European Parliament

The New START Treaty between the US and Russia

The last surviving pillar of nuclear arms control

SUMMARY

The US and Russia both have formidable arsenals of potentially destructive nuclear weapons. Although a nuclear-free world remains a distant dream, the two countries have taken steps to limit the risk of nuclear conflict, through a series of arms control agreements limiting the number of strategic weapons that each can have. In force since 2011, the New Strategic Arms Reductions Treaty (New START) is the latest of these agreements.

Under New START, Russia and the US are limited to an equal number of deployed strategic warheads and weapons carrying them, such as intercontinental ballistic missiles. To ensure compliance, there are strict counting rules and transparency requirements, giving each side a reliable picture of the other's strategic nuclear forces.

The 2019 collapse of the Intermediate-range Nuclear Forces (INF) Treaty left New START as the only major surviving US-Russia arms control agreement. In early 2021, with New START due to expire in February and the two sides deadlocked over the conditions for extending it, it looked as if the last remaining restrictions on the world's two main nuclear powers were about to lapse.

Following a last-minute reprieve by newly elected US President, Joe Biden, the two parties agreed to extend New START until 2026, thereby giving each other welcome breathing space to negotiate a replacement treaty. There are still many unanswered questions about the kind of weapons that a future treaty could include.

Missile silo with a US Minuteman intercontinental ballistic missile.

In this Briefing

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Definitions

Nuclear warheads: warheads are the explosive part of a missile or bomb.

Strategic/non-strategic nuclear warheads: although there is no universally agreed distinction between these two categories, non-strategic warheads (sometimes called tactical/ sub-strategic warheads) are generally designed for use against smaller, typically military targets at shorter distances, for example, on the battlefield. By contrast, strategic warheads are more powerful and capable of causing much more extensive damage at long distances, including to military targets, such as the other side's nuclear forces or civilian targets such as large cities).

Ballistic missiles release warheads that follow a parabolic flight path that is mostly predetermined by gravity, whereas **cruise missiles** are powered throughout their flight and can change course. Each type has advantages and disadvantages: ballistic missiles fly very fast and high above the atmosphere, releasing smaller warheads travelling at speeds of five to eight kilometres per second that are hard to intercept. Cruise missiles have wings, using aerodynamic lift like airplanes, and tend to be much slower but less expensive than ballistic missiles.

Missiles with a range of a range of 5500 km or more – enough for missiles fired from Russian territory to reach the United States – are described as **intercontinental**. At present, all intercontinental missiles are ballistic, although there have been attempts to develop intercontinental cruise missiles.

Some missiles have a single warhead, while others have up to 10 or more, called **Multiple Independently targetable Re-entry Vehicles** (MIRVs). The latter separate from the missile and, as the name suggests, can hit several targets in different locations, thus maximising the damage and the chances of getting past missile defences.

The term **nuclear triad** refers to the combination of ground-based, submarine, and airborne nuclear forces. **Missile launchers** are silos and mobile launchers for ground-launched intercontinental ballistic missiles (**ICBMs**), and launch tubes for submarine-launched ballistic missiles (**SLBMs**). **Strategic bomber** planes carry either air-launched cruise missiles or gravity bombs, like the ones dropped onto Hiroshima and Nagasaki.

Weapons are **deployed** if ready for immediate use, **non-deployed** if kept in storage. In the New START treaty, the precise definition of deployed depends on the type of weapon (see below).

Background to the New START Treaty

Towards nuclear disarmament?

In 1946, just one year after the US bombing of Hiroshima and Nagasaki, the United Nations set the goal of eliminating nuclear weapons. A step towards that goal came in 1968, with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), signed by most countries around the world. But though nominally committed to disarmament under the NPT, none of the Treaty's five recognised nuclear-weapon states (the US, USSR, China, UK and France) have made serious efforts to get rid of their arsenals, and indeed have invested heavily in upgrading them. This paradox is apparent in the 2018 US Nuclear Posture Review, which reaffirms 'the long-term goal of eliminating nuclear weapons', at the same time as arguing that such weapons have become more necessary than ever in an 'evolving and uncertain international security environment'. According to the review, nuclear arms play a key role in deterring both nuclear and conventional attacks on the US and its allies, and have even made the world a much safer place, with a dramatic fall in the number of wartime casualties since the beginning of the nuclear era. On the Russian side, the 2020 Nuclear Deterrence Policy also emphasises the deterrent function of nuclear weapons. The US and Russian documents suggest that neither country sees total nuclear disarmament as a realistic or even desirable goal.

