

Analysis of today Assessment of tomorrow



By: David Gross - Daniel Holz - Juan Manuel Santos - Brian Schmidt

Nuclear powers should abandon the fantasy of missile defense



US President Donald Trump's recent meeting with Russian President Vladimir Putin in Alaska was the first encounter between the leaders of the world's two largest nuclear powers since 2021.

Now, if Trump truly wants to put America first and establish a legacy as a peacemaker, he should put nuclear-arms control high on his agenda.

Trump himself has already hinted at what needs to be done. One month into his second term, he sought to persuade Putin and Chinese President Xi Jinping to scale back their nuclear spending. "There's no reason for us to be building brand-new nuclear weapons," he argued. "We already have so many."

Yet in July, he approved a sharp increase in the US Defense Department's funding for its nuclear forces; and just a few weeks later, in response to Russian nuclear saber-rattling, he announced that he was sending US nuclear submarines to the "appropriate regions."

Trump is right to fear a new arms race. As he himself noted, building more warheads will not secure America's future.

Of course, conflicts can always reignite, and arsenals can always be rebuilt. But we cannot bomb our way to peace.

We need to chart a course that does not stake humanity's survival on the knife's edge of chance. Whoever can do that will have secured his place in history.

Pragmatic, achievable steps

There are pragmatic, achievable steps that Trump can take right now to begin building such a legacy.

In July, dozens of Nobel laureates and nuclear experts convened in Chicago to identify measures to reduce the risk of nuclear conflict while preserving national security.

The resulting declaration, endorsed by 129

Nobel laureates, calls for immediate action to strengthen safeguards, prevent miscalculation, and halt the slide toward a new arms race.

On the anniversary of the bombings of Hiroshima and Nagasaki, the declaration was presented to the Pope along with a symbolic gift of pencil leads crafted from graphite bricks used in the world's first controlled nuclear chain reaction.

Implementing our recommendations requires not just American involvement, but American leadership

However, implementing our recommendations requires not just American involvement, but American leadership.

Among our recommendations is the twoperson rule. The current decision-making process implies too many scenarios in which the US president would have ten minutes or less to make the most consequential decision in the history of civilization.

But such situations are avoidable. We need safeguards to slow down launch decisions and prevent a rash nuclear exchange.

For example, if Trump were to issue an executive order requiring another US government official to be present when the decision is made, he would create a safeguard that his successors would find nearly impossible to undo.

And if he started the process, China and Russia might soon follow, because all have an interest in slowing the rush toward nuclear launch.

Formal arms-control talks

Another recommendation is to restart formal arms-control talks with Russia and China.

With nuclear proliferation rising while armscontrol treaties expire, there are more players

and fewer rules - a dangerous combination.

Trump has already affirmed that he wants to restart nuclear arms-control talks with Russia and China, and that the United States has better uses for the immense sum (close to a trillion dollars over the coming decade) being spent on its nuclear arsenal.

But to succeed, he must lead by example and bring both Xi and Putin to the negotiating table. He also must do it fast, because New START, the last treaty governing US and Russia's nuclear arsenals, expires in February 2026.

Since AI makes mistakes, it would be utterly reckless to give the technology anything like a central role in nuclear decision-making

A third recommendation is to affirm human oversight of nuclear systems. Since AI makes mistakes, it would be utterly reckless to give the technology anything like a central role in nuclear decision-making.

The US has already taken the lead in advocating human control, and China affirmed the same principle last year.

Trump can leverage his relationship with Putin to encourage similar commitments from Russia.

All nuclear-armed states must guarantee that no critical decision, particularly one involving the use of nuclear weapons, is made without meaningful human involvement.

The fantasy of missile defense

Finally, all nuclear powers should abandon the fantasy of missile defense.

While the idea of a system that can fully protect the US from incoming nuclear missiles has undeniable appeal, such projects have repeatedly proved to be technically infeasible.

Worse, this staggeringly costly pursuit increases the chance of nuclear war.



Since no one else will, the US must lead the way in preventing nuclear war – for the sake of its own citizens, and for everyone else

Rather than simply sitting still, our adversaries will respond by increasing the size of their own arsenals, in order to overwhelm the new defenses. In the process, they will decrease their decision-making time to offset the risk of a US first strike.

The US would end up spending hundreds of billions of dollars on an ineffectual system that ultimately increases the likelihood of a catastrophe.

The US was the first country to unleash the destructive power of the atom, and with that power came a solemn responsibility – one that America has upheld time and again.

Today, the US is the strongest military force on Earth and the backbone of the global economy.

It leads the world in scientific and technological innovation, with more Nobel prizes than the next five countries combined. Since no one else will, it must lead the way in preventing nuclear war – for the sake of its own citizens, and for everyone else.

As we enter what is starting to look like a second Cold War, we must heed the lessons of the first one. It is through diplomacy, not war, that we assure our long-term future.

Trump's meeting with Putin in Alaska certainly

did not resolve the war in Ukraine, but it can be used to open the door to creating the ultimate legacy of peace, one with the potential for a Nobel Peace Prize.

David Gross received the 2004 Nobel Prize in Physics.

Daniel Holz is Professor of Physics and Astrophysics at the University of Chicago and Chair of the Science and Security Board of the Bulletin of the Atomic Scientists.

Juan Manuel Santos, a former president of Colombia, received the 2016 Nobel Peace Prize.

Brian Schmidt received the 2011 Nobel Prize in Physics.