn and Laura Holgate in Russia in 2007 assessing results of Cooperative Threat Reduction, an enormously successful program that they propose adapting to a new framework for the future.

Preventing Nuclear Terrorism

A New Framework for Nuclear Materials Security

Thirty years after the creation of the Cooperative Threat Reduction program to address the potentially catastrophic implications of the collapse of the Soviet Union, Sam Nunn and NTI Vice President Laura S.H. Holgate proposed a new paradigm to address today's nuclear security challenges. In *Cooperative Risk Management and Reduction: A New Framework for Nuclear Materials Security*, the two offer a model for nuclear security engagement centered on the principle of continuous improvement and an enhanced emphasis on the critical roles played by culture, institutions, treaties, and norms for sustaining nuclear security excellence. "CRMR is a strategy for the present and for the future," they wrote. "The authors believe that this approach to nuclear security will foster peaceful uses of nuclear materials while strengthening measures to prevent its misuse and the potentially catastrophic consequences, and we encourage the United States and other countries to adopt it now."



NTI at 20: Ted Turner on tackling nuclear threats

Just because something is hard is not a reason to sit on our hands and do nothing. Nuclear security is something we should all be concerned about because the threat is still very real. We must demand greater attention from our leaders, and our leaders must be bold in taking action.



NTI's Corey Hinderstein moderating an NTI Seminar with IAEA Director General Rafael Grossi.

Building a Stronger Nuclear Security Architecture

In 2022, the International Atomic Energy Agency (IAEA) will host the first review conference for the Amended Convention on the Physical Protection of Nuclear Materials (CPPNM/A), the only legally binding treaty requiring countries to protect nuclear facilities and nuclear materials while in transit. The review conference will give countries an opportunity to share lessons learned, best practices, and ideas for continuous improvement on implementing the treaty. Throughout 2021, NTI led efforts to help prepare countries for the conference, convening six regional workshops in Asia, Africa, Latin America, and the Middle East with representatives from more than 50 countries. Related to that work, NTI's long-running Global Dialogue on Nuclear Security Priorities in 2021 held both fully virtual and hybrid meetings on a range of topics from the impact of COVID-19 on nuclear security implementation to how to reinvigorate a culture of deliverables at major nuclear security events in the aftermath of the Nuclear Security Summits.

Tested by Crisis: Gender Champions in Nuclear Policy

NTI hosts Gender Champions in Nuclear Policy, a leadership network that brings together heads of organizations who are committed to breaking down gender barriers and making gender equity a working reality. In 2021, the group issued its second progress report, which found that amid the pandemic, the 72 Gender Champions who have committed to advance gender equity in their organizations fully implemented 98 of their 153 commitments. Most strikingly, the report disclosed that employees of organizations headed by Gender Champions had dramatically better experiences than their peers during the pandemic, illustrating the power of principled leadership.





NTI President Joan Rohlfing, left; NTI Senior Director Scott Roecker and IAEA Director General Rafael Grossi, right.

New Agreement with the IAEA

NTI deepened its institutional relationship with the IAEA in September, signing a Practical Arrangement with the Austria-based agency during its 65th General Conference. Building on years of cooperation between NTI and the IAEA, the Arrangement provides a formal framework for collaboration on

nuclear security, safeguards, and peaceful applications of nuclear technology. NTI's Scott Roecker joined IAEA Director General Rafael Mariano Grossi in Vienna for the signing ceremony, and NTI President and COO Joan Rohlfing joined virtually.



NTI at 20: Charlie Curtis on expanding horizons

From the outset, NTI was determined to be an instrument for change, an influencer of policy, and an architect of institutional initiatives and actions to make a safer world. We evolved our objectives and thinking through our 20 years as Joan Rohlfing took my place as president, our horizons expanded, and former U.S. Department of Energy Secretary Ernie Moniz became NTI's new executive leader. I am proud to say that throughout its two decades of life, NTI's voice has only grown stronger, and it has been a highly credited contributor to the change we committed ourselves to make in the world. Yet so much more needs to be done.