With no sign of genuine interest from nuclear weapon states in moving towards disarmament, in 2017 over 100 (mostly African and Latin American; in the EU, Austria, Ireland and Malta) countries adopted the Treaty on the Prohibition of Nuclear Weapons, which came into force in January 2021. Unsurprisingly, none of the nuclear weapons states signed this treaty, and the US and Russia both rejected it as unrealistic.

Bilateral arms control: Precursors to the New START Treaty

The need for dialogue and cooperation between the world's two leading nuclear powers was highlighted by the 1962 Cuban missile crisis, during which a tense stand-off over Soviet deployment of nuclear-armed missiles to Cuba brought the world to the brink of war. One year after this incident, the two countries established a crisis management hotline and, together with the UK, signed a Partial Test Ban Treaty that banned nuclear tests, except those carried out underground.

With neither the US nor the USSR willing to disarm, the two countries adopted a series of bilateral arms agreements limiting the number of nuclear weapons on each side. The aim was to achieve a stable strategic balance, with survivable strategic forces on each side that, even after a massive first strike by the other, could still inflict a devastating response. As a result, any attack would trigger mutual assured destruction. Although this idea became less relevant after the Cold War ended, US-Russia nuclear arms control is still based on the idea of equally matched forces as a deterrent to aggression by either side.

The first such bilateral agreement was the 1972 **SALT I Interim Offensive Agreement** (named after the Strategic Arms Limitation Talks that produced the agreement), capping numbers of intercontinental ballistic missile launchers and submarine-launched ballistic missile launchers. However, it did not limit the number of warheads, thus allowing each party to increase strike power by loading multiple warheads on each missile, nor did it include bombers.

SALT I was followed by **SALT II** (it was signed in 1979, but never came into force), **START I** (1991-2009) and the Strategic Offensive Reductions Treaty (**SORT**) (2002-2012). START I went further than SALT I, with limits on all three elements of the nuclear triad, as well as on the number of warheads attributed to them.

Anti-ballistic missiles are designed to intercept ballistic missile warheads and destroy them before they reach their targets. Potentially, they neutralise the deterrent effect of nuclear weapons by allowing an aggressor to block a retaliatory attack and thus enjoy impunity. For this reason, SALT negotiations considered missile defence and offensive nuclear weapons as two sides of the same strategic balance coin. SALT I was therefore flanked by the 1972 **Anti-Ballistic Missile (ABM) Treaty**, which barred the US and the USSR from having nationwide missile defences.

In 1987, the US and the USSR signed the **Intermediate-Range Nuclear Forces (INF) Treaty**, which completely eliminated all nuclear- and conventionally-armed ground-launched ballistic and cruise missiles with ranges of 500-5 500 km – a particularly dangerous category of weapons as it gave the two sides the capacity to reach targets across the entire European continent.

Table 1 – US-Soviet Union/Russia nuclear arms control agreements

Name of treaty	Duration	Limits on launchers: ballistic missiles (ICBMs, SLBMs); strategic bombers	Limits on nuclear warheads	Limits do not apply to	Current status
SALT I	1972 –1977	Each side commits to not adding to the number of ICBM and SLBM launchers tubes, estimated at: ICBM silos: 1054 US; 1 607 USSR SLBM launch tubes: 656 US, 740 USSR	No limits	Strategic bombers	Expired

SALT II	Signed in 1979, but never entered into force	Maximum total of 2 400 ICBM/SLBM launchers + strategic bombers on each side, with sub-limits for MIRV-carrying missiles	No limits		Never in force
Strategic Arms Reduction Treaty (START I)	Signed in 1991, in force from 1994-2009	Maximum total 1 600 ICBM/SLBM launchers + strategic bombers on each side	6 000 'attributed' deployed strategic warheads for each side		Expired
START II	Signed in 1993, but never entered into force	Same as START I, plus ban on MIRV-carrying ICBMs and 'heavy' ICBM launchers, and requirement to eliminate all 'heavy' ICBMs	3 000-3 500 'attributed' deployed strategic warheads for each side	Non-deployed and non-strategic warheads	Russia withdrew its support for the treaty in 2002 after the US pulled out of the ABM Treaty
Strategic Offensive Reductions Treaty (SORT)	2002-2012	No limits (though START I limits on missile launchers and bombers remained in force until 2009)	1 700-2 200 deployed strategic warheads for each side	Non-deployed and non-strategic warheads	Superseded by New START in 2011
Strategic Arms Reduction Treaty (New START)	2011-2026	Maximum 800 deployed or non-deployed ICBM/SLBM launchers + strategic bombers; maximum 700 deployed ICBMs + SLBMs + strategic bombers	1 550 deployed strategic warheads for each side	Non-deployed and non-strategic warheads; non-deployed ICBMs, SLBMs	Extended in January 2021, in force until February 2026

