

### 3 Nuclear Superpowers, Rather Than 2, Usher In a New Strategic Era

China is on track to massively expand its nuclear arsenal, just as Russia suspends the last major arms control treaty. It augurs a new world in which Beijing, Moscow and Washington will likely be atomic peers.

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WASHINGTON — On the Chinese coast, just 135 miles from Taiwan, Beijing is preparing to start [a new reactor](#) the Pentagon sees as delivering fuel for a vast expansion of China’s nuclear arsenal, potentially making it an atomic peer of the United States and Russia. The reactor, known as a fast breeder, excels at making plutonium, a top fuel of atom bombs.

The nuclear material for the reactor is being supplied by Russia, whose Rosatom nuclear giant has in the past few months [completed the delivery of 25 tons](#) of highly enriched uranium to get production started. That deal means that Russia and China are now cooperating on a project that will aid their own nuclear modernizations and, by the Pentagon’s estimates, produce arsenals whose combined size could dwarf that of the United States.

This new reality is prompting a broad rethinking of American nuclear strategy that few anticipated a dozen years ago, when President Barack Obama [envisioned a world](#) that was inexorably moving toward eliminating all nuclear weapons. Instead, the United States is now facing questions about how to manage a three-way nuclear rivalry, which upends much of the deterrence strategy that has successfully avoided nuclear war.

China’s expansion, at a moment when Russia is deploying new types of arms and threatening to use battlefield nuclear weapons against Ukraine, is just the latest example of what American strategists [see as a new, far more complex era](#) compared to what the United States lived through during the Cold War.

China insists the breeder reactors on the coast will be purely [for civilian purposes](#), and there is no evidence that China and Russia are working together on the weapons themselves, or a coordinated nuclear strategy to confront their common adversary.

But John F. Plumb, a senior Pentagon official, [told Congress](#) recently: “There’s no getting around the fact that breeder reactors are plutonium, and plutonium is for weapons.”

It may only be the beginning. In a little-noticed announcement when President Xi Jinping of China met President Vladimir V. Putin in Moscow last month, Rosatom and the China Atomic Energy Authority [signed an agreement](#) to extend their cooperation for years, if not decades.



When President Xi Jinping of China met President Vladimir V. Putin in Moscow last month, Russia and China’s nuclear authorities signed an agreement to extend their cooperation for years. Credit...Grigory Sysoyev/Agence France-Press, via Sputnik

“By the 2030s the United States will, for the first time in its history, face two major nuclear powers as strategic competitors and potential adversaries,” the Pentagon [said last fall](#) in a policy document. “This will create new stresses on stability and new challenges for deterrence, assurance, arms control, and risk reduction.”

In recent weeks, American officials have sounded almost fatalistic about the possibility of limiting China’s buildup.

“We are probably not going to be able to do anything to stop, slow down, disrupt, interdict, or destroy the Chinese nuclear development program that they have projected out over the next 10 to 20 years,” Gen. Mark A. Milley, the chairman of the Joint Chiefs of Staff, [told Congress](#) late last month.

## **Relations Between China and the U.S.**

- **A New Security Pact:** President Biden sought to emphasize that his [Camp David summit](#) with the leaders of Japan and South Korea was not “anti-China.” But Beijing will almost certainly [find his assertion unpersuasive](#).

- **Anti-Chinese Sentiment in the States:** At a moment when Washington is trying to reset its tense relationship with China, some states are crafting or enacting [sweeping rules aimed at severing economic ties with Beijing](#).
- **Ban on New Investments:** Biden escalated his confrontation with China by signing an executive order [banning new American investment in key technology industries](#) that could be used to enhance Beijing's military capabilities.

General Milley's words are particularly stark given that the United States spent years trying to move the world beyond nuclear weapons. Mr. Obama put in place a strategy to [reduce American reliance on nuclear arms](#) in hopes that other powers would follow suit.

Now, the opposite is happening. Mr. Putin's failures on the battlefield are making him, if anything, more dependent on his nuclear arsenal.

The one remaining treaty limiting the size of the American and Russian arsenals, New START, runs out in roughly 1,000 days, and American officials concede there is little chance of forging a new treaty while the Ukraine war rages. Even if Russia and the United States could sit down and hash one out, it would be of diminished worth unless China signed up too. Beijing has shown no interest.

China's leader is making no secret of his expansion plans. China now has about 410 nuclear warheads, according to an annual survey from the [Federation of American Scientists](#). The Pentagon's latest report on the Chinese military, [issued in November](#), said that warhead count could grow to 1,000 by the end of the decade, and 1,500 by around 2035, if the current pace were maintained.

Underscoring the urgency of the problem, the State Department convened an expert panel in recent weeks and gave it 180 days to come up with recommendations, saying "the United States is entering one of the most complex and challenging periods for the global nuclear order, potentially more so than during the Cold War."