“The committee is concerned about cybersecurity vulnerabilities and digital security in the nuclear modernization acquisition process. The committee believes that digital systems must meet established security and reliability thresholds before being integrated into the nuclear enterprise.”

*National Defense Authorization Act for Fiscal Year
2022 Report of the Committee on Armed Services,
U.S. House of Representatives*

Harnessing Science and Technology

Today's rapid advances in science and new and emerging technologies offer enormous benefits for security, disease prevention and treatment, climate change, and other areas. At the same time, advances that make important progress possible too often are moving faster than the government policies needed to protect against mistakes and misuse. Outdated safety and security measures could allow cyberattacks on nuclear facilities, weapons, or command-and-control systems, and advances in artificial intelligence could speed the pace of warfare. No weapons systems—even the world's most dangerous nuclear weapons—are immune to potentially devastating outcomes, nor are the world's top bio labs.

NTI is working to capture the benefits and address the peril of new technologies to reduce the risks of nuclear and biological attacks.

Promoting Cyber-Secure Nuclear Weapons

Once simple and analog, now even nuclear weapons systems increasingly feature digital parts that bring welcome functional benefits as well as cybersecurity risks. We were gratified that when the 2022 National Defense Authorization Act (NDAA) was signed into law in late December, it referenced digital vulnerabilities in nuclear weapons systems after a formative NTI report detailed the digital security implications related to modernizing U.S. nuclear weapons and related systems. The NDAA reflected NTI's analysis and the

House Armed Services Committee expressed its oversight interest in cybersecurity vulnerabilities and the reliability of U.S. nuclear weapons as digital systems are integrated in them. With the risk of inadvertent nuclear use on the rise, in part due to cyber and other modern-day threats, NTI also called on the Biden administration—in a series of policy papers and in a *Washington Post* op-ed—to conduct an independent “failsafe review” to reduce the risk that a false warning or blunder could lead to inadvertent nuclear conflict.



Cyber-Nuclear Forum

A successful cyberattack on a civilian nuclear facility's networks could lead to the theft or diversion of nuclear materials, or even the release of radiation, undermining global confidence in civilian nuclear power as a safe and reliable energy source. The Cyber-Nuclear Forum promotes greater international cooperation by engaging and building a global network of cybersecurity experts from operational nuclear facilities. The project aims to enhance cybersecurity practices at nuclear facilities around the world; accelerate and amplify the capabilities of the limited number of skilled experts; and establish an industry-led, self-sustaining vehicle for facilities to get and stay ahead of constantly evolving cyber-nuclear threats. In December, NTI convened a virtual session of the Cyber-Nuclear Forum to address cybersecurity best practices for nuclear facilities amid the pandemic.

Artificial Intelligence in Nuclear-Weapons Systems

Understanding that the implementation of artificial intelligence (AI) in nuclear-weapon systems appears inevitable, NTI Distinguished Fellow Jill Hruby explored the benefits and risks of such applications. In the report, Hruby and co-author M. Nina Miller wrote that AI in nuclear-weapon systems is neither all good nor all bad and must be considered in the context of the specific application and the geopolitical environment. Because AI implementation is likely, the paper recommends actions to take now to realize the benefits and manage the risks as the technology matures and strategic stability implications are better understood and discussed within the international community. Hruby developed the paper while serving as the inaugural Sam Nunn Distinguished Fellow at NTI. In July 2021, Hruby was confirmed as the Under Secretary for Nuclear Security in the Department of Energy.