Table 2 – Other bilateral arms control agreements

Name of treaty	Duration	Scope and purpose	Current status
Intermediate-Range Nuclear Forces (INF) Treaty	1988-2019	Ban on all nuclear- and conventionally-armed ground-launched ballistic and cruise missiles with ranges of 500-5 500 km. Does not include: submarine and air-launched missiles; ground-launched missiles with ranges of less than 500 km/more than 5 500 km	The US ended the treaty in 2019 after repeatedly accusing Russia of developing and deploying a banned missile type
Anti-Ballistic Missile (ABM) Treaty	1972-2002	Ban on missile systems defending the whole of Soviet/US territory from attacks by strategic ballistic missiles, missile interceptor launchers limited to 100 each	The US withdrew from the treaty in 2002

Content of the New START Treaty

On the campaign trail in 2008, Barack Obama promised to work towards 'the goal of eliminating all nuclear weapons'. While New START did not achieve this goal, it did at least continue the trend started by its predecessors of reducing nuclear weapons from excessively high Cold War levels. The objectives of the treaty were announced by Obama and his Russian counterpart, Dmitry Medvedev, in April 2009, leading to its signing one year later and entry into force in February 2011. The treaty's main provisions are as follows:

Warheads: each side can have up to 1 550 deployed strategic warheads. Warheads count as deployed if loaded onto a missile that is itself deployed. In addition, one deployed warhead is counted for each deployed strategic bomber, regardless of the actual number it carries.

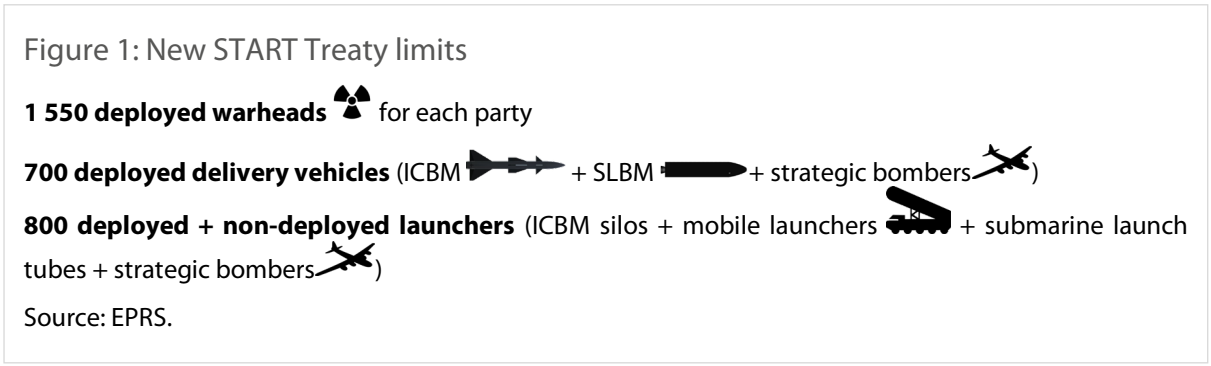
Delivery vehicles: up to a total 700 deployed intercontinental ballistic missiles/submarine-launched ballistic missiles/strategic bombers. Missiles count as deployed if installed in a launcher that is itself deployed. The number of deployed delivery vehicles is much less than the number of deployed warheads, as some missiles carry multiple warheads. Again, each strategic bomber is

counted as one. There are no limits on missiles that are not deployed in launchers; however, they may only be stored in restricted locations.

Launchers: up to 800 deployed and non-deployed launchers plus deployed and non-deployed strategic bombers. A deployed launcher is a launcher containing a missile; a non-deployed launcher contains no missile. Missile silos, mobile missile launchers, and submarine launch tubes each count as one launcher. A single submarine can have multiple launch tubes. Once again, each strategic bomber counts as one launcher.

A limited number of launchers used for testing or training purposes, those undergoing maintenance, as well as formerly operational launchers without missiles count as non-deployed. In that case, they still count towards the total of 800 deployed and non-deployed launchers.

Figure 1: New START Treaty limits



Source: EPRS.

New START limits are considerably lower than those set by previous agreements. For example:

	START I	SORT	New START
Deployed strategic warheads, each side	6 000	1 700-2 200	1 550
Deployed + non-deployed launchers	1 600	No limit	800

On the other hand, New START is more flexible than START I insofar as there are no sub-limits for each element of the nuclear triad; provided they meet the overall limit, the US and Russia can choose the balance they want between their ground-, submarine- and air-launched nuclear weapons.