The dynamic is, indeed, more complicated now — the Cold War involved only two major players, the United States and the Soviet Union; China was an afterthought. Its force of 200 or so nuclear weapons was so small that it barely figured into the discussion, and Beijing never participated in the major arms control treaties.

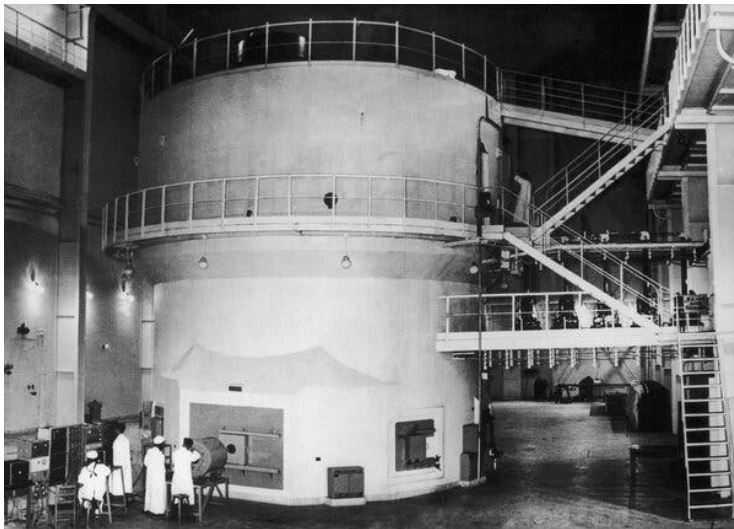
Still, there are reasons to be cautious about worst-case analyses of nuclear capabilities. China and Russia have a long history of mutual distrust. And the Pentagon is no stranger to threat inflation, which can free up budgets. Recently, some experts have faulted its warnings.

“When you dig in, there are lots of questions,” said [Jon B. Wolfsthal](#), a nuclear official on the National Security Council during the Obama administration. “Even if they double or triple, we’re watching this and have the ability to react.”

Nonetheless, some critics have begun to echo the new Pentagon assessments, at times offering larger estimates than the Biden administration.

On Capitol Hill, there is discussion of whether the coming expansion of China’s arsenal requires an entirely new approach. Some Republicans have begun talking about expanding the nuclear arsenal after New START expires, so that it could match a combined Russian-Chinese force, used in a coordinated way against the United States. Others call that an overreaction.

“I think it is insane to think that we will be fighting two nuclear wars at the same time,” said Matthew Bunn, a Harvard professor who tracks nuclear weapons.



China entered the nuclear club in 1964, but for years limited its arsenal to a few hundred weapons. Credit...Keystone-France/Gamma-Keystone, via Getty Images

### **In China, building arms and refusing to negotiate**

China entered the nuclear club in October 1964, with a nuclear test at Lop Nor that the Kennedy and Johnson administration briefly gave thought to sabotaging.

But Mao Zedong adopted a “minimum deterrent” strategy, dismissing the Cold War arms race as a phenomenal waste of money. Limiting the arsenal to a few hundred weapons remained China’s approach until Mr. Xi reversed course.

He now seems unlikely to consider slowing the growth of China’s nuclear arsenal until it is closer in size to the other two superpowers’. In a speech laying out his agenda for his next term

in power, the Chinese leader told a [Communist Party congress in October](#) that his country must “establish a strong system of strategic deterrence.”

Deepening tensions between Beijing and Washington appear to have hardened Mr. Xi’s judgment that [China must counter “all-around containment,”](#) including with a more robust nuclear deterrent. Even experts who believe that China’s breeder reactors face many technological hurdles see other signs that the country is expanding its nuclear weapons potential, including [reprocessing plants](#) for spent nuclear fuel, new reactors that appear to have no role in the civilian power grid, and [building activity](#) at the Lop Nor nuclear test site.

“The Chinese leadership has become even more determined to focus on the long-term China-U.S. competition and, if necessary, confrontation,” said [Tong Zhao](#), a senior fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace. China’s nuclear expansion, he said, is “mostly to shape the American assessment of the international balance of power, and make it accept the reality that China is set to become a similarly powerful country.”

The biggest advertisement of China’s ambitions has been [three vast fields](#) of missile silos under construction in its arid northern expanses. In total, the silo fields could hold up to [an estimated 350](#) intercontinental ballistic missiles, each potentially armed with multiple warheads.



A sprawling missile silo field under construction in the Xinjiang region of China. Credit...Planet Labs PBC

In the past, China mostly kept its missiles stored separately from the nuclear warheads, meaning that Washington would have significant warning if Beijing ever considered escalating. That would build in time for diplomacy. The new solid-fuel missiles that will probably be installed in the silos are more likely to be coupled to their warheads — much like American designs — reducing the time it would take to launch them, said [M. Taylor Fravel](#), a professor at the Massachusetts Institute of Technology, who studies China’s military.