U.S.-Russia Dialogue on Cyber Threats to Nuclear Weapons

As cyber capabilities evolve and nuclear weapons systems become increasingly vulnerable to cyber-attacks, the risk increases that nuclear weapons will be used by accident or miscalculation. Cyber threats could erode leaders' confidence in nuclear weapons delivery and warning systems, and technical solutions alone cannot guarantee avoiding catastrophe. The United States and Russia, as guardians of the world's largest nuclear stockpiles, have an existential common interest and responsibility to work together to prevent nuclear catastrophe. To address these risks, NTI and the Institute for U.S. and Canadian Studies at the Russian Academy of Sciences are engaged in a virtual dialogue among cyber, information security, and nuclear weapons policy experts from the United States and Russia. In 2021, two dozen experts drafted joint working group papers and met to discuss the most dangerous pathways for nuclear escalation, joint data exchange to build transparency, and "rules of the road" for responsible behavior. Participants engaged in the discussions with the common understanding that nuclear weapons systems must be protected from escalating cyber threats and that the unique U.S.-Russia nuclear relationship requires bilateral cooperation to maintain stability. The final report is expected in 2022.

Investigating the Effects of Nuclear Weapons Use



Hiroshima after the atomic bombing, 1945

The damaging effects of the light, heat, blast, and radiation caused by a nuclear explosion have been known to scientists since the end of the Second World War. But analysis of effects of a nuclear explosion are woefully out of date, leading to limited public awareness and expert understanding of the likely global climatic, economic, humanitarian, and societal effects. NTI in 2021 launched an effort to align researchers and identify gaps in the scientific and policy analysis of the effects of today's nuclear weapons. NTI hosted two working groups of scientists and experts to explore the policy, economic, and climactic impacts of a nuclear exchange. This forum allows for discussion, coordination, and, ultimately, development of a modern research agenda to clarify for publics and policymakers the potentially catastrophic effects of a nuclear weapons exchange on today's modern, interconnected world.

e Altruism Global



“My fellow Americans, you can’t imagine what a world full of nuclear weapons was like. That’s good, no one should ever have to. Your world doesn’t have them ... You can focus on living peaceful lives and pursuing happiness as enshrined in our constitution. I hope you make the most of it.”

From a letter to the future written by a man participating in NTI’s narrative research

Building Political Will

The use of a nuclear weapon may be as hard for people to imagine today as the specter of a world shut down by a virus was only a couple of years ago. But just as with biological threats, nuclear risks have been on the rise for years. We need greater engagement by citizens to encourage elected leaders and government officials to change outdated thinking and imagine and work for a brighter future.

To build the political will needed to address today's evolving and escalating nuclear and biological dangers, NTI is working across multiple fronts to educate and engage the public and demand leaders take action.

What Works?

How do we connect nuclear threats with what is most relevant and deeply meaningful in people's daily lives? Who is persuadable, and are there common elements of a story that move the U.S. public?

NTI commissioned research into these questions by a respected interdisciplinary team that has examined similar questions on issues ranging from youth civic engagement to economic justice. The work went far beyond simple polling. Team members conducted 90-minute, one-on-one interviews with a cross-section of Americans as well as randomized controlled trials of content with more than 10,000 people.

Researchers found that while the U.S. public already overwhelmingly wants to live in a world without nuclear weapons, half do not believe it's possible, and less than a third believe they have any role to play. One of the biggest lessons from the research: If you don't include a positive vision of a future in your message, you fail to persuade audiences.

We shared the findings with the broader arms control and non-proliferation community and have begun to incorporate these lessons in our communications.



NTI at 20: Cathy Gwin on making movies

Helping to create and promote the films *Last Best Chance* and *Nuclear Tipping Point* are highlights of my time at NTI. It was a thrill to attend the White House screening of *Nuclear Tipping Point* with President Obama and to join Senator Nunn for his appearance on *The Colbert Report* to promote the film. Stephen Colbert asked, "How are you giving this movie away for free—are you selling concessions, popcorn, soda?" Senator Nunn replied, "I would say popcorn, soda, Warren Buffett, and Ted Turner."

Cranes In Flight



Joe Cirincione
We survive the 76 years since the last time an atomic bomb was used in war. Will my granddaughter be so lucky?

We folded #CranesForOurFuture to mark the dates of the Hiroshima & Nagasaki bombings (August 6 & 9) and to join with others working for a nuclear-free world. <https://t.co/edz0jnWIK1>

@CIRINCIONE
AUG 9, 2021



Ernest J. Moniz
No more Hiroshimas. That's our wish and our work at @NTI_WMD.