Transparency requirements: the US and Russia share detailed information with one another on their strategic nuclear forces, including:

- twice-yearly declarations on numbers of deployed warheads, and numbers and locations of delivery vehicles and launchers;
- rolling notifications of the locations and status (deployed/non-deployed) of delivery vehicles and launchers; advance notifications of treaty-accountable ballistic missile launches. Since 2011, over 20 000 such notifications have been exchanged;
- for each side, sharing of data for up to five submarine-launched ballistic missile and intercontinental ballistic missile test flights per year;
- declarations of new types of treaty-accountable weapons entering into service; exhibition of such weapons for examination by the other party;

In addition, the US and Russia commit to not interfering with efforts to gather data (for example, from satellites) on each other's nuclear forces.

Each party has the right to 18 inspections a year (currently suspended due to the coronavirus pandemic). Among other things, inspections verify the number of warheads on randomly selected deployed missiles and the number of non-deployed launchers.

New weapons: New START does not bar the US and Russia from modernising their nuclear arsenals. However, it gives each party the right to raise concerns about new kinds of weapons, such as Russia's *Poseidon* and *Burevestnik* (see below), in a bilateral consultative commission, and to discuss whether treaty limits apply to them.

New START and missile defence

As already mentioned, SALT and START I, which limited offensive nuclear missiles, were flanked by the ABM Treaty on missile defences. However, the link between offensive and defensive strategic weapons was broken in 2002, when the US pulled out of the ABM Treaty. According to Washington, the latter was no longer needed because relations between Russia and the US had improved and the risk of a nuclear conflict had receded; as a result, maintaining a strategic balance between the two nuclear powers had become less of a concern than the need to protect the US and its European allies from rogue states such as Iran and North Korea.

Since then, the US has developed missile defence systems, some of which would have been banned under the ABM Treaty (see box). Washington insists that these systems are intended to block limited ballistic missile attacks, for example, from Iran or North Korea, and are not a threat to Russia, which has more than enough missiles to overwhelm the limited number of interceptors. Nevertheless, missile defence remains a bone of contention, with Vladimir Putin warning in 2018 that it could result in 'the complete devaluation of Russia's nuclear potential', thus tipping the strategic balance in Washington's favour.

Missile defence after the end of the ABM Treaty

Russia has kept its Cold War missile defences around Moscow – a system that was allowed under the ABM Treaty, as it only protects the capital city. Russia's new S-500 system, expected to become operational in 2025, will also reportedly be able to intercept missiles.

The US has developed a Ground-based Midcourse Defense (GMD) system, which protects the entire US and therefore would not have been allowed under the ABM Treaty. It has also deployed regional missile defence systems in other parts of the world, such as a NATO missile shield in Europe. Being designed for use against shorter-range missiles, these systems would not have been constrained by the treaty.

These differing perspectives are reflected in unilateral statements by the US and Russia on missile defence in relation to New START. According to Russia, 'the Treaty can operate and be viable only if the United States of America refrains from developing its missile defense capabilities quantitatively or qualitatively', whereas the US argues that 'missile defense systems are not intended to affect the strategic balance with Russia', and that such systems are needed for protection from limited threats. New START itself does not include provisions on anti-ballistic missiles other than prohibiting the conversion of launchers for intercontinental ballistic missiles and submarine-launched ballistic missiles to hold anti-ballistic missile interceptors. As a compromise between the two sides, its preamble acknowledges 'the interrelationship between strategic offensive arms and strategic defensive arms'.

Conventionally armed intercontinental ballistic missiles

Russia also sees itself as potentially disadvantaged by US conventional weapons, such as those envisaged by the **Conventional Prompt Global Strike** programme, which aimed to develop ICBMs and SLBMs carrying conventional warheads. Given that such missiles could have the accuracy to destroy some targets that previously would have required nuclear-armed missiles and can be easily mistaken for them, Russia insisted that New START constrained strategic warheads, whether nuclear or conventional. The same concern is reflected in its nuclear deterrence policy, which reserves Russia the right to fire nuclear weapons when attacked by ballistic missiles, including conventional ones.