“China wants to remove any shadow of a doubt in the minds of the United States about its deterrent,” he said.

China is also enhancing its “triad” — the three ways of delivering nuclear weapons from land, sea and air — paralleling how the United States and Soviet Union made their atomic threats nearly invulnerable during the Cold War.

For example, the Chinese navy is working on a [new generation of submarines](#) for launching missiles, replacing the current ones, which are so noisy that American forces have little trouble tracking them.

In Washington, the fear is that Mr. Xi has learned a lesson from Mr. Putin’s nuclear threats — and might brandish his new weapons in a conflict over Taiwan.



Mr. Putin is looking to improve Russia’s weapon’s systems and nuclear arsenal and has suspended many obligations under the last arms treaty with the United States. Credit...Alexander Zemlianichenko/Associated Press

## **In Russia and the U.S., rolling out new weapons**

China's expansion comes after Russia and the United States spent decades hammering out one agreement after another to cut the size of their nuclear arsenals, which at their peak held roughly [70,000 weapons](#). Now each side is down to 1,550 long-range weapons. Just weeks after President Biden's inauguration, he and Mr. Putin extended the New START accord for five years.

But since the Ukraine invasion, the treaty is in tatters. Mr. Putin announced recently he was [suspending the agreement](#). While he has stuck by the 1,550 limit, almost every other treaty obligation has been wiped out, including mutual inspections and the exchange of data about each other's arsenals.

Mr. Putin is working hard to improve his arsenal. Five years ago he [used](#) video animations of Russian weapons targeting Florida to [showcase five new classes](#) of nuclear arms he claimed could defeat the West in war, including one he called "invincible." At the time, Western analysts suggested that Mr. Putin, his economy weak, was mostly bluffing.

Only two of those weapons systems have moved forward while three others — including the "invincible" nuclear cruise missile — are mired in delays, testing failures and feasibility questions. Overall, some analysts maintain, the new arms are a distraction. What really matters is Russia's upgrading of its Cold War arsenal into a far more survivable force than the aging systems inherited from the Soviet Union.

"That's 95 percent of what's happening," said [Hans M. Kristensen](#), director of the Nuclear Information Project at the Federation of American Scientists, a private research group in Washington. "People talk about grand new systems that will change everything. But of course, they won't."

The Pentagon [sees](#) at least one of the emerging weapons as potentially threatening, in part because it could, if perfected, outwit the United States' antimissile defenses. The weapon is a long-range nuclear-powered undersea torpedo that, once unleashed, could move autonomously toward one of the nation's coasts. Its warhead, as [described](#) by Russia, would create "areas of wide radioactive contamination that would be unsuitable for military, economic, or other activity for long periods of time." Mr. Kristensen said the torpedo was close to operational.



The Pentagon said in a policy document that the United States will face two major nuclear powers by the 2030s. Credit...Haiyun Jiang/The New York Times

For its part, the Biden administration has [announced](#) plans to make the first new warhead for the nation's nuclear arsenal since the Cold War — an update that the White House says is long overdue for safety reasons. The weapon, for submarine missiles, is a small part of a [gargantuan overhaul](#) of the nation's complex of atomic bases, plants, bombers, submarines and land-based missiles. Its 30-year cost [could reach](#) \$2 trillion.

Beijing and Moscow point to the overhaul as a motivating factor for their own upgrades. Arms controllers see a spiral of moves and countermoves that threatens to raise the risk of miscalculation and war.

Like all top nuclear arms, the new warhead, known as the [W93](#), is thermonuclear. That means a small atom bomb at its core acts as a match to ignite the weapon's hydrogen fuel, which can produce blasts [a thousand times](#) as strong as the Hiroshima bomb. The atomic triggers are usually made of plutonium. Experts say that is true of Beijing's arsenal and explains its building of breeder reactors.

The United States has about [40 tons](#) of plutonium left over from the Cold War that is available for weapons and needs no more. It is, however, building two new plants that can fashion the old plutonium into triggers for refurbished and new thermonuclear arms, such as the W93. Recently, the agency that does investigations for Congress [estimated](#) the new plants could cost up to \$24 billion.



Many arms controllers decry the new facilities. They say that Washington has in storage [at least 20,000](#) plutonium triggers from retired hydrogen bombs and that some of them, if needed, could be recycled.

Despite such criticism, the Biden administration is pushing ahead, insisting that trigger recycling is risky. Jennifer M. Granholm, the energy secretary, has [declared](#) the new plants essential for “a safe, secure and effective nuclear deterrent.”

Modernizing an aging nuclear force, as Ms. Granholm suggests, is one of the few areas of bipartisan accord. But it does not address the larger strategic challenge.

“We don’t know what to do,” said Henry D. Sokolski, a former Pentagon official who now leads the Nonproliferation Policy Education Center. “What’s the response to this — do we just build more, and are we going to be able to build many more than they are?”