Please join us in folding and sharing a paper crane with your own wish for the future. <http://CranesForOurFuture.org> #CranesForOurFuture

AUG 6, 2021



UN ODA Under-Secretary General Nakamitsu

76 years since the atomic bombings of Hiroshima & Nagasaki, I reflect on the powerful meaning of this origami crane as a global symbol of peace. It reminds us that together, we must craft a brighter future, one that is free from the threat of #nuclearweapons. #CranesForOurFuture

AUG 6, 2021



Rose Gottemoeller
My wish is that my grandsons will live in a world without nuclear weapons. #CranesForOurFuture <https://t.co/AA0ac3sxR>

@GOTTEMOLLER
AUG 9, 2021



Laura Kennedy
On a beautiful summer day, imagine your world blown to smithereens as in Hiroshima & Nagasaki 76 years ago <https://t.co/gGkgJDR0Jn> efforts for sound nuclear arms control @ArmsControlNow #CranesForOurFuture

"Nuclear war can never be won & must never be fought" Ronald Reagan <https://t.co/6ZdoZtY1or>

@AMBKENNEDY_RET
AUG 9, 2021



Natsuki
#CranesForOurFuture #千羽鶴チャレンジ
Imagine - Remastered 2010 - John Lennon

AUG 6, 2021



Carnegie Corporation
The origami crane is a symbol of peace around the world thanks to Sadako Sasaki, a victim of the Hiroshima atomic bombing who folded more than a thousand paper cranes and



#CranesForOurFuture

One of the most hopeful events of 2021, the summer Olympic Games in Tokyo, closed as the world marked the anniversaries of two of the darkest days in human history: the August 6 and August 9, 1945 atomic bombings of Hiroshima and Nagasaki. To honor the victims and share a message of peace and hope, NTI partnered with the Hiroshima Prefecture, Nagasaki Prefecture, and the Hiroshima Organization for Global Peace on a global weekend of action.

We asked organizations, communities, families, and individuals to make a wish for our common future by folding an origami crane and sharing a photo of it on social media using the hashtag #CranesForOurFuture.

Thousands participated to collectively reach millions around the world. More than 30 organizations partnered to engage their constituents, along with several embassies in Japan, and a host of prominent individuals. In addition, hundreds of content creators on the social media platform TikTok used the #CranesForOurFuture hashtag and our custom crane sticker in videos that were viewed more than six million times. With the majority of TikTok's users under 30, the platform invited younger audiences to learn more about today's nuclear risks. Join us for #CranesForOurFuture in 2022!

Effective Altruism Global 2021: London



“This is about whether or not we take seriously our generational stewardship and can create a security system that is not premised on the mass elimination of humanity, but one that embraces providing for a long-term future,” Joan Rohlfing told the Effective Altruism (EA) Global 2021 conference in London in October.

EA is a social movement taking on some of the world’s most pressing challenges with a focus on one question: “How can we best help others?” When Rohlfing and Jaime Yassif were offered invitations to speak at the EA conference, they jumped at the chance.

In her Ted Talk-style presentation, Rohlfing discussed the increasing risk of a global catastrophic nuclear event and explored paths to

build a safer nuclear future. “We’re at a moment in time where we can continue with a business-as-usual approach and watch the risk increase or we can choose to build a world that extends the long-term potential for humanity and enables us to flourish,” Rohlfing said. “I invite you to join me on that journey.”

Making It Real: NTI’s *Atomic Pulse* Blog

NTI’s *Atomic Pulse* blog offers readers behind-the-scenes coverage, timely analysis, recommendations, and cultural insights related to nuclear policy and biosecurity. In one of 2021’s most popular posts, NTI’s Andrew Newman wrote about “The Good, the Bad, and the Extraterrestrial: The Decades-Long Struggle to Dispose of Nuclear Waste.” In it, he explored how to secure and dispose of more than 270,000 metric tons of commercial spent nuclear fuel around the world. How about drilling miles-long “boreholes” and depositing the waste deep underground in tunnels or caverns? What about a watery grave for nuclear waste, dumping it in oceans or burying it below seabeds? Could it be encased on the world’s massive ice sheets? What if we shot it into space? Newman explored real and conceptual solutions in a riveting, entertaining, disturbing, and informative blog post.