As in the case of missile defence, the preamble to New START acknowledges Russian concerns about 'the impact of conventionally armed ICBMs and SLBMs on strategic stability'. In initial negotiations on New START, the US did not accept Russia's demands for a ban on such missiles, but it did agree

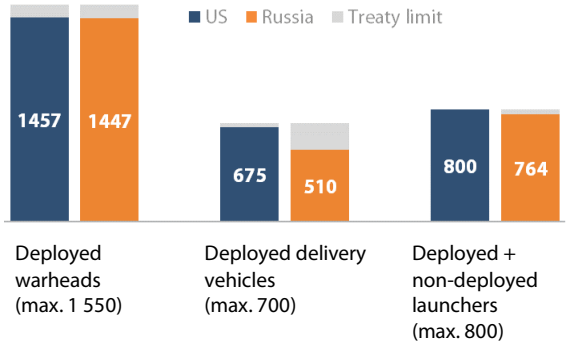
that conventional warheads on deployed ICBMs and SLBMs should count towards the treaty limit on deployed strategic warheads. This was a concession that it could easily afford, given that at the time of signing the treaty it did not expect to deploy many such missiles and indeed, currently has not declared plans to do so.

Compliance with New START

As already detailed above, inspection and notification requirements under the treaty ensure a high degree of transparency and make it difficult for either side to conceal large numbers of weapons. In any case, analysts suggest that Russia does not have the capacity to manufacture large numbers of missiles and may even struggle to reach permitted levels. It is therefore probable that the data disclosed by the two parties closely reflects the actual state of their nuclear forces.

Figure 2: New START compliance

(as of 1 December 2020)



Data source: US Bureau of Arms Control, Verification and Compliance

Both the US and Russia are at or below New START Treaty limits.

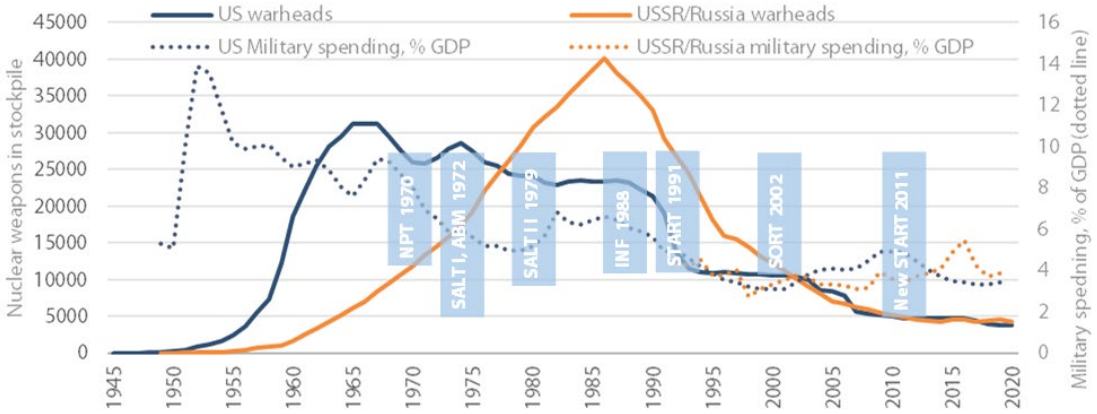
According to such data, both the US and Russia reduced their strategic nuclear forces to below treaty limits by the February 2018 deadline, when the limits took full effect, and have remained in compliance with those limits since then. In its annual report on implementation of the New START Treaty, of which the latest published version is from January 2020, the US State Department confirms that Russia was in compliance at the end of 2019. Russia raised questions in the New START bilateral consultative commission about US techniques to convert SLMB launch tubes and bombers so they do not count under the treaty's limits, but eventually dropped its insistence that this issue would have to be addressed before extending the treaty.

A mostly positive track record for bilateral nuclear arms control

Arms control during the Cold War had a mixed track record. SALT limited the number of ground and submarine launchers of ballistic missiles (according to President Ronald Reagan, the most destabilising weapons, as missiles cannot be recalled once fired, unlike bombers, and reach their targets in minutes rather than hours); on the other hand, it did not restrict the number of warheads, which continued to rise, especially on the Soviet side. The emergence of MIRVs in the 1970s allowed the US and USSR to compensate for curbs on missile numbers by mounting multiple warheads on each missile. US and Soviet military spending picked up in the 1980s arms race, reaching over 6 % of GDP for the US, and an economically ruinous 15 % of Soviet GDP.

Military budgets and the number of nuclear weapons fell dramatically in the 1990s. Not all of this reduction was due to arms control agreements: the easing of geopolitical tensions and Russia's deep economic crisis meant that defence spending was no longer such a priority. In 1991 and 1992, the US and USSR/Russia took unilateral measures eliminating many thousands of nuclear warheads outside of the INF and START I treaties. However, START I and New START have also played an important part, by setting strict and equal limits for the two sides, together with far-reaching transparency requirements providing reliable information about numbers, locations and capabilities of each other's nuclear forces. Arguably, these two treaties have enabled Russia and the US to go further than they might otherwise have done, by guaranteeing that each side's reductions are reciprocated. Under New START, both the US and Russia continued to downsize their strategic nuclear weapon arsenals even after 2014, despite deteriorating relations between the two countries.

Figure 3: Arms control, total warhead numbers, defence expenditure



Data source: Federation of American Scientists, 1945-2013/2014-2020; SIPRI.
Arms control agreements have helped to bring down US and Russian nuclear stockpiles and military spending.

Renewal of New START

An unfavourable context for renewal – demise of the arms control system

Since the 1990s, most of the arms control agreements concluded by the United States, the Soviet Union/Russia and allied countries, together with flanking confidence and security-building measures such as the OSCE's Open Skies Treaty, have come unstuck.

Figure 4: Arms control, confidence and security building measures timeline

Since 2000, the US and Russia have pulled out of several important agreements. Source: EPRS.

These developments have undermined the international security order – especially in Europe – and left New START as the only major remaining bilateral arms agreement between the US and Russia.

Reasons for the demise of arms control

Several factors explain the demise of these treaties, among them **Russian non-compliance**. The US first publicly raised concerns about Russia's SSC-8 missile in 2014; refusing to accept Russian assurances that the latter was a short-range missile, the US estimated its range at 2 500 km, therefore putting it in the category of missiles banned by the INF Treaty. The US also accused Moscow of imposing unjustified restrictions on observation flights over Russian territory, in violation of the Open Skies Treaty. The US has since withdrawn from both treaties.

Another significant factor is that many Cold War and post-Cold War agreements **no longer reflect the new reality**. Technological developments have brought new weapons (such as Russia's innovative nuclear weapons – see below) that fall outside the scope of existing restrictions. At the same time, the geopolitical situation has changed; except for its nuclear forces, Russia is no longer an equal adversary for the US and is probably less of a threat in the long term than rising power China, which is not party to any of the agreements. China's large arsenal of intermediate-range

missiles, most of which are conventionally armed, may have been an even more significant motive for the US decision to pull out of the INF Treaty than Russian non-compliance.

Donald Trump's presidency was particularly unfavourable to arms control, leading to US withdrawal from the INF Treaty and the Open Skies Treaty; until reprieved at the last minute by Trump's successor, Joe Biden, it looked as if New START would share the same fate. Trump's approach towards arms control was of a piece with his general unilateralism ('America First') and scepticism towards international agreements and institutions. Among Republican politicians, Trump's attitude is certainly not unique: although several important agreements (such as SALT I, ABM Treaty, INF Treaty, START I) were concluded under Republican presidents, senators from the party were already sceptical about New START in 2010, perhaps due to the fact that it was the initiative of a Democrat president.

Most arms control agreements were concluded during periods of relative détente between the US and the Soviet Union/Russia – in the early 1970s, the late 1980s and 1990s, and after the Obama-era 'reset', which paved the way for New START. Good diplomatic relations create trust, enabling the delicate compromises needed to strike agreements that accommodate the two sides' differing interests and address their concerns. Today, with **US-Russia relations** at a post-Cold War low, arms control has become more necessary than ever, but it is precisely at tense times like this that cooperation and dialogue are especially difficult.

The debate on New START renewal

Originally due to expire after 10 years in February 2021, New START contains a provision allowing it to be extended for up to five years. Of the two parties, Russia showed more interest in renewal, with Putin calling for unconditional extension in December 2019. There was more scepticism on the US side; after Donald Trump dismissed the treaty in 2017 as an Obama-era 'bad deal', his administration was non-committal on renewal, arguing that Russia had showed itself to be an unreliable partner. Presidential arms control envoy, Marshall Billingslea, downplayed the risk of a new arms race, arguing that the US could spend Russia and China 'into oblivion', if necessary.

Talks on New START opened in Vienna in June 2020, with the US initially opposed to the idea of a simple extension. According to Billingslea, an arms control agreement only made sense if it included China as well as Russia's non-strategic weapons. However, China, which had been invited to participate, did not show up. In August 2020, the US softened its position on Chinese participation and expressed openness to extending New START bilaterally for at least a shorter period, conditional on various demands being met, such as Russia signing a commitment to negotiate a new treaty including all categories of nuclear weapons, and with more rigorous verification measures. In October 2020, Billingslea announced that the US was willing to extend New START for one year on condition that Russia agreed to freeze its nuclear arsenal –including non-strategic weapons – pending a new treaty.