NTI at 20: Steve Andreasen on NTI’s commitment to non-partisanship

NTI practiced non-partisanship from the start. NTI’s Board, leaders, and staff understand that to build durable solutions on national security issues, you need to build support from both sides of the aisle. That makes NTI a unique and attractive ship to be on. It helps explain why NTI is effective in its work and why NTI’s core staff have remained with the organization for so long, and why NTI continues to attract outstanding new talent.



Winners of the 2018 Next Generation for Biosecurity Competition with NTI staff.

“We, young scientists and researchers from around the world, recommend new actions on Youth, Biosecurity, Biosafety, Disarmament, and Non-Proliferation of biological weapons. ... We call for all BWC States Parties and stakeholders to ... empower and engage with young people to create a world free from biological threats.”

Preamble, The Youth Declaration for Biosecurity, November 2021

NTI's Gabrielle Essix and Chris Isaac prepared the statement with five other colleagues.

Fostering New Generations

Today's students and young professionals will inherit enormous global security challenges, and NTI is committed to engaging, fostering, and preparing the next generation of thought leaders and policymakers for careers in nuclear and biosecurity. We build global networks, support training and post-graduate work for scholars, sponsor competitions, and maintain a robust internship program to encourage newcomers to the field.

Next Generation for Biosecurity Competition

To help cultivate a global cadre of multisectoral, young professionals dedicated to reducing global catastrophic biological risks, NTI sponsors the Next Generation for Biosecurity Competition in partnership with the Next Generation Global Health Security Network. The competition fosters cooperation among young leaders across regions to develop

innovative ideas to improve biosecurity. Winners secure an opportunity to present their work at high-level health security meetings and have hailed from Argentina, Azerbaijan, Belgium, Canada, Kazakhstan, the Philippines, Uganda, the United Kingdom, and the United States. This year's teams answered the question, "What life science research should not be conducted, if any? Should red lines in life science research be drawn? If so, by whom?"

NTI's Gabrielle Essix and Chris Isaac were part of a small group of young leaders who developed the "Youth Declaration for Biosecurity." The Declaration is a call-to-action from the next generation of biosecurity professionals to the Biological Weapons Convention (BWC) community, containing policy recommendations from young leaders to support youth participation in global biosecurity, disarmament, and non-proliferation. It was launched during an NTI co-hosted side event at the BWC Meeting of States Parties in November 2021.



NTI at 20: Ernie Moniz on NTI 20 years from now

Well, 2041 is getting pretty close to 2045. I single out 2045 because it's the 100th anniversary of Hiroshima and Nagasaki, and it is a very appropriate aspiration that we would like to achieve NTI's ultimate goal of seeing the nuclear weapon risk eliminated on that kind of a timeframe.



Members of the Younger Generation Leaders Network, Berlin, 2018.

Younger Generation Leaders Network on Euro-Atlantic Security

Understanding that a lack of trust and dialogue between Russia and the West is a significant obstacle to Euro-Atlantic security, NTI created and supports a unique capacity-building initiative to develop and foster a new generation of leaders who will be equipped to tackle global challenges fueled by historic animosities: the Younger Generation Leaders Network on Euro-Atlantic Security. The network is a trust-building platform to help future leaders communicate with one another and avoid the mistakes that have plagued previous generations in addressing the region's security issues. Today, the network, which is based at the European Leadership Network, has more than 90 young professionals from Europe, Russia, Ukraine, and the United States, including NTI Senior Program Officer Leon Ratz.