Despite criticising US 'unilateralism', Russia appeared in October to be on the point of accepting this demand, agreeing to freeze the number of total warheads for one year in return for a one-year extension of New START, but the two sides were still unable to bridge their differences, for example, on verification of the freeze. It was left to newly elected President Joe Biden to reprieve the treaty: one of his first actions after taking office in January 2021 was to propose an unconditional extension for the maximum five years; with the two sides in agreement and approval from both houses of the Russian Parliament (as required by Russian law; on the US side, extension does not require Senate approval as it does not change the text of the treaty), renewal was confirmed just two days before the expiry date.

Arms control post-New START: Unaddressed issues

Continued downsizing of nuclear forces

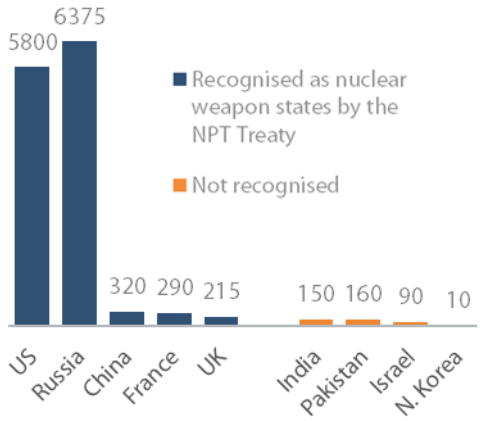
Although extending New START is a positive step for arms control, it still leaves many unanswered questions. For example, if the US and Russia ever agree on a new arms control treaty, they will need to decide whether to **continue reducing the number of strategic nuclear weapons**. With around 1 550 deployed strategic warheads each, the two parties still have far more nuclear weapons than necessary for credible deterrence – one estimate suggests that as few as 100 warheads would be enough to wipe out an adversary. In 2013, Barack Obama proposed a further cut of up to one-third in strategic warheads compared to New START levels, although the idea is not currently on the table.

From bilateral to multilateral?

In the longer term, another pressing concern is extending arms control beyond the US and Russia to other nuclear weapon states – **China** in particular. Reliable information on Chinese nuclear weapons is in short supply, but most estimates put its total stockpile at over 300 warheads. Although this is not even one-fifteenth the size of the US and Russian arsenals, the lack of transparency is a concern, as is the prospect that this figure is likely to rise. According to one Pentagon official, Beijing could double its nuclear arsenal over the next decade (although in the past similar forecasts of Chinese nuclear expansion have proved wrong).

Figure 5: Global warhead stockpiles (2019)

(strategic + non-strategic/ deployed + non-deployed + retired)



Data source: SIPRI Yearbook 2020.

As already mentioned, in 2020 the US pressed China to join New START negotiations. However, Beijing declared that it would only be willing to participate if the US agreed to reduce its arsenal to the size of China's, which it claims is 20 times smaller. So long as China has far fewer nuclear weapons, it has no incentive to accept the same limits as Russia and the US. Nor is Beijing likely to agree to transparency measures of the kind included in New START, given that secrecy about its nuclear forces helps to compensate for their relatively small size.

For its part, Russia has declared itself open to multilateral initiatives – especially if they include US 'nuclear allies' the UK and France – and also has an obvious interest in limiting Chinese nuclear forces, but considers Washington's attempt to involve Beijing in bilateral US-Russia relations to be 'completely far-fetched'.

Non-strategic and non-deployed weapons

Nearly two-thirds of US and Russian nuclear stockpiles consists of non-strategic and non-deployed warheads, which are not currently subject to any arms control restrictions. Already in 2010, the Obama administration expressed the hope that these categories could be brought within the scope of a follow-up treaty to New START. Russia has nearly 10 times as many **non-strategic** nuclear warheads as the US, which pose a serious threat to targets in neighbouring states – and perhaps further afield, if mounted on the intermediate-range missiles that Russia is accused of developing. As already mentioned, this continuing asymmetry nearly became a deal-breaker in talks on extending New START, with Russia declining to commit to a freeze on non-strategic weapons or a new treaty that includes them. Many experts believe that Russia is unlikely to agree to curbs in this field unless the US accepts corresponding restrictions on missile defence and long-range conventional weapons.

The US and Russia both have large numbers of **non-deployed** warheads in storage. Such warheads are a potential concern, not least because the US and Russia could, if they stopped complying with New START limits, easily deploy them on missiles which are not currently fully loaded.

Innovative nuclear weapons

In his March 2018 address to the Federal Assembly, Vladimir Putin unveiled a new generation of Russian nuclear weapons, which he claims are necessary owing to the refusal of the US to scale back its missile defences. Precise, highly manoeuvrable and travelling up to 20 times the speed of sound over huge distances, they are practically unstoppable, according to him.

Table 4 – New Russian nuclear weapons, main types

Name	Type	Warheads carried	Range	Targets	Features	Deployment
Sarmat	Ground-launched intercontinental ballistic missile (ICBM)	10-15 nuclear	16 000 km	High value targets	Replaces SS-18 ICBM	2022-2027
Avangard	Hypersonic glide vehicle, launched by ICBMs such as Sarmat	Each Avangard vehicle counts as a single warhead	Depends on the missile carrying it	High value targets	Capable of maneuvering in flight to evade missile defence	2019
Poseidon	Submarine-launched, nuclear-powered underwater drone	Nuclear	10 000 km	Coastal cities, infrastructure, aircraft carriers	Capable of reaching depths of 1km. Could set off a radioactive tsunami	After 2027
Burevestnik	Ground-launched, nuclear-powered cruise missile	Nuclear	Over 25 000 km	Missile defence/high value targets	Powered by a nuclear reactor	After 2030
Kinzhal	Air-launched ballistic missile	Conventional or nuclear	2 000 km in addition to including bomber flight	Naval vessels and ground targets	Travels at 10 times the speed of sound	On trial basis in 2017
Tsirkon	Cruise missile, launched from ship or submarine	Conventional; perhaps also nuclear	500 km	Ships and ground targets	Travels at 9 times the speed of sound	2025-2030

Data sources: Congressional Research Service, Nuclear Threat Initiative.

New START limits apply to some of these weapons – such as the *Avangard* system, which Russia claims to have already deployed in 2019, and the *Sarmat* ballistic missiles that will eventually carry it. On the other hand, *Poseidon* and *Burevestnik* do not resemble any of the categories envisaged by New START and therefore arguably fall outside its scope. Given that neither of the latter weapons is likely to be deployed during the lifetime of the treaty, the issue has not yet become relevant, but it would have to be tackled by a future arms control agreement.

The US is also modernising its nuclear weapons, but until recently more by maintaining and adapting existing weapons than developing new ones, which the 2010 Obama-era Nuclear Posture Review claimed were unnecessary. The 2018 version of the review breaks with this policy, arguing that the US may need 'new capabilities' to keep up with adversaries. In February 2021, the US deployed its first new nuclear weapon in over a decade, an SLBM that has a much lower yield (explosive force) than existing SLBMs and, according to the Pentagon, gives the US a more proportionate and credible response to Russia's non-strategic weapons. Although comparable to those weapons in terms of yield, the new missile still counts under New START limits for strategic

weapons. With the INF Treaty gone, the US also has a ground-launched intermediate-range missile in the pipeline; as a cruise missile, this will fall outside the scope of New START.

Prospects for arms control post-2026

In March 2021, Joe Biden declared his determination to pursue new arms control agreements. The five-year extension of New START gives Russia and the US five years' breathing space to negotiate a replacement treaty. Ideally, a new bilateral arms control agreement would include currently unrestricted categories of weapons described in the previous sections. However, any such treaty could be extremely difficult to negotiate, as it would need to reconcile the strengths and vulnerabilities of the two sides across the disparate categories of weapons that weigh in the strategic balance. In addition, an agreement on non-deployed warheads would probably require intrusive new verification provisions. Experts feel it is unlikely that other nuclear weapon states, especially China, will agree to participate.

Even the more modest objective of a bilateral treaty with a similar limited scope to New START may be hard to achieve. On the US side, scepticism towards arms control and general mistrust of Russia given past compliance doubts could stand in the way of the two-thirds Senate consent vote for ratification of international treaties. It is true that even without a treaty, a massive expansion of nuclear weapons stockpiles would be unlikely; neither side, especially Russia with its stagnating economy, can afford a 1980s-style arms race. However, the absence of clear limits and transparency would create risks for the strategic balance between the two sides.

The EU and New START: in February 2021, the EU welcomed the US and Russian decision to extend New START, which it considers 'a crucial contribution to international and European security'. For the EU, the treaty 'limits strategic competition and increases strategic stability'. The EU encourages Russia and the US to seek 'further reductions to their arsenals' in all categories of nuclear weapon, thus 'laying the ground for even more robust future arms control agreements and reporting'.

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