Georgia Tech Graduate Seminar

In 2021, NTI launched a partnership with the Georgia Institute of Technology to explore how to innovate a new nuclear security paradigm that does not rely on nuclear weapons. As part of a new graduate seminar, students worked with interdisciplinary faculty experts from the schools of engineering and international affairs to develop technically informed policy recommendations. NTI co-chair Sam Nunn served as a guest lecturer as well. This NTI Graduate Seminar will be repeated in 2022 and built into a certificate program titled "Emerging Technologies & Proliferation." This pilot project with Georgia Tech is the first phase of an aspirational university partnership program to create a global network of scientists and scholars working toward a safer future.



Each NTI intern class has up to eight interns who work across NTI programs.

NTI Interns

NTI's robust internship program brings roughly 20 paid interns each year to NTI to work as integral members of our teams on projects that make lasting contributions to reducing nuclear and biological threats. Our internships primarily are for undergraduate and graduate students with an interest in the intersection of global security, public policy, science and technology, and national security. In 2021, NTI welcomed interns from Hampton University, a Historically Black College and University, through a special partnership.

Interns attend congressional hearings and briefings at think tanks, write for the NTI blog, receive training on briefing high-level principals and writing policy memos, develop their professional networks, and engage in other career-enhancing opportunities.

Supporting Scoville Fellowships

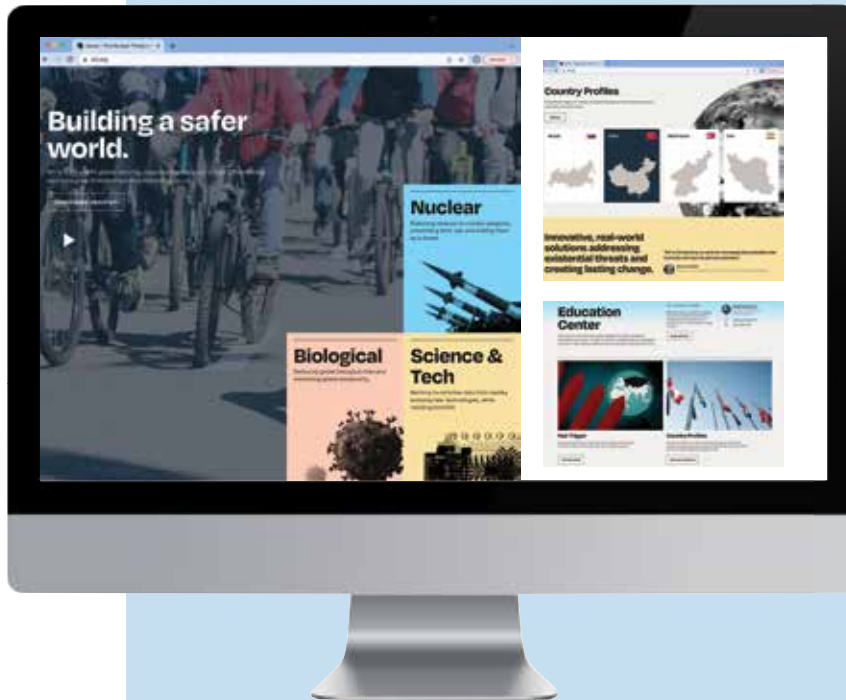
NTI proudly provides financial support to the prestigious Herbert Scoville Jr. Peace Fellowship, a highly competitive national fellowship program to bring recent college and graduate school alumni to Washington, D.C., to work on peace and security-related issues. NTI also hosts full-time Scoville Fellows. We consider it a win-win: NTI gains a junior-level staffer who brings a fresh perspective to our work and the fellow gains real-world experience in the field. Scoville Fellows often go on to prominent positions in the federal government, academia, public-interest organizations, and the news media.



NTI at 20: Caressa Williams on NTI's growth

It's amazing for me to witness the growth of NTI over 20 years. We almost have a staff of 60 now, and that is very different from when I started. Programs have more staff, and we have more programs. NTI is more visible and definitely well-known now. Our website is 100% improved. When NTI first started, our logo was a drawing that Charlie Curtis drew on a piece of paper!

Visit the new NTI.org



With an updated look and feel, improved navigation, and easy access to essential information, a new [NTI.org](https://www.nti.org) went live in fall 2021. Visit to explore:



NTI's nuclear, biological, and scientific and technical affairs programs, projects, and priorities



An education center with easy-to-navigate country pages, teaching tools, and interactive content



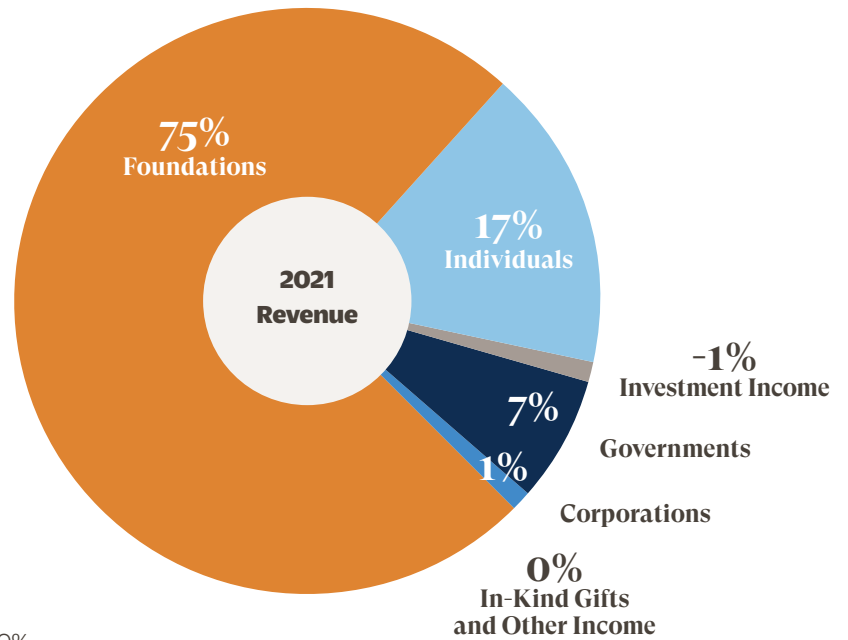
An analysis section featuring NTI reports, fact sheets, databases, and teaching tools



New and improved tools to save and share key content from across the site

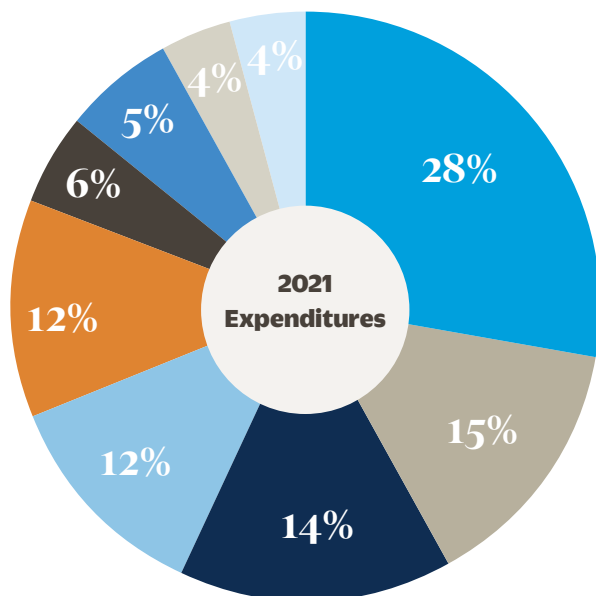
2021 Financials

Where the Funds Came From



Due to rounding, numbers in charts do not add up to 100%.

Where the Funds Were Spent



2021 Expenditures

Description	Amount
Global Biological Policy and Programs	\$ 5,987,483
Management and General	\$ 3,315,841
Communications and Public Education	\$ 3,112,734
Materials Risk Management	\$ 2,523,210
Global Nuclear Policy Program	\$ 2,510,254
Fundraising	\$ 1,384,906
International Fuel Cycle Strategies	\$ 1,061,060
Other Program Services	\$ 940,770
Scientific and Technical Affairs	\$ 787,030
Total	\$ 21,623,288

NTI is a tax-exempt, public charity under Section 501(c)(3) of the U.S. Internal Revenue Code.

With Thanks for 20 Years of Support

NTI is deeply appreciative of the generosity and partnership of our donors over the past 20 years. Whether you have been a supporter of NTI since our launch or joined us in 2021, your engagement makes this important work to address nuclear and biological threats possible.

Thank you!

Give a Gift with Global Impact

We invite you to combat the most urgent security threats of the 21st century by supporting NTI's work. Your tax-deductible gift helps safeguard lives, livelihoods, and the environment, now and for future generations.

Donors to NTI enjoy a variety of opportunities to get engaged in our issues, including invitations to our Ask NTI webinar series with experts.

We also ask that you consider NTI as part of your legacy giving to help build a safer world for generations to come.

For more information or to make a tax-deductible contribution, including planned or estate gifts, securities, donations from donor-advised funds, or to wire funds, please contact:

Peggy Knudson
Vice President, Development
(202) 417-4884
knudson@nti.org

www.nti.org/donate

"The bottom line is that we've got to start acting globally, like civilized, educated, decent, kind-hearted human beings, and we have to trust each other. We have no choice. We can't live in a world where nobody trusts anybody because then we'll never make progress with these weapons or with anything else. Progress is being made, but we have more work to do."

Ted Turner

Three Stories of Generosity

As NTI celebrates its 20th anniversary, we want to thank those who have supported us along the way and who make our future work possible. Meet three supporters who are helping build a safer world:



Harold Kalishman appreciates NTI's deep research, peerless expertise, and constant focus on the many threats to global security. He underscores the urgent need for the United States to continue dialogue with both Russia and China to reduce catastrophic risks and make progress toward a more peaceful, stable, and secure world. "As a longtime investment advisor," Kalishman says, "I appreciate the difficulty of navigating through an uncertain world and the dire consequences that can result from negligence and inattention. That is why NTI is a priority for my philanthropy and planned giving. I encourage others to join me in contributing to ensure NTI's future—it is critical to our own."



Seven years ago, investment manager **Adam Hitchcock** joined the Younger Generation Leaders Network on Euro-Atlantic Security (YGLN), an NTI trust-building platform to help future leaders from Europe, Russia, Ukraine, and the United States address the region's security issues. Hitchcock developed an interest in global security after working at the White House. This year, when NTI senior advisor Bob Berls passed away, Hitchcock made a donation to the newly formed Robert E. Berls, Jr. Next Generation Fund. "The security threats we face are long-term challenges," says Hitchcock. "Bob believed in a brighter future, as I do, and I am proud to support the development of the next generation of leaders who will need to work together to solve our world's most challenging problems."



NTI Board Member **Alexa Wesner** is a former U.S. Ambassador to Austria, a successful entrepreneur, philanthropist, and nonprofit and community leader. "I joined NTI's Board of Directors because I am convinced that it is one of the most innovative and effective NGOs working internationally today. NTI is uniquely positioned in its issue space and has an enviable track record—developing and piloting real-world solutions to complex nuclear and biological threats, and then turning them over to partners and governments to scale them up. I am proud to celebrate 20 years of NTI's accomplishments and to become a member of its 20th Anniversary Giving Circle."

NTI's 20th Anniversary Giving Circle includes generous donors who have committed to sustaining our nuclear and biological threat-reduction work into the future through major or planned gifts made in honor of our 20th anniversary. If you are interested in joining the Circle, please contact Peggy Knudson at knudson@nti.org for further information!

Thank you!

We gratefully acknowledge all our 2021 funders, including the following generous institutions and individuals who gave \$500 or more. Your gift to NTI makes the world safer. Thank you for your trust and for supporting this critical mission.

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Robert Wolfe
Stephen Woo

“Events like a nuclear war or a global pandemic ... could permanently derail civilization or even lead to the extinction of the human race. ... You can support organizations that focus on these risks, like the Nuclear Threat Initiative.”

Will MacAskill, co-founder of the Effective Altruism movement